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To the Graduate Council:

I am submitting herewith a thesis written by Alberto Valdés entitled "An Economic Analysis of Farmers Home Administration Credit Use in Selected Middle Tennessee Counties, 1958 and 1961." 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.

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AN ECONOMIC ANALYSIS OF FARMERS HOME ADMINISTRATION
CREDIT USE IN SELECTED MIDDLE TENNESSEE
COUNTIES, 1958 AND 1961

A Thesis
Presented to
the Graduate Council of
The University of Tennessee

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

by
Alberto Valdés
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CHAPTER I

FARM CREDIT BACKGROUND

I. INTRODUCTION

Use of credit in American agriculture is rooted in the experience of the first settlers. When the understocked colonies were looking for greater profit to be derived from their land, they endeavored to borrow as much as they could from the mother country.¹ The use of credit has increased through the years. It became even more important after World War II, when total farm debt increased from 8.3 billion dollars in 1945, to 27.7 billion dollars on January 1, 1962, as shown in Tables I and II.

During the same period farm business units followed an upward trend in capital investments and spent increasing amounts of funds for working capital. The trend was a result of rapid changes in technology with a greater dependence on non-farm inputs; enterprise adjustments; consolidation of farms into larger units, and inflated land values.

The buildup of the present farm capital structure largely came from the farmer's own income and savings.² However, the influence of credit in the growth of the agricultural plant cannot be ignored, for "in this as in many economic developments it is the marginal elements

¹Adam Smith, The Wealth of Nations (New York: P. F. Colliere and Son, 1902), Book II, p. 361.

²Alvin S. Tostlebe, Capital in Agriculture: Its Formation and Financing Since 1870 (Princeton: Princeton University Press, 1957), p. 19.

that are likely to be crucial."³ Moreover, the influence of credit is also supported by an estimate made by the U. S. Department of Agriculture which showed that credit was used to finance about 23 per cent of the 363 billion dollars American farmers spent during 1946-55 on goods and services for farm and home purposes including real estate.⁴

The Farmers Home Administration had the smallest volume of loans outstanding among the various lending institutions (Tables I and II). A study of loans made by this agency is important; especially in states such as Tennessee because the Farmers Home Administration was created to help low-income, low-equity farm families.

II. OBJECTIVES OF THE STUDY

The major objective of the study was to determine the effect of supervised credit on the financial status of families living in Middle Tennessee who were active borrowers of Farmers Home Administration in 1958 and/or in 1961.

Other objectives of the study were to determine changes experienced by borrowers during the period in: (1) gross and net family income; (2) gross and net farm income; (3) net farm worth; (4) use of non-farm inputs; (5) amount of funds borrowed; (6) debt repayment; and (7) changes in farm enterprises.

³Ibid., p. 151.

⁴Fred L. Garlock, "Financing Capital Requirements," U. S. Department of Agriculture, The Yearbook of Agriculture 1962 (Washington: U. S. Government Printing Office, 1962), p. 376.

TABLE I

FARM-MORTGAGE DEBT: AMOUNT OUTSTANDING JANUARY 1, SPECIFIED YEARS 1940 TO 1962, AND PERCENTAGE CHANGE, SPECIFIED YEARS 1950 TO 1962, BY LENDERS, UNITED STATES^{1*}

AMOUNT OUTSTANDING

Year	Federal land banks ²	Farmers home adminis- tration ³	Life insurance companies ²	Insured commercial banks	Individuals and miscel- laneous ⁴	Total debt
	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars
1940	2,010	32	984	534	3,026	6,586
1945	1,210	195	938	450	2,148	4,941
1950	906	193	1,172	880	2,428	5,579
1955	1,267	287	2,052	1,136	3,547	8,289
1957	1,722	290	2,477	1,311	4,108	9,908
1958	1,897	340	2,579	1,341	4,350	10,507
1959	2,065	388	2,661	1,443	4,697	11,254
1960	2,335	437	2,820	1,554	5,143	12,289
1961	2,538	482	2,974	1,617	5,478	13,089
1962 ⁵	2,802	566	3,162	1,718	5,948	14,196

PERCENTAGE CHANGE⁶

	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
1950 to 1962	209.3	192.9	169.7	95.3	145.0	154.4
1961 to 1962	10.4	17.6	6.3	6.3	8.6	8.5

¹For 48 states only.

²Includes regular mortgages, purchase-money mortgages, and sales contracts.

³Data for 1940 include only tenant-purchase loans and direct soil and water loans to individuals. Thereafter, data include also farm-development, farm-enlargement and project-liquidation loans; farm-housing loans beginning July 1950; and building-improvement loans beginning 1955.

⁴Includes data for Federal Farm Mortgage Corporation as follows: 1940, \$713,290,000; 1945, \$347,307,000; 1950, \$58,650,000; and 1955, \$12,834,000. On June 30, 1955, loans of the Federal Farm Mortgage Corporation were sold to the 12 Federal land banks.

TABLE I (continued)

⁵Preliminary.

⁶Computed from unrounded data.

*Source: United States Department of Agriculture, The Balance Sheet of Agriculture 1962, Economic Research Service, Agriculture Information Bulletin No. 270 (Washington: Government Printing Office, August, 1962), p. 20.

TABLE II

FARMERS' NON-REAL-ESTATE DEBT, UNITED STATES, JANUARY 1, SPECIFIED YEARS 1940 TO 1962¹*

Year	Price-support and storage loans made or guaranteed by Commodity Credit Corporation ²	Loans of reporting institutions (excluding CCC)				Loans and book credits by miscel- laneous lenders ³	Total excluding Commodity Credit Corporation loans	Total including Commodity Credit Corporation loans
		All operating banks	Production credit asso- ciations	Federal inter- mediate credit banks	Farmers Home Adminis- tration			
		Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars
1940	445	900	153	32	418	1,500	3,003	3,448
1945	683	949	188	30	453	1,100	2,720	3,403
1950	1,723	2,049	387	51	347	2,400	5,234	6,957
1955	2,273	2,934	577	58	417	3,300	7,286	9,559
1959	2,461	4,161	1,115	84	406	3,700	9,466	11,927
1960	1,165	4,814	1,361	90	397	3,900	10,562	11,727
1961	1,390	4,984	1,480	88	418	4,000	10,970	12,360
1962	1,866	5,309	1,640	99	495	4,100	11,643	13,509

¹For 48 states only.²Although the price-support loans are non-recourse loans, they are treated as debts. Borrowers must either pay them in cash or deliver the commodities on which they were based.³Estimates based on fragmentary data.

*Source: United States Department of Agriculture, The Balance Sheet of Agriculture 1962, Economic Research Service, Agriculture Information Bulletin No. 270 (Washington: Government Printing Office, August, 1962), p. 21.

III. DEFINITION OF TERMS

The present section contains definitions of some of the terms that will be used frequently in this report.

Capital. One of the various definitions used in the literature refers to capital as a quantity of wealth existing at an instant of time.⁵ To another author, it is that sum of means of payment which is available at any moment for transference to entrepreneurs.⁶ As used in the present work, however, capital refers to a stock of wealth saved from past consumption and used to assist in future production.⁷

Credit. Using a legalistic conception, credit is defined as a right to demand and receive payments for a past transaction, the indebtedness for which continues to exist.⁸ For the borrower, it represents the power to borrow on which he possesses which in turn depends upon the degree of confidence the potential creditor allows him.⁹

⁵Irving Fisher, The Nature of Capital and Income (New York: The Macmillan Company, 1912), p. 66.

⁶Joseph A. Schumpeter, The Theory of Economic Development, trans. R. Opie (Cambridge: Harvard University Press, 1936), p. 122.

⁷R. G. Spitze, "Determinants of Capital Formation," E. L. Baum, H. G. Diesslin and E. O. Heady, ed., Capital and Credit Needs in a Changing Agriculture (Ames: The Iowa University Press, 1961), pp. 19-21.

⁸Theodore N. Beckman, Credit and Collections in Theory and Practice (fifth edition; New York: McGraw Hill Book Company, 1949), pp. 4-7.

⁹H. Belshaw, "Capital and Credit," I. F. Davis, ed., Selected Readings in Agricultural Credit (Berkeley: University of California, 1952), p. 25.

Credit is also defined as the creation of purchasing power for the purpose of transferring it to the entrepreneur.¹⁰ More commonly expressed, credit is the ability to command the capital of another in return for a promise to pay at some specified time in the future.¹¹

In any case, it is important to notice that practically all the definitions include explicitly or implicitly two elements that are essential characteristics of every credit transaction: future time and risk. Another important fact is that credit in itself is neither capital nor wealth.

There are two main types of farm credit: (1) consumer credit, which is used to finance farm family living expenses, and (2) business credit that is granted to aid farmers in the ownership of real estate and production of agricultural commodities.

Considered from the time involved in each transaction, it is sub-divided in (1) short-term credit, made up to one year; (2) intermediate-term credit which is made from one to seven years; (3) long-term credit, up to 40 years.¹² When classified by purpose credit is grouped in (1) operating loans, those used to acquire goods and/or services that are used up in the production process. The repayment of operating loans must primarily come from gross cash farm income and (2)

¹⁰J. A. Schumpeter, op. cit., p. 107.

¹¹W. G. Murray and A. G. Nelson, Agricultural Finance (fourth edition; Ames: The Iowa State University Press, 1960), p. 36.

¹²Terms mentioned here are those used by Farmers Home Administration. Length of time for intermediate and long-term credit changes according with lending institutions.

investment loans which are usually made to buy land and their repayment must be made from net farm or family income.

Capital rationing.¹³ Farmers are subject to two types of capital rationing. External rationing, due to limitations beyond the farmer's control such as those imposed by lenders or landlords, and to internal capital rationing resulting from subjective limitations placed by the farmers themselves. The field of capital rationing deserves study in agricultural credit policy to estimate whether or not available resources are combined on an optimum basis.

Some factors related to capital rationing from the viewpoint of an individual farmer are amount of net worth, reaction to uncertainty (increasing risk), knowledge of credit sources and attitude toward credit use.

Gross family income. It is the total of all family business receipts, including farm and non-farm earnings.

Gross farm income. It is the sum of annual receipts from farm sales and increase in farm capital.

Net farm income. It is the compensation for farm capital, family labor and management of the operator. It is obtained by deducting total farm expenditures from gross farm income.

¹³L. F. Hesser and M. R. Janssen, Capital Rationing Among Farmers, Agricultural Experiment Station Bulletin No. 703 (Lafayette, Indiana: Purdue University, November, 1960), p. 11.

Farm ownership loans. Farm ownership or real-estate loans are made to purchase a farm, to purchase additional land and/or to finance buildings. These loans are usually made for long term and are secured by a mortgage on the property.

Operating loans. Operating or production loans are normally made for short or intermediate term. These loans are used for making adjustments and improvements in the farm and home operations, purchasing breeding livestock and machinery, and for financing operating expenses.

IV. SOURCES OF FARM CAPITAL

Capital formation in agriculture. Historically, capital accumulation in agriculture has mainly been the result of the gradual "plowing back" of farm earnings, rather than the effect of external financing¹⁴ (Table III).

When the growth of farm capital is analyzed the outstanding fact is the increase in value of total physical assets from 11.8 billion dollars in 1870 to 107.4 billion dollars in 1950, expressed in current dollars. This phenomenal growth was partially tempered when measured in 1910-14 prices, in which case the change was from 19.7 billion dollars in 1870 to 53.6 billion dollars in 1950.¹⁵ Although an important supplier of the physical assets owned by farmers was the public domain,

¹⁴R. S. Tostlebe, op. cit., p. 19.

¹⁵Ibid., pp. 52-72.

TABLE III
 SOURCES OF NEW CAPITAL IN FARMING, UNITED STATES,
 BY DECADES, 1900-1949*
 (Billions of dollars)**

Source	1900-09	1910-19	1920-29	1930-39	1940-49
Loans and book credits	2.7	9.7	1.4	0.6	3.0
Financial reserves	0	0	1.5	0.5	0
Gross farm income	6.6	6.6	8.3	8.6	29.4
Total	9.3	16.3	11.2	9.7	32.4

*Source: R. S. Tostlebe, op. cit., p. 19.

**Current dollars.

it is remarkable that seven-eighths of the gross capital accumulated during the period came from the farmers' gross saving and only one-eighth came from credit.¹⁶

The land-appreciation value should also be regarded as another source of farm capital formation. This process is different from inflation and it refers to the net increase of land values over time. It is generally true in a growing economy. It stems from dynamic conditions such as the growth of population and demand for land for many uses.¹⁷

Sources of capital for the individual farmer. As individuals, farmers obtain capital funds by (1) saving from current income, (2) leasing, (3) inheritance, and (4) borrowing.

Savings. Savings, or the residual resulting from disposable income minus consumption, constitute one of the most important sources of capital formation for the individual farmer as well as for the entire economy. The high degree of saving capacity characteristic of farm families stems from the peculiar condition of farming that constantly forces them to re-invest their incomes into the business. On the other hand, though the rate of financial progress an individual farmer can reach is largely a function of the volume of savings and their subsequent

¹⁶R. F. G. Spitze, op. cit., p. 27.

¹⁷James R. Martin and John H. Southern, Part-Time Farming in Northeast Texas, Texas Agricultural Experiment Station Bulletin 970 (College Station, Texas: The Agricultural and Mechanical College of Texas, January, 1961), pp. 15 and 23.

transfer to productive assets, there is also the fact that often farmers in need of capital are those who have saved little and have the least saving ability.¹⁸ This unequal saving capacity is particularly important in formulating financial policies intended to help low-income farmers.

Moreover, it is evident that rising farm costs and higher standards of living have limited the value of saving as a factor of capital formation for the individual farmer. Baum and Bachman, referring to a study undertaken by the U. S. Department of Agriculture in 1957, indicate that \$12,000 of total farm sales would be necessary to produce incomes of \$3,500 to operator and family labor.¹⁹ When results of this study are compared with data in Table IV it becomes evident that only 794,000, or 21 per cent, of the 2.4 million U. S. commercial farms in 1959 were able to reach the projected income of \$3,500, which in turn, practically leaves no margin for saving.

Leasing. Renting is a convenient method farmers have for controlling larger amounts of capital and a means of obtaining higher net returns, particularly when they possess adequate managerial ability but limited credit opportunity. By expanding farm size, farm operators are able to utilize unused management, labor and operating capital while avoiding the risk and equity problems associated with ownership.

¹⁸Harold C. Larsen, "Limitations to Obtaining Developmental Capital in Agriculture," Irving T. Davis, ed., Selected Readings in Agricultural Credit (Berkeley: University of California, 1952), p. 25.

¹⁹E. L. Baum and K. L. Bachman, "The Economic Problem," E. L. Baum, H. G. Diesslin, E. O. Heady, ed., op. cit., p. 9.

TABLE IV
UNITED STATES FARMS BY ECONOMIC CLASS, 1959*

Farms	Number
Commercial farms	2,412,160
Class I (farms with sales of \$40,000 or more)	102,143
Class II (farms with sales of \$20,000 to \$39,999)	209,974
Class III (farms with sales of \$10,000 to \$19,999)	481,884
Class IV (farms with sales of \$5,000 to \$9,999)	652,938
Class V (farms with sales of \$2,500 to \$4,999)	616,839
Class VI (farms with sales of \$50 to \$2,499)	348,382
Other farms	1,289,166
Part-time (operator under 65 years of age, and working off farm 100 or more days or with income from other sources greater than farm products sold, and sales of farm products \$50 to \$2,499)	882,371
Part-retirement (operator 65 years old or over and sales \$50 to \$2,499)	403,696
Abnormal	3,099
Total	3,701,326

*Source: United States Department of Agriculture, Farmers Home Administration, Loan Programs of the Farmers Home Administration (Washington: Government Printing Office, June, 1962), p. 26. (Mimeographed.)

That rental arrangements are specially attractive for starting farmers, who usually are short of capital, was illustrated by a study conducted in Missouri which indicated that 77 per cent in a sample of 175 beginning farmers who made a start in farming since 1954 entered agriculture as tenant operators or in father-son arrangements.²⁰

Despite these apparent advantages for beginning farmers, the trend in tenancy continued downward in the past decade. The number of total tenants in the United States dropped from 1.4 million in 1949 to 750,000 in 1959. The proportion of tenancy diminished by 6.3 per cent in spite of the 30 per cent reduction in number of owners (Table V).

Inheritance. In an economic sense, inheritance is the transfer of an amount of capital accumulated by incremental process over time. For the individual farmer, inheritance may constitute an important source of capital.²¹ In the American system, however, inheritance has limited value as different shares of the estate may be inherited by various heirs when the farmer-owner dies. This fact brings about the problem of refinancing the farm business each generation which constitutes one of the distinctive features of agriculture. It is a contributing factor which makes farm financing difficult.

²⁰Franklin J. Reiss, Getting Started and Established in Farming, North Central Regional Extension Publication No. 8 (Urbana; University of Illinois, 1960), pp. 14-15.

²¹Phillip M. Raup, "Farm Family Capital Accumulation and Investment Process," E. L. Baum, H. G. Diesslin, E. O. Heady, ed., op. cit., pp. 163-165.

TABLE V
UNITED STATES FARM OPERATORS BY TENURE, 1949
COMPARED WITH 1959*

Farm operators		Number
Full owners:		
1959		2,116,026
1949		3,089,583
Part owners:		
1959		809,600
1949		824,923
Managers:		
1959		20,503
1949		23,527
All tenants:		
1959		757,513
1949		1,444,129

Proportion of tenancy	
Year	Per cent
1959	20.5
1949	26.8

*Source: United States Department of Agriculture, Farmers Home Administration, Loan Programs of the Farmers Home Administration (Washington: Government Printing Office, June, 1962), p. 26. (Mimeographed.)

V. ECONOMICS OF CREDIT USE

An analysis of farm credit is aided by the use of some principles derived from economic theory. In the following pages an attempt will be made to discuss three important economic principles: (1) marginal productivity; (2) uncertainty, and (3) repayment capacity.

Marginal productivity. Farmer borrowers as well as all other farmers are confronted with an optimizing problem in the allocation of both owned and borrowed funds. The fundamental conditions to reach an optimum combination of resources are dictated by the concept of marginal productivity, i.e., each monetary unit should be allocated where the return to the factor is the most profitable. Farmer managers, therefore, should apply their resources to expand total output to the point where marginal returns equal marginal costs. At this level of output, also the marginal physical product (MPP) per dollars worth of any of the factors equals the marginal physical product per dollars worth of each of the factors used in the production process.²²

Assuming four factors, land, labor, capital and management, the least cost combination at any output will occur when

$$\frac{\text{MPP land}}{\text{P land}} = \frac{\text{MPP labor}}{\text{P labor}} = \frac{\text{MPP capital}}{\text{P capital}} = \frac{\text{MPP management}}{\text{P management}} \quad (1)$$

and profit will be maximized when

²²Leon F. Hesser and Melvin R. Janssen, Capital Rationing Among Farmers, Research Bulletin No. 703 (Lafayette, Indiana: Purdue University, 1960), p. 3.

$$\frac{\text{MPP land}}{P_{\text{land}}} = \frac{\text{MPP labor}}{P_{\text{labor}}} = \frac{\text{MPP capital}}{P_{\text{capital}}} = \frac{\text{MPP management}}{P_{\text{management}}} = \frac{1}{P_y} \quad (2)$$

in which the P_i (i = land, labor capital, management) are prices per unit of the factors and P_y is the price per unit of the product.²³

When applying this principle, farmers attempt to allocate their resources in the crop and livestock enterprises which are most profitable.

Uncertainty. Farmers as managers are forced to formulate production plans and make decisions based on current knowledge in anticipation of future events. Since knowledge of the future is imperfect, farmers are faced with uncertainty in making such decisions.²⁴

One of the most important causes of uncertainty in farm credit is fluctuation of income from which loans have to be repaid. These fluctuations in income are a consequence of unpredictable changes in farm yields and of price variations from the time expenditures are committed to the date in which the farm output is sold.

Production uncertainties in agriculture are those connected with weather and other natural hazards, any one of which would change the yields farmers expect from a given combination of inputs in the production of a farm commodity.

Market or price uncertainty refers to unexpected changes in price of products. Although this uncertainty is common to any industry, it

²³Ibid., p. 3.

²⁴Milton H. Spencer and Louis Siegelmen, Managerial Economics (Homewood, Illinois: Richard D. Irwin, Inc., 1959), pp. 5-7.

is particularly important in agriculture because prices of individual farm commodities are highly variable. Changes in demand and supply for both inputs used in production and for farm commodities resulting from it, along with changes in technology that occur during the long agricultural production process, sometimes have the effect of altering the best combination of inputs for each enterprise and for the various enterprises within the farm firm.

Agriculture lacks flexibility not only because fixed resources, such as land and buildings and often machinery, constitute a high percentage of farm capital, but also because once variable inputs are committed to the production of farm commodities, they become fixed costs and farm plans cannot be easily changed. This low flexibility of the industry leads farmers to continue in production as long as farm receipts cover variable cash costs. Additionally, individual farmers act as perfect competitors but have to deal with oligopolies in buying their productive inputs or with oligopsonies when selling their outputs. The farmers' position in the market place is better understood in considering that only eight farm machinery manufacturers produce about 65 per cent of the sales of the industry, while 20 feed manufacturing companies account for 43 per cent of total value of shipments.²⁵ Inversely, firms to which farmers sell their products tend to be larger and fewer in number.

²⁵Kenneth E. Ogren and Orlin J. Scoville, "Farm Supply and Marketing Activities," Mervin G. Smith, ed., Adjustments in Agriculture--A National Basebook (Ames: Iowa State University Press, 1961), pp. 234-235.

Forced to deal in this realm of less than pure competition with about 60 per cent of production costs linked to off-farm inputs, and marketing highly perishable products in some cases, farmers have little market alternative, that leads to profit uncertainty.

Repayment capacity. Borrowers increase their repayment capacity by using at least three basic procedures:

1. By investing their net income in excess of living expenses to increase their net worth which, according with the theory of capital formation, is concomitant with larger net returns if living expenditures are held constant.
2. By means of adequate repayment schedules, debt repayments should be carefully coordinated with periods in which the farm firm will receive the cash return for its products.
3. By keeping non-self-liquidating loans to a minimum, such as real estate loans, farmers expand their capacity to meet credit payments.

VI. METHODOLOGY

Eleven Farmers Home Administration county offices of Middle Tennessee were selected for collection of data on which the present work was based. Data collected comprised the total number of Farmers Home Administration active borrowers in these eleven county offices for 1958 and 1961. The number of cases recorded in 1958 was 281 farmer borrowers while in 1961 this number increased to 353 cases.

Data were collected during the summer of 1962 from two different sources: (1) annual reports filed at the State office in Nashville, and (2) from "Farm and Home Plans" corresponding to each individual borrower whose records were kept at the eleven different "county" offices. Processing of data was partially made through IBM facilities. Names and description of the eleven counties are included in Chapter II.

VII. FARMERS HOME ADMINISTRATION

The Farmers Home Administration²⁶ is an agency in the U. S. Department of Agriculture created by an Act of Congress on August 14, 1946. The main objective of this agency is to make loans to low-income, low-equity farm families to enable them to become soundly established in agriculture. To this purpose, loans are made only to farmers whose credit rating is below that accepted by conventional lenders. Borrowers receive continuing management and technical advice from county supervisors. Funds are disbursed according to annual farm and home plans. Loans made by FHA cover all types of farm credit and can be made up to 100 per cent of the normal value of the security.

A conservative rate of appraisal, careful consideration of the earning power of the farm firm including the farmer's character and managerial ability, along with adequate supervision have decreased the risk involved in this type of operation, as shown by the low per cent of total loans charged off since the inception of this program (Table VI).

²⁶Referred to as FHA in the following pages.

TABLE VI
FARMERS HOME ADMINISTRATION
LOAN, COLLECTION AND DEBT ADJUSTMENT ACTIVITIES
(FROM INCEPTION OF PROGRAM TO JUNE 30, 1961)*

Activities	Dollars
Amount of loan advances	\$5,547,733,802
Credit on principal:	
Repayments	4,044,743,770
Charged off	227,432,668 ^a
Judgments	8,422,746
Total credit on principal	<u>4,280,599,184</u>
Amount outstanding close	1,267,134,618
Interest payments to U. S. government	574,869,927
Total principal and interest payments	4,619,613,697
Per cent of loan advances:	
Principal repayments	72.9
Charged off	4.1 ^a
Judgments	.2
Amount outstanding	22.8
Total	<u>100.0</u>

^aIncludes amount charged off on rural rehabilitation, emergency crop and feed loans. On programs currently active, less than one per cent of total amount loaned has been charged off.

*Source: United States Department of Agriculture, Farmers Home Administration, Loan Programs of the Farmers Home Administration (Washington: Government Printing Office, June, 1962), p. 22. (Mimeographed.)

The six major lending programs operated by FHA are: (1) operating loans to make basic farm adjustments which include the refinancing of chattel debts. Loans in this category may not exceed \$35,000; (2) farm ownership loans to enlarge, develop and buy farms not larger than family farms, and to refinance debts.²⁷ Maximum amount in this category is \$60,000; (3) rural housing loans up to \$8,000 to families living in rural areas, for construction of home and farm buildings;²⁸ (4) water and soil conservation loans, up to \$60,000 if made to individuals; up to \$500,000 if appropriated funds are used or up to \$1,000,000 if insured funds are used when loaned to associations; (5) emergency loans, and (6) watershed loans.²⁹

Funds for regular loans are provided by the Federal Treasury. Funds for emergency loans are authorized by Congress from a revolving fund, while funds for insured loans come from commercial lenders. Insured loans may be made up to 100 per cent of the normal value of the farm. Table VII shows the funds distribution by loan type since 1946.

²⁷FHA defines family type farms as those "large enough to produce enough income to pay (1) farm operating expenses; (2) family living expenses; (3) annual installments in debts, and (4) establish a reserve" and which "are small enough so that the family can do most of the work on the farm." U. S. Department of Agriculture, Loan Programs of the Farmers Home Administration, Publication PA 360 (Washington: Government Printing Office, 1961), p. 3.

²⁸Since 1961 includes non-farm families living in rural areas.

²⁹United States Department of Agriculture, Farmers Home Administration, Loan Programs of the Farmers Home Administration (Washington: Government Printing Office, June, 1962), p. 26. (Mimeographed.)

TABLE VII

AMOUNT OF FARMERS HOME ADMINISTRATION LOANS BY TYPE FOR SELECTED FISCAL YEARS^{a*}

Fiscal year	Operating		Emergency		Soil & water conservation		Farm ownership		Rural housing ^b		Watershed protection and flood prevention	
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1962 (first 9 months)	255,115,002	49,553,256	3,109,685	4,304,814	130,816,024	72,336,902	1,743,278					
1961	233,393,841	26,575,651	2,297,762	2,146,400	57,229,388	70,341,121	3,699,729					
1960	198,275,519	22,858,368	2,051,348	854,500	43,411,713	40,314,661	138,200					
1959	188,396,229	39,841,471	3,767,894	3,511,810	64,273,639	59,885,594	402,500					
1958	177,448,460	63,419,194	3,681,821	1,823,398	49,643,176	32,395,294	---					
1957	183,258,622	66,673,841	7,780,427	1,232,970	74,370,849	20,881,763	---					
1950	96,177,639	35,419,618	2,389,585	560,565	31,377,208	17,229,474	---					
1946	116,723,114	531,860	872,319	168,081	26,836,673	---	---					

^aIncludes both direct and insured loans and loans made from Corporation Trust Funds.^bPrior to October, 1961 loans were made for farm housing and other farm building only. Includes Labor Housing for \$2,500 in 1962.^cIncludes Emergency Crop and Feed loans of \$17,543,324.

*Source: United States Department of Agriculture, Farmers Home Administration, Loan Programs of the Farmers Home Administration (Washington: Government Printing Office, June, 1962), p. 21. (Mimeographed.)

FHA is organized on a nation-wide basis, including Puerto Rico, with a national office in Washington, D. C., 43 state offices and about 1,500 county offices.

It has been estimated that about two million farmers have borrowed some 5.5 billion dollars from FHA and its predecessor agencies, the Farm Security Administration and the Crop and Feed Program, since the time they were established in 1935 to June, 1962.

VIII. RELATED RESEARCH

In 1957 the University of Minnesota conducted a study of 189 farm ownership loans made by FHA.³⁰ The study was designed to determine (1) the size of loans and use of funds, (2) income and expenses analysis, (3) size of farms and earning capacity, (4) financial progress, (5) repayment record, and (6) an overall analysis of the loan program of FHA.

The findings of the study show that the average farm ownership loan was \$9,589 with 137 farmers receiving tenant purchase loans, 10 farm enlargement loans, and 33 farm development loans. Substantial parts of both farm enlargement and farm development loans were used to re-finance existing debts. Since the borrower's average gross farm income was \$5,936, which scarcely covered operating and family expenses, the farmers had to rely on off-farm income for debt repayment. A more

³⁰Peter Helmberger and Reynold Dahl, Financing Farm With 100 Per Cent Loans, Bulletin 447 (Saint Paul: University of Minnesota, 1958).

critical problem was faced by 25 per cent of the borrowers whose net cash farm income was less than \$1,000, which was too small to cover cash family living expenses. Over one-fourth of borrowers farmed less than 100 acres which was considered by the author to be an inefficient size farm. The high degree of lending risk was demonstrated by the low average equity of borrowers (48.5 per cent) which was as low as 30 per cent in 14 per cent of the cases. Careful selection of applicants and productive farms are required before approving 100 per cent loans if disappointments and losses are to be held to a minimum, the author concluded.

Under the title of "Approaches to Income Improvement in Agriculture"³¹ a study was based on the analysis of 5,555 farm operating loans made by FHA during the period 1947-53 throughout the nation.

The study reported that borrowers' total net cash income increased by 47 per cent with only a small part of the increase resulting from changes in farm prices during the period. Average net worth increased by 60 per cent. The rate of progress made by borrowers in the South was lower than that achieved in other regions of the United States. The author believed that these differences reflected differences among regions in social and economic conditions, rather than differences in character and management capacity among the borrowers. Therefore, the low-income farm problem cannot be solved at the individual farm level,

³¹William E. Hendrix, Approaches to Income Improvement in Agriculture, Production Research Report No. 33, United States Department of Agriculture (Washington: Government Printing Office, 1959).

but through programs planned on area-wide, regional and national bases which would improve the production and employment opportunities of low-income areas, generally. Higher rates of progress were achieved by younger borrowers. When operating with the same quality and quantity of resources no significant differences were found among white and non-white borrowers.

Conventional lenders have implied a cause-effect principle which states that a farmer's present net worth measures his management capacity. This is often used as an index to determine the amount of credit that can safely be advanced to him. However, little relationship was encountered between the initial net worth of the cases studied and their success in increasing their incomes and net worth while under the program.

The principle of increasing risk, i.e., "marginal risk increases with the amount invested,"³² is a relevant concept for both lenders and borrowers. It is easier explained when taken on a comparative basis. For instance, if two farmers possess the same equity but one is indebted and the other one not, equal changes in the price of assets lead to a higher percentage variation in equity for the borrower farmer than for the debt-free farmer. Illustrative in this aspect is a study undertaken in Illinois of farm loans made by commercial lenders. The authors found that asset-creating loans were granted in significantly larger

³²Michael Kalecki, Essays in the Theory of Economic Fluctuations (New York: Farrar and Rinehart, Inc., 1939), p. 98.

amounts than non-asset creating loans.³³ This lenders' tendency would partially be explained as a reaction taken by bankers in order to offset the effects of the principle discussed above. Eventually, such a policy could lead to non-optimum combination of resources.

³³C. B. Baker and G. D. Irwin, Effects of Borrowing from Commercial Lenders on Farm Organization, Bulletin 671 (Urbana: University of Illinois, 1961), pp. 21-22.

CHAPTER II

DESCRIPTION OF THE AREA

The general characteristics of an area result from the combination of physical, economic, social and biological factors. An understanding of how these factors combine is useful for an appraisal of the environment in which the farm operators are living and working.

The present chapter attempts to fulfill this requirement through a short description regarding the area in which the eleven counties are located.

I. PHYSICAL FACTORS

Counties. The eleven counties included in the survey are listed in alphabetical order, with the FHA office serving the county in parenthesis:

- | | |
|-------------------------|----------------------------|
| 1. Cannon (McMinnville) | 7. Pickett (Livingston) |
| 2. Clay (Celina) | 8. Putnam (Cookeville) |
| 3. DeKalb (McMinnville) | 9. Van Buren (McMinnville) |
| 4. Jackson (Gainesboro) | 10. Warren (McMinnville) |
| 5. Macon (Lafayette) | 11. White (Cookeville) |
| 6. Overton (Livingston) | |

Geography. The area is located entirely within the limits of the geographic division known as Middle Tennessee (Figure 1). Macon, Clay and Pickett Counties lie toward the Northern limit of the area and



FIGURE 1

GEOGRAPHIC LOCATION OF THE ELEVEN SELECTED
MIDDLE TENNESSEE COUNTIES

Ref.:

1. Macon
2. Clay
3. Pickett
4. Jackson
5. Overton
6. Putnam
7. DeKalb
8. Cannon
9. Warren
10. White
11. Van Buren

are bounded by the State of Kentucky. Warren and Van Buren are the two most Southern counties. The Western and Eastern boundaries of this whole area are approximately between the 86° and 85° meridians, respectively. The area includes 3,495 square miles, which is about 8.4 per cent of the total state area.

Physiography.¹ Reading from West to East, three major natural regions lie across the eleven counties, i.e., Highland Rim, Central Basin and Cumberland Plateau.

Soils. Although slightly different in some aspects, counties in the sample have common soil characteristics corresponding to those of Dickson-Mountview-Bodine; Baxter-Dellrose-Mimosa; Cumberland-Waynesboro-Decatur; Sango-Bodine; Hartsells-Muskingum, and Muskingum-Hartsells associations. These soils are moderate to low in fertility with some being fairly productive under good management. The topography ranges from rolling to hilly. Some steep areas are relatively fertile but these present a farming problem because machinery cannot be utilized efficiently.

Climate. Middle Tennessee lies in the humid region of the United States. The normal annual temperature is 59.5°F., and the normal annual

¹ Joe A. Martin and B. H. Luebke, Types of Farming in Tennessee, Agricultural Experiment Station, Bulletin 311 (Knoxville: The University of Tennessee, March, 1960), pp. 9-20.

precipitation is 51.42 inches, as recorded at the Lewisburg Experiment Station.²

II. ECONOMIC RESOURCES

Agriculture. Agriculture is the traditional mainstay of the region. A major part of the total acreage is woodland. Tobacco is the chief cash income crop. Corn is an important row crop which is mainly fed to hogs rather than being marketed as grain. Dairy and beef cattle are other important sources of farm income.

The average size of farms in the eleven counties ranges from 88 acres to a high of only 116 acres which, along with low soil fertility, makes it difficult for farmers to organize their farms into an economically efficient unit (Table VIII).

Industry. One common characteristic of the region is the relatively low degree of industrialization. Mining, mainly coal and limestone rocks, and timber are important sources of industrial activity. Manufacturing includes food, apparel, furniture, leather products and other small factories.

Human resources. The total population of the area, mostly classified as rural, is 137,000 or about 3.9 per cent of the State population. The people of the region are largely of Scotch-Irish and

²United States Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957 (Washington: Government Printing Office, 1960), pp. 246-247.

TABLE VIII

FARM LAND AREA, FARM CAPITAL, AND FARM RECEIPTS, ELEVEN SELECTED
MIDDLE TENNESSEE COUNTIES AS COMPARED TO THE STATE, 1959*

Name	Total land area** Square miles	Proportion land area in farms Per cent	Number of farms Number	Average size of farm Acres	Average value land and buildings Dollars	Total farm receipts Million dollars	Average receipts per farm Dollars
State	41,762	60.2	157,688	102.0	12,488	474.5	3,009
Cannon	271	82.7	1,230	116.5	7,892	2.4	1,986
Clay	235	71.6	968	111.2	7,323	1.9	1,981
DeKalb	276	80.7	1,507	94.5	8,632	3.1	2,202
Jackson	327	77.8	1,549	105.1	8,741	3.0	2,004
Macon	304	87.6	1,934	88.1	7,432	9.9	3,605
Overton	439	58.0	1,676	97.2	6,988	2.6	1,590
Pickett	157	56.7	712	80.1	7,104	1.1	1,594
Putnam	406	65.6	1,997	85.4	10,349	3.1	1,537
Van Buren	255	28.0	421	108.5	6,794	.5	1,238
Warren	442	74.3	1,828	114.9	11,980	6.1	3,391
White	383	64.6	1,624	97.5	11,557	3.4	2,223
Total 11 counties	3,495	—	15,446	—	—	37.1	—
Proportion of state	8.36	—	9.79	—	—	7.8	—

*Source: Adapted from United States Bureau of the Census, United States Census of Agriculture: 1959, Vol. I, Counties—Part 31, Tennessee (Washington: Government Printing Office, 1961), pp. 144 and f.

**Source: United States Bureau of the Census, County and City Data Book, 1962 (A Statistical Abstract Supplement) (Washington: Government Printing Office, 1962), pp. 338 and f.

English descent. A large number of people tend to leave the region seeking employment elsewhere because of low farm incomes and the lack of local job opportunities. While the state population grew by 8 per cent during the past decade, the population of each of the eleven counties decreased with the exception of Warren County.

III. FARM DATA

The average value of land and buildings per farm in 1959 ranged from \$6,800 in Van Buren County to \$12,000 in Warren County, as compared to an average of \$12,500 for the whole state. The average value of all farm products sold in 1959, on a per farm basis, ranged from \$1,200 in Van Buren County to \$3,600 in Macon County, compared with an average of \$3,000 for all Tennessee farms. There were approximately 10,000 farm owners and 2,100 tenants in 1959.

The farmers' average age was about 51 years compared with an average of 51.4 years in the state as a whole (Table IX). Only 38 of the 8,000 commercial farmers were Class I, according to the 1959 census (Table X).³

³According to the Census of Agriculture for 1959, Class I commercial farms were those with a value of farm products sold amounting to \$40,000 and over.

TABLE IX

TOTAL POPULATION, FARM TENURE STATUS, FARMERS' WORK AND AVERAGE AGE, ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES AS COMPARED TO THE STATE, 1959 AND 1962*

	Total** population	Change in population 1950-61**	Total farm owners	Total part owners	Total tenants	Proportion of tenancy	Farm operators working off farm	Working 100 or more days	Farmers' average age
State	3,567,089	8.4	96,474	28,453	32,394	20.5	74,371	50,412	51.4
Cannon	8,537	-6.9	832	210	186	15.1	554	429	50.8
Clay	7,289	-16.2	594	247	125	12.9	516	226	50.0
DeKalb	10,774	-7.8	1,016	226	264	17.5	672	414	50.6
Jackson	9,233	-25.2	921	335	292	18.9	536	326	51.8
Macon	12,197	-10.3	1,079	486	368	19.0	778	376	50.0
Overton	14,661	-16.5	1,180	305	190	11.3	817	505	51.9
Pickett	4,431	-13.0	470	180	62	8.7	404	233	49.6
Putnam	29,236	-2.1	1,338	384	273	13.7	997	633	52.0
Van Buren	3,671	-7.9	321	82	18	4.3	267	157	51.1
Warren	23,102	3.7	1,279	408	139	7.6	890	640	51.2
White	15,577	-3.9	1,073	384	163	10.0	787	525	51.4
Total 11 counties	138,708	—	10,103	3,247	2,080	—	7,218	4,464	—
Proportion of state	3.88	—	10.5	11.4	6.4	—	9.7	8.9	—

*Source: Adapted from United States Bureau of the Census, United States Census of Agri-
culture, 1959, Vol. I, Counties—Part 31, Tennessee (Washington: Government Printing Office,
1961), pp. 141 and f.

**Source: United States Bureau of the Census, County and City Data Book, 1962 (A
Statistical Abstract Supplement) (Washington: Government Printing Office, 1962), pp. 338 and f.

TABLE X

COMMERCIAL FARMS, ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES
AS COMPARED TO THE STATE, 1959*

	All commercial farms	Class I	Class II	Class III	Class IV	Class V	Class VI	Other farms **
State	82,639	649	1,760	5,713	14,797	30,112	29,608	75,056
Cannon	506	—	—	16	70	195	225	705
Clay	520	—	1	21	41	197	260	445
DeKalb	682	—	5	6	71	240	360	820
Jackson	885	—	10	28	72	270	505	615
Macon	1,935	16	32	115	335	777	660	832
Overton	689	5	6	28	46	164	440	982
Pickett	311	—	—	16	25	75	195	421
Putnam	759	—	—	17	86	236	420	1,275
Van Buren	116	10	5	32	192	291	300	980
Warren	830	7	1	37	100	200	290	910
Total 11 counties	7,868	38	60	316	1,064	2,685	3,705	8,300
Proportion of state	9.5	5.9	3.4	5.5	7.2	8.9	12.5	11.0

*Source: Adapted from United States Bureau of the Census, United States Census of Agriculture: 1959, Vol. I, Counties—Part 31, Tennessee (Washington: Government Printing Office, 1961), pp. 144 and f.

**Includes part-time, part-retirement and abnormal farms.

CHAPTER III

FINDINGS OF THE STUDY

For purposes of analysis, farm operators were grouped by type of farm and by tenure status to study the differences in the farming operations and financial position of FHA borrowers in 1958 and 1961.

Borrowers were classified into six groups similar to the Census definition;¹ (1) Tobacco farms, those obtaining 50 per cent or more of their gross farm income from tobacco sales; (2) Dairy farms, with 50 per cent or more of their gross farm income provided by sales of dairy products; (3) Hog farms, with 50 per cent or more of their gross farm income coming from hog sales; (4) Beef farms with 50 per cent or more of gross farm income being derived from sales of beef cattle; (5) General farms, those farms producing different commodities, but no one commodity group making up 50 per cent of the gross farm income; and (6) "Other" farms, those whose main source of income was any farm product with the exception of the above.

Following the Census definition,² borrowers were grouped as: (1) Owners, those who operated only the land they owned; (2) Part owners, those who operated land they owned and land rented from others, and (3) Tenants, those who operated only rented land.

¹United States Bureau of the Census, United States Census of Agriculture, 1959, Vol. I, Counties—Part 31, Tennessee (Washington: Government Printing Office, 1961), p. XXIV.

²Ibid., p. XXIII.

I. DESCRIPTIVE CHARACTERISTICS OF BORROWERS AND THEIR FARMS

Borrowers' age. The FHA borrowers were, on the average, younger than the average Tennessee farmer. In 1958 the average borrower was 40.9 years old and in 1961 he was 41.3 years old, while the average age was 51.4 and 50 years in 1959 for Tennessee farmers and farmers in the eleven counties as a whole, respectively. Both in 1958 and in 1961, almost one half of the borrowers were younger than 40 years of age, and more than three-fourths averaged less than 50 years of age (Tables X and XI).

Types of farming. Farm activity was fairly diversified among the borrowers. General farms accounted for 44 per cent of the total in 1958 and 33 per cent in 1961 (Table XII). Dairy farmers were the second largest in number with 77 farms or 27 per cent in 1958 and 111 farms or 31 per cent in 1961. Tobacco farms ranked third with about 20 per cent in both 1958 and 1961.

The total number of active cases changed from 281 in 1958 to 353 in 1961, an increase of 26 per cent or 72 cases. Dairy farms increased by almost 45 per cent, from 77 to 111 cases. This important change coincided with the emphasis given at this time by the Federal government to price support policies in favor of the dairy industry. The price support for manufacturing milk which was at \$3.06 from April 1, 1958 to September 16, 1960 was advanced at that time to \$3.22 and then on

TABLE XI

FARMERS HOME ADMINISTRATION BORROWERS CLASSIFIED BY AGE, ELEVEN
SELECTED MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Years of age	1958			1961		
	Number	Per cent	Per cent cumulated	Number	Per cent	Per cent cumulated
Less than 20	—	—	—	1	—	*
20-29	51	18	18	49	14	14
30-39	77	28	46	102	29	43
40-49	97	35	81	123	35	78
50-59	43	15	96	67	19	97
60-69	12	4	100	11	3	100
Total	281	100		353	100	

*Less than 1.0 per cent.

TABLE XII

FARMERS HOME ADMINISTRATION BORROWERS CLASSIFIED BY FARM TYPE,
ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES,
1958 AND 1961

Farm type	Number of cases		Change	
	1958	1961	Number	Per cent
<u>Tobacco</u>	50	70	20	40
<u>Per cent</u>	18	20		
<u>Dairy</u>	77	111	34	44
<u>Per cent</u>	27	31		
<u>Hog</u>	14	15	1	7
<u>Per cent</u>	5	4		
<u>Beef</u>	6	16	10	167
<u>Per cent</u>	2	5		
<u>General</u>	123	128	5	4
<u>Per cent</u>	44	36		
<u>Other</u>	11	13	2	18
<u>Per cent</u>	4	4		
<u>All Farms</u>	281	353	72	26

March 10, 1961 to \$3.40.³ Tennessee prices for manufacturing grade milk also increased from an average of \$3.39 per hundredweight in 1958, to \$3.50 in 1961.⁴ Tobacco, as has already been mentioned, was an important cash crop in the region. In 1958 the number of tobacco farms was 50, while in 1961 it was 70.

Tenure status. In 1958, owners had 55 per cent of the total number of loans granted and part owners obtained 28 per cent (Table XIII). In 1961, 181 loans, or 51 per cent of the total caseload, were advanced to owners, and 113 loans, or 32 per cent, were made to part owners.

Tenants, with 17 per cent in both 1958 and 1961, had the lowest percentage of loans granted. The low rate of distribution for this category was in line with the proportion of tenancy in the whole area, which ranged from 4 per cent to less than 20 per cent (Table X). On the other hand, it may be partially explained by the fact that the percentage of tenancy tends to be low where land prices are low.

Size of farms. Although the average size of farm was relatively small, the size of the farms in the study was larger than the state

³United States Department of Agriculture, Economic Research Service, DS 289 (Washington: Government Printing Office, April, 1962), p. 7.

⁴United States Department of Agriculture, Dairy Statistics Through 1960, Economic Research Service, Statistical Bulletin No. 303 (Washington: Government Printing Office, April, 1962), pp. 275 and 279.

TABLE XIII

FARMERS HOME ADMINISTRATION BORROWERS CLASSIFIED BY TENURE STATUS,
ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Tenure status	Number of cases		Change	
	<u>1958</u>	<u>1961</u>	<u>Number</u>	<u>Per cent</u>
<u>Owners</u>	153	181	28	18
<u>Per cent</u>	55	51		
<u>Part owners</u>	79	113	34	43
<u>Per cent</u>	28	32		
<u>Tenants</u>	49	59	10	20
<u>Per cent</u>	17	17		
<u>All farms</u>	281	353	72	26

average of all farms as well as the average farm in the region. The average size of farm in the study was 153 acres in 1958 and 167 acres in 1961 (Table XIV), compared with less than 100 acres for the 11 county region and 102 acres for the State in 1959.

The average size of farm increased by almost 10 per cent for all farms, with the largest increase being made by "other" farms, with an increase of 99 acres or 61 per cent. While all the other categories except beef increased their total acreage, the average size of beef farms actually decreased by 20 per cent, from 169 acres in 1958 to 135 acres in 1961.

Crop acreage. Although total farm land is an important factor in regard to the value of assets, a better measure of the earning potential of any given farm is perhaps the acreage of cropland. Table XIV indicates that cropland acreage for all farmers in the study averaged 96 acres in 1958 and 108 acres in 1961. When these averages were compared with total farm land, it was found that the rate of land utilization was more than 60 per cent in 1958 and 1961.

When grouped by farm type, "other" farms had the largest size, 260 acres in 1961, but dairy farms had the highest rate of land utilization, 72 per cent in 1961.

When land factors were analyzed according to the tenure status of farm operators, the average number of total and cropland acres was approximately the same for the three categories in 1958 (Table XV).

TABLE XIV

CHANGES IN TOTAL AND TILLABLE ACREAGE OPERATED, BY FARM TYPE,
FARMERS HOME ADMINISTRATION BORROWERS, ELEVEN SELECTED
MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Farm type	1958 acres	1961 acres	Average per farm	
			Change Acres	Per cent
<u>Tobacco</u>				
Total farm land	151	164	13	9
Total land in crops	81	87	6	7
Proportion land in crops	54	53		-1
<u>Dairy</u>				
Total farm land	161	163	2	1
Total land in crops	110	118	8	7
Proportion land in crops	68	72		4
<u>Hog</u>				
Total farm land	140	180	40	29
Total land in crops	115	125	10	9
Proportion land in crops	82	69		-13
<u>Beef</u>				
Total farm land	169	135	-34	-20
Total land in crops	119	89	-30	-25
Proportion land in crops	70	65		-5
<u>General</u>				
Total farm land	150	164	14	9
Total land in crops	88	105	17	19
Proportion land in crops	59	64		5
<u>Other</u>				
Total farm land	161	260	99	61
Total land in crops	109	156	47	43
Proportion land in crops	68	60		-8
<u>All farms</u>				
Total farm land	153	167	14	9
Total land in crops	96	108	12	13
Proportion land in crops	63	65		2

TABLE XV

CHANGES IN TOTAL AND TILLABLE ACREAGE OPERATED, BY TENURE STATUS,
FARMERS HOME ADMINISTRATION BORROWERS, ELEVEN SELECTED
MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Farm type	Average per farm			
	1958	1961	Change	
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Per cent</u>
<u>Owner</u>				
Total farm land	152	161	9	6
Total land in crops	92	103	11	12
Proportion land in crops	61	64		3
<u>Part owner</u>				
Total farm land	154	180	26	17
Total land in crops	97	117	20	21
Proportion land in crops	63	65		2
<u>Tenant</u>				
Total farm land	157	158	1	*
Total land in crops	104	104	—	—
Proportion land in crops	66	66	—	—
<u>All farms</u>				
Total farm land	153	167	14	9
Total land in crops	96	108	12	13
Proportion land in crops	63	65		2

*Less than 1.0 per cent.

Part owners had increased their total land by 17 per cent and their cropland by 21 per cent in 1961.

Size of selected enterprises. Tobacco, corn and dairy enterprises were selected to estimate the differences in the average size of enterprises operated by FHA borrowers in 1958 and 1961. Table XVI reveals a degree of diversification among the farms. From 1958 to 1961, borrowers decreased corn acreage by 12 per cent, from 16 to 14 acres; tobacco acreage was not changed (9 acres), and the average number of milk cows per farm increased from 5 to 8. Tobacco remained the most stable enterprise.

Off-farm work. The number of months of off-farm work by all operators averaged 1.5 months for both 1958 and 1961. However, the 1958 part owners were working off farm 25 per cent more than the 1961 part owners. Tenants increased their off-farm work from 1.0 month in 1958 to 1.6 months in 1961 (Table XVII).

Wives' off-farm work for all farms rose by 50 per cent, from 2 months in 1958 to 3 months in 1961. As it was explained in Chapter II, the entire region lacks off-farm job opportunities. The few available are probably better suited for female employment.

In any case, it was found that over the three-year period farm families were relying increasingly on non-farm sources of income to obtain their living. The study showed that the average number of months worked off farm by the two groups of operators and their wives increased from 3.5 to 4.5 months, a change of 29 per cent.

TABLE XVI

CHANGES IN SIZE OF FARM ENTERPRISES OPERATED, BY FARM TYPE,
FARMERS HOME ADMINISTRATION BORROWERS, ELEVEN SELECTED
MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Farm type	Units	Average per farm			
		1958	1961	Change Units	Per cent
<u>Tobacco</u>					
Corn	Acre	16	13	-3	-18
Tobacco	Acre	17	16	-1	-6
Dairy	Cow	3	4	1	33
<u>Dairy</u>					
Corn	Acre	15	14	-1	-7
Tobacco	Acre	5	6	1	20
Dairy	Cow	11	18	7	64
<u>Hog</u>					
Corn	Acre	32	14	-18	-56
Tobacco	Acre	5	4	-1	-20
Dairy	Cow	1	1	—	—
<u>Beef</u>					
Corn	Acre	17	9	-8	-47
Tobacco	Acre	3	4	1	33
Dairy	Cow	5	—	-5	-100
<u>General</u>					
Corn	Acre	16	15	-1	-6
Tobacco	Acre	9	10	1	11
Dairy	Cow	3	5	2	66
<u>Other</u>					
Corn	Acre	12	18	6	50
Tobacco	Acre	4	5	1	25
Dairy	Cow	5	8	3	60
<u>All farms</u>					
Corn	Acre	16	14	-2	-12
Tobacco	Acre	9	9	—	—
Dairy	Cow	5	8	3	60

TABLE XVII

MONTHS OPERATOR AND WIFE WORKED OFF-FARM, BY TENURE STATUS,
FARMERS HOME ADMINISTRATION BORROWERS, ELEVEN SELECTED
MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Tenure status	Average per farm			
	1958 Months	1961 Months	Change Months	Per cent
Owner				
Operator's work	1.7	1.7	---	---
Wife's work	1.9	2.7	.8	42
Total	3.6	4.4	.8	22
Part owner				
Operator's work	1.6	1.2	-.4	-25
Wife's work	1.7	3.5	1.8	105
Total	3.3	4.7	1.4	42
Tenant				
Operator's work	1.0	1.6	.6	60
Wife's work	2.9	3.1	.2	7
Total	3.9	4.7		
All farms				
Operator's work	1.5	1.5	---	---
Wife's work	2.0	3.0	1.0	50
Total	3.5	4.5	1.0	29

Yields. Table XVIII summarizes the changes in production per unit for selected enterprises during the period under survey.

The average annual milk production per cow for all farms in 1958 was 4,990 pounds; it increased by 114 pounds to 5,104 pounds in 1961, compared to the state averages of 4,300 pounds in 1958 and 4,800 pounds in 1961. The average yield of corn remained unchanged with 53 bushels per acre in both years, whereas the comparative Tennessee average was 39 bushels in 1958 and 43 bushels in 1961. Finally, the average production per acre of burley tobacco fell from about 1,860 pounds in 1958 to 1,832 in 1961, while the state average for this commodity was 1,680 pounds and 1,855 pounds, respectively.⁵

II. CHANGES IN FINANCIAL STRUCTURE

The previous section showed the general characteristics of the borrowers of the two sampled periods and the main changes which occurred in type and size of farm enterprises of those borrowing in 1958 and 1961. The present section examines the differences in the financial structure of the farm businesses of the two groups of borrowers.

Balance sheet. Average beginning balance sheets for 1958 and for 1961 were calculated by farm type and by tenure status. Farm capital, in the following tables, includes only land and buildings, productive livestock, and workstock and equipment owned by the farmers. The capital represented by the rental value of farms operated under

⁵For comparative averages see Table XXXIV.

TABLE XVIII

CHANGES IN YIELD PER ACRE OF SELECTED CROPS AND IN DAIRY-AVERAGE
PRODUCTION PER COW, FARMERS HOME ADMINISTRATION BORROWERS,
BY FARM TYPE, ELEVEN SELECTED MIDDLE TENNESSEE
COUNTIES, 1958 AND 1961

Farm type	Unit	No.*	1958	No.*	1961	Average per farm	
						Change	
						Units	Per cent
<u>Tobacco</u>							
Corn	Bushel	(43)	50	(55)	50	—	—
Tobacco**	Pound	(50)	1,833	(70)	1,936	103	6
Dairy	Pound	(26)	4,465	(42)	3,943	-522	-12
<u>Dairy</u>							
Corn	Bushel	(69)	58	(85)	54	-4	-7
Tobacco	Pound	(50)	1,733	(74)	1,759	26	1
Dairy	Pound	(69)	5,411	(104)	5,797	386	7
<u>Hog</u>							
Corn	Bushel	(14)	52	(11)	61	9	17
Tobacco	Pound	(10)	1,966	(9)	1,926	-40	-2
Dairy	Pound	(3)	4,667	(1)	3,740	-927	-20
<u>Beef</u>							
Corn	Bushel	(6)	57	(10)	61	4	7
Tobacco	Pound	(3)	1,660	(10)	1,850	190	11
Dairy	Pound	(1)	5,000	—	—	—	—
<u>General</u>							
Corn	Bushel	(114)	51	(108)	53	2	4
Tobacco	Pound	(119)	1,932	(116)	1,803	-129	-7
Dairy	Pound	(54)	4,701	(65)	4,743	42	1
<u>Other</u>							
Corn	Bushel	(8)	65	(8)	52	-13	-20
Tobacco	Pound	(5)	1,756	(6)	1,921	165	10
Dairy	Pound	(4)	5,287	(5)	5,398	111	2
<u>All farms</u>							
Corn	Bushel	(254)	53	(277)	53	—	—
Tobacco	Pound	(237)	1,863	(285)	1,832	-31	-2
Dairy	Pound	(157)	4,990	(217)	5,104	114	2

*Figures in this column indicate number of cases in each enterprise.

**Burley.

lease contracts was not included. Neither crop inventories nor household inventories and financial assets were included. The aim was to emphasize only the differences that occurred in the farm asset segment owned by 1958 and 1961 borrowers. All values in the study were expressed in current dollars.

The beginning balance sheet for 1958 showed that borrowers in the study had accumulated assets averaging approximately \$12,000 of which \$7,478 were owned and \$4,517 were debts (Table XIX). By January, 1961, total production assets increased to about \$16,000, or 33 per cent above the initial amount. Most of this increase was the effect of credit obtained by farmers during the study period. Total liabilities between the two groups increased by 58 per cent from \$4,517 to \$7,123. Operating debt accounted for almost \$2,600 of this total (an increase of more than 80 per cent), and real estate debt accounted for about \$4,500 in 1961, which was 46 per cent above the 1958 average. Average net worth for all farms reached almost \$8,900 in 1961, up \$1,400 from 1958, or a gain of 19 per cent. As might be expected, since the farmers were relying on debt financing, the equity ratio (ratio of net worth to total assets) fell over the study period from 62 to 55. This meant, in other words, that the overall financial strength of the farmers in 1961 was weaker than the overall financial strength of borrowers in 1958. The largest increase in net worth was made by "other" farms, who also increased their equity ratio from 49 to 61. Inversely, in 1961 beef farms' net worth dropped by almost 50 per cent, and tobacco farms' net worth declined by 6 per cent over similar 1958 categories.

TABLE XIX

PRODUCTION FARM CAPITAL (EXCLUDING CROP INVENTORIES), LIABILITIES,
AND NET WORTH, FARMERS HOME ADMINISTRATION BORROWERS,
BY FARM TYPE, ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES,
BEGINNING OF 1958 AND 1961

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Tobacco</u>				
Production farm assets	9,301	9,735	434	5
Real estate debt	2,140	2,607	467	22
Operating debt	1,109	1,452	343	31
Total liabilities	3,249	4,059	810	25
Net worth	6,052	5,676	-376	-6
Proportion of farm assets	65	58		
<u>Dairy</u>				
Production farm assets	14,583	21,037	6,454	44
Real estate debt	4,334	6,963	2,629	61
Operating debt	1,777	3,674	1,897	107
Total liabilities	6,111	10,637	4,526	74
Net worth	8,472	10,400	1,928	23
Proportion of farm assets	58	49		
<u>Hog</u>				
Production farm assets	13,605	20,392	6,787	50
Real estate debt	2,482	6,415	3,933	158
Operating debt	1,638	2,829	1,191	73
Total liabilities	4,120	9,244	5,124	124
Net worth	9,485	11,148	1,663	18
Proportion of farm assets	70	55		
<u>Beef</u>				
Production farm assets	22,807	14,329	-8,478	-37
Real estate debt	4,261	2,917	-1,344	-32
Operating debt	1,976	2,788	812	41
Total liabilities	6,237	5,705	-532	-9
Net worth	16,570	8,624	-7,946	-48
Proportion of farm assets	73	60		
<u>General</u>				
Production farm assets	10,444	13,877	3,433	33
Real estate debt	2,599	3,445	846	33
Operating debt	1,072	1,984	912	85
Total liabilities	3,671	5,429	1,758	48
Net worth	6,773	8,448	1,675	25
Proportion of farm assets	65	61		

TABLE XIX (continued)

Farm type	Average per farm			
	1958	1961	Change	
	Dollars	Dollars	Dollars	Per cent
<u>Other</u>				
Production farm assets	15,500	24,432	9,060	57
Real estate debt	5,023	5,365	342	7
Operating debt	2,948	4,216	1,268	43
Total liabilities	7,971	9,581	1,610	20
Net worth	7,529	14,851	7,450	95
Proportion of farm assets	49	61		
<u>All farms</u>				
Production farm assets	11,995	15,994	3,999	33
Real estate debt	3,117	4,558	1,441	46
Operating debt	1,400	2,565	1,165	83
Total liabilities	4,517	7,123	2,606	58
Net worth	7,478	8,871	1,393	19
Proportion of farm assets	62	55		

When the balance sheet was analyzed by tenure status (Table XX), it showed increases in net worth for 1961 owners and part owners and a decrease for tenants over similar 1958 categories. In 1958, owners had a net worth of \$8,395 which in 1961 rose to \$10,413; part owners increased their net worth from \$7,842 in 1958 to \$9,594 in 1961. On the contrary, tenants' net worth in 1961 was 32 per cent lower than in 1958. This negative change was the result of their decline in total assets (12 per cent) together with an increase of 66 per cent in their average debt.

Changes in farm capital. To complement the foregoing analysis a study was made regarding changes in farm capital (Table XXI).

In 1958, the farm capital of farmers averaged over \$6,500 in land and buildings or about one-half of the \$12,500 average for the whole state in 1959 (Table VII). The value of productive livestock averaged \$2,886, and the value of workstock and equipment averaged \$2,541. The combined value of these items gave an average for all farm assets of about \$12,000.

Total capital values in 1958 ranged from a high of \$22,800 for beef farms to a low of \$9,300 for tobacco farms. Three years later, the total capital for all farmers averaged \$16,000, an increase of \$4,000, or 33 per cent. The value of land and buildings rose by 34 per cent from \$6,568 to \$8,826; productive livestock increased by 35 per cent, from \$2,886 to \$3,908, and the value of workstock and equipment increased by \$719, a 28 per cent gain.

TABLE XX

PRODUCTION FARM ASSETS OWNED (EXCLUDING CROP INVENTORIES),
LIABILITIES, AND NET WORTH, FARMERS HOME ADMINISTRATION
BORROWERS, BY TENURE STATUS, ELEVEN SELECTED MIDDLE
TENNESSEE COUNTIES, 1958 AND 1961

Tenure status	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Owner</u>				
Farm assets	14,166	18,991	4,825	34
Real estate debt	4,309	6,079	1,770	41
Operating debt	1,462	2,499	1,037	71
Total liabilities	5,771	8,578	2,807	49
Net worth	8,395	10,413	2,018	24
Proportion of farm assets	59	55		
<u>Part owner</u>				
Farm assets	12,112	17,240	5,128	42
Real estate debt	2,744	4,502	1,758	64
Operating debt	1,526	3,114	1,618	106
Total liabilities	4,270	7,646	3,376	79
Net worth	7,842	9,594	1,752	22
Proportion of farm assets	65	56		
<u>Tenant</u>				
Farm assets	5,023	4,407	-616	-12
Real estate debt	—	—	—	—
Operating debt	1,000	1,658	658	66
Total liabilities	1,000	1,658	658	66
Net worth	4,023	2,749	-1,274	-32
Proportion of farm assets	80	62		
<u>All farms</u>				
Farm assets	11,995	15,994	3,999	33
Real estate debt	3,117	4,558	1,441	46
Operating debt	1,400	2,565	1,165	83
Total liabilities	4,517	7,123	2,606	58
Net worth	7,478	8,871	1,393	19
Proportion of farm assets	62	55		

TABLE XXI

CHANGES IN PRODUCTION FARM CAPITAL OWNED, FARMERS HOME ADMINISTRATION
BORROWERS, BY FARM TYPE, ELEVEN SELECTED MIDDLE TENNESSEE
COUNTIES, 1958 AND 1961

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Tobacco</u>				
Land and buildings	5,784	5,791	7	*
Productive livestock	1,654	2,088	434	26
Workstock and equipment	1,863	1,856	-7	*
Total capital	9,301	9,735	434	5
<u>Dairy</u>				
Land and buildings	7,622	11,157	3,535	46
Productive livestock	3,930	5,610	1,680	43
Workstock and equipment	3,031	4,270	1,239	41
Total capital	14,583	21,037	6,454	44
<u>Hog</u>				
Land and buildings	6,107	11,220	5,113	84
Productive livestock	3,188	5,158	1,970	62
Workstock and equipment	4,310	4,014	-296	-7
Total capital	13,605	20,392	6,787	50
<u>Beef</u>				
Land and buildings	10,250	7,556	-2,694	-26
Productive livestock	8,257	3,523	-4,735	-57
Workstock and equipment	4,300	3,250	-1,050	-24
Total capital	22,807	14,329	-8,471	-37
<u>General</u>				
Land and buildings	5,867	7,959	2,092	36
Productive livestock	2,400	3,038	638	27
Workstock and equipment	2,177	2,880	703	32
Total capital	10,444	13,877	3,433	33
<u>Other</u>				
Land and buildings	9,155	12,592	3,437	38
Productive livestock	3,305	6,772	3,467	105
Workstock and equipment	3,040	5,068	2,028	67
Total capital	15,500	24,432	8,932	58

TABLE XXI (continued)

Farm type	Average per farm			
	1958	1961	Change	
	Dollars	Dollars	Dollars	Per cent
All farms				
Land and buildings	6,568	8,826	2,258	34
Productive livestock	2,886	3,908	1,022	35
Workstock and equipment	2,541	3,260	719	28
Total capital	11,995	15,994	3,999	33

*Less than 1.0 per cent.

The relative positions of the farm types in 1961 were visibly changed. Farm capital for beef farms in the 1961 group was \$8,471, or 37 per cent smaller than the farm capital on beef farms in 1958. The largest increase both monetarily and percentage-wise was made by "other" farms. The value of total assets for this category increased by 58 per cent over the study period. The value of productive livestock more than doubled. The remainder of the farm types held greater amounts of farm capital in 1961 than did similar groups in 1958, with the exception of tobacco farms.

Grouped by tenure status, the largest difference in total capital between similar groups was achieved by part owners, a change of 42 per cent (Table XXII).

Over the same period, tenants' capital decreased by 12 per cent from \$5,000 to \$4,400. The negative change may be partially explained by the following factors: (1) Operators in this group did not benefit from inflated real estate values, as it was the case with the other categories; (2) Operators' leaving the tenant category tend to have a relatively high financial position when they are transferred to other categories.

III. INCOME AND EXPENSE ANALYSIS

It was assumed that the main purpose farmers had in mind for borrowing funds was to increase their incomes. To gain insight into how this objective was attained, average income and expense statements were calculated for the borrowers based on their financial records.

TABLE XXII

CHANGES IN PRODUCTION FARM CAPITAL OWNED, FARMERS HOME ADMINISTRATION
BORROWERS, BY TENURE STATUS, ELEVEN SELECTED MIDDLE
TENNESSEE COUNTIES, 1958 AND 1961

Tenure status	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Owner</u>				
Land and buildings	8,660	11,473	2,813	32
Productive livestock	3,034	4,182	1,148	38
Workstock and equipment	2,472	3,336	864	35
Total capital	14,166	18,991	4,825	34
<u>Part-owner</u>				
Land and buildings	6,589	9,193	2,604	39
Productive livestock	2,785	4,322	1,537	55
Workstock and equipment	2,738	3,725	987	36
Total capital	12,112	17,240	5,128	42
<u>Tenant</u>				
Land and buildings	—	—	—	—
Productive livestock	2,587	2,273	-314	-12
Workstock and equipment	2,436	2,134	-302	-12
Total capital	5,023	4,407	-616	-12
<u>All farms</u>				
Land and buildings	6,568	8,826	2,258	34
Productive livestock	2,886	3,908	1,022	35
Workstock and equipment	2,541	3,260	719	28
Total capital	11,995	15,994	3,999	33

Gross cash farm income. Gross cash farm income is a measure of farm output in terms of dollars. Its study becomes relevant when loans are granted to low equity farmers, such as those included in this study.

The average gross cash farm income of 1961 borrowers was 29 per cent over 1958 borrowers. Gross cash farm income was \$3,268 in 1958 and \$4,220 in 1961 (Table XXIII). Dairy farms showed the largest difference, increasing by almost 60 per cent, from about \$3,800 in 1958 to \$5,947 in 1961.

Higher milk prices prevalent since March, 1961, and the increased productivity per cow were among the factors responsible for the increased gross income of dairy farms. General farms in 1961 had an average gross income of \$3,577 or \$700 more than in 1958. Though the average for "other" farms slightly decreased during the study period, they still had the largest amount of income in 1961, which averaged \$7,087. Beef farms in 1961 had an average gross income of \$2,485 or 44 per cent less than in 1958.

When the borrowers were analyzed according to their tenure status the following differences were found:

- (1) Although owners increased their gross farm income by 29 per cent, much of the gain was offset by larger expenditures in family living expenses, which rose by 22 per cent between the 1958 and 1961 groups (Table XXIV).
- (2) While part owners' gross cash farm income was improved by 41 per cent, the gross income of tenants was slightly reduced.

TABLE XXIII

GROSS AND NET CASH FARM INCOME, AND INCOME FOR DEBT REPAYMENT AND INVESTMENT, FARMERS HOME ADMINISTRATION BORROWERS
BY FARM TYPE, ELEVEN SELECTED MIDDLE
TENNESSEE COUNTIES, 1958 AND 1961

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change Dollars Per cent	
<u>Tobacco</u>				
Gross cash farm income	2,336	2,559	223	10
Farm operating expenses	1,124	1,294	170	15
Net cash farm income	1,212	1,265	53	4
Proportion of gross cash farm income	52	49	—	-3
Cash family living expenses	862	924	62	7
Income for debt repayment and investment	350	341	-9	-3
Proportion of net cash farm income	29	27	—	-3
<u>Dairy</u>				
Gross cash farm income	3,796	5,947	2,151	57
Farm operating expenses	2,282	3,670	1,388	61
Net cash farm income	1,514	2,277	763	50
Proportion of gross cash farm income	40	38	—	-2
Cash family living expenses	1,033	1,176	143	14
Income for debt repayment and investment	481	1,101	620	129
Proportion of net cash farm income	31	48	—	17
<u>Hog</u>				
Gross cash farm income	3,583	4,089	506	14
Farm operating expenses	1,888	3,287	1,399	74
Net cash farm income	1,695	802	-893	-53
Proportion of gross cash farm income	47	20	—	-27
Cash family living expenses	944	1,132	188	20
Income for debt repayment and investment	751	-330	—	—
Proportion of net cash farm income	44			
<u>Beef</u>				
Gross cash farm income	4,386	2,435	-1,951	-44
Farm operating expenses	2,244	1,540	-704	-31
Net cash farm income	2,142	895	-1,247	-58
Proportion of gross cash farm income	49	37	—	-12
Cash family living expenses	703	1,039	336	48
Income for debt repayment and investment	1,439	—	—	—
Proportion of net cash farm income	67			

TABLE XXIII (continued)

Farm type	Average per farm			
	1958	1961	Change	
	Dollars	Dollars	Dollars	Per cent
<u>General</u>				
Gross cash farm income	2,865	3,577	712	25
Farm operating expenses	1,440	2,028	588	41
Net cash farm income	1,425	1,549	124	9
Proportion of gross cash farm income	50	43	—	-1
Cash family living expenses	867	1,097	230	26
Income for debt repayment and investment	558	452	-106	-19
Proportion of net cash farm income	39	29	—	-10
<u>Other</u>				
Gross cash farm income	7,300	7,087	-213	-3
Farm operating expenses	4,371	4,389	18	*
Net cash farm income	2,929	2,698	-231	-8
Proportion of gross cash farm income	40	38	—	-2
Cash family living expenses	962	1,618	656	68
Income for debt repayment and investment	1,967	1,080	-887	-45
Proportion of net cash farm income	67	40	—	-27
<u>All farms</u>				
Gross cash farm income	3,268	4,220	952	29
Farm operating expenses	1,769	2,517	748	42
Net cash farm income	1,499	1,703	204	14
Proportion of gross cash farm income	46	40	—	-6
Cash family living expenses	916	1,106	190	21
Income for debt repayment and investment	583	597	14	2
Proportion of net cash farm income	39	35	—	-4

*Less than 1.0 per cent.

TABLE XXIV

GROSS AND NET CASH FARM INCOME, AND INCOME FOR DEBT REPAYMENT AND INVESTMENT, FARMERS HOME ADMINISTRATION BORROWERS, BY TENURE STATUS, ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Tenure status	Average per farm			
	1958	1961	Change	
	Dollars	Dollars	Dollars	Per cent
<u>Owner</u>				
Gross cash farm income	3,504	4,541	1,037	29
Farm operating expenses	1,908	2,761	853	45
Net cash farm income	1,596	1,780	184	11
Proportion of gross cash farm income	45	39	—	-6
Cash family living expenses	937	1,146	209	22
Income for debt repayment and investment	659	634	-25	-4
Proportion of net cash farm income	41	36	—	-5
<u>Part owner</u>				
Gross cash farm income	3,208	4,535	1,327	41
Farm operating expenses	1,784	2,755	971	54
Net cash farm income	1,424	1,780	356	25
Proportion of gross cash farm income	44	39	—	-5
Cash family living expenses	877	1,161	284	32
Income for debt repayment and investment	547	619	72	13
Proportion of net cash farm income	38	35	—	-3
<u>Tenant</u>				
Gross cash farm income	2,637	2,629	-8	-3
Farm operating expenses	1,309	1,315	6	4
Net cash farm income	1,328	1,314	-14	-1
Proportion of gross cash farm income	50	50	—	—
Cash family living expenses	911	877	-34	-4
Income for debt repayment and investment	417	437	20	5
Proportion of net cash farm income	31	33	—	2
<u>All farms</u>				
Gross cash farm income	3,268	4,220	952	29
Farm operating expenses	1,769	2,517	748	42
Net cash farm income	1,499	1,703	204	14
Proportion of gross cash farm income	46	40	—	-6
Cash family living expenses	916	1,106	190	21
Income for debt repayment and investment	583	597	14	2
Proportion of net cash farm income	39	35	—	-4

Farmers' expenditures. In order to evaluate these changes, an analysis of farmers' outlays was made (Table XXIII). In 1961, cash farm operating expenses⁶ for all farms averaged about \$2,500, up 42 per cent from the 1958 average. Cash family living expenses increased 21 per cent, reaching an average of \$1,106 in 1961. In addition to this cash outlay, the family had farm products to use in the home and a house in which to live.

When the analysis was made by tenure status (Table XXIV), it was observed that owners increased their cash farm operating expenses by 45 per cent, equivalent to about \$850, while their cash family living expenses in 1961 were \$200 more than in 1958. Part owners in 1961 had cash operating expenses averaging \$971 above their initial average of \$1,784 in 1958. Their family living expenditures were increased by 32 per cent, or about \$300. Tenants in the two periods made little change in their operating expenses and actually reduced their average family expenditures by 4 per cent.

Annual cash expenses. Average cash outlays for annual operating expenses for all farms increased from \$1,769 in 1958 to \$2,517 in 1961, an increase of 42 per cent. Funds used to buy such inputs as fertilizer, seed and fuel, were increased by 46 per cent, a change of \$450 (Table XXV). The largest increase in expenditures for these off-farm inputs was made by dairy farms, by an average of 81 per cent or \$972 over the beginning average. This increase was in line with improved yields and higher farm incomes attained by this group.

⁶No allowance was included for depreciation.

TABLE XXV

CHANGES IN OFF-FARM EXPENSES, FARMERS HOME ADMINISTRATION BORROWERS,
BY FARM TYPE, ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES,
1958 AND 1961

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change Dollars Per cent	
<u>Tobacco</u>				
Feed expenditures	101	137	36	36
Seed and fertilizer expenses	239	260	21	9
Fuel expenses	89	113	24	27
Hired labor expenses	74	176	102	138
Total off-farm expenses	<u>503</u>	<u>686</u>	183	36
Total farm operating expenses	1,124	1,294	170	15
Proportion of farm operating expenses	45	53	—	8
<u>Dairy</u>				
Feed expenditures	508	1,006	498	98
Seed and fertilizer expenses	393	611	218	74
Fuel expenses	208	347	139	67
Hired labor expenses	97	214	117	113
Total off-farm expenses	<u>1,206</u>	<u>2,178</u>	972	81
Total farm operating expenses	2,282	3,670	1,388	61
Proportion of farm operating expenses	53	59	—	6
<u>Hog</u>				
Feed expenditures	449	853	404	90
Seed and fertilizer expenses	359	480	121	34
Fuel expenses	209	224	15	7
Hired labor expenses	122	135	13	11
Total off-farm expenses	<u>1,139</u>	<u>1,692</u>	553	49
Total farm operating expenses	1,888	3,287	1,399	74
Proportion of farm operating expenses	60	51	—	9
<u>Beef</u>				
Feed expenditures	181	188	7	4
Seed and fertilizer expenses	579	290	-289	-50
Fuel expenses	173	152	-21	-12
Hired labor expenses	85	107	-22	-26
Total off-farm expenses	<u>1,018</u>	<u>737</u>	-281	-28
Total farm operating expenses	2,244	1,540	-704	-31
Proportion of farm operating expenses	45	48	—	3

TABLE XXV (continued)

Farm type	Average per farm			
	1958	1961	Change	
	Dollars	Dollars	Dollars	Per cent
<u>General</u>				
Feed expenditures	244	320	76	31
Seed and fertilizer expenses	325	364	39	12
Fuel expenses	136	190	54	40
Hired labor expenses	88	139	51	58
Total off-farm expenses	793	1,013	220	28
Total farm operating expenses	1,440	2,028	588	41
Proportion of farm operating expenses	55	50	---	5
<u>Other</u>				
Feed expenditures	2,535	885	-1,650	-65
Seed and fertilizer expenses	363	587	224	62
Fuel expenses	329	1,948	1,619	492
Hired labor expenses	119	266	147	124
Total off-farm expenses	3,346	3,686	340	10
Total farm operating expenses	4,371	4,389	18	*
Proportion of farm operating expenses	77	84	---	7
<u>All farms</u>				
Feed expenditures	389	537	148	38
Seed and fertilizer expenses	337	431	94	28
Fuel expenses	159	288	129	81
Hired labor expenses	91	173	82	90
Total off-farm expenses	976	1,429	450	46
Total farm operating expenses	1,769	2,517	748	42
Proportion of farm operating expenses	55	57	---	2

*Less than 1.0 per cent.

Net farm income. Net cash farm income and non-farm income provide the means for family expenses, capital outlays and debt repayment. Analysis of these two items are made in this and in the following section.

The analysis of Tables XXIII and XXIV indicated that on the average the borrowers had a net cash farm income of less than \$1,500 in 1958 and about \$1,700 in 1961. The increase in net cash farm income made by farmers from 1958 to 1961 was not substantial.

There was considerable variation according to farm type in the amount of net cash farm income. Dairy farms in 1961 had a net cash farm income 50 per cent over 1958 borrowers, from \$1,514 to \$2,277. However, "other" farms had the highest net income with \$2,929 in 1958 and \$2,698 in 1961. In 1961, hog and beef farm categories had a lower net cash farm income than in 1958.

The distribution of net cash farm income by tenure status was analyzed. Owners' net cash farm income increased by 11 per cent for the 1958-1961 period. Part owners increased their average by 25 per cent and had a net cash farm income of \$1,780 in 1961. Tenants' net farm income slightly decreased by 1 per cent, from about \$1,330 to almost \$1,315.

In 1958, average family expenses for all farms was \$916. In 1961, it was \$1,106, a change of \$150 or 21 per cent.

After deduction of family expenses was made from net cash farm income, the borrowers in 1958 had an average of \$583 available for debt repayment and capital expenditures. In 1961, they had \$597 for these purposes.

These amounts were not sufficient to cover the average annual outlay for debt retirement which amounted to \$1,179 in 1958 and to \$1,615 in 1961. This meant that, on the average, the farming operation of borrowers did not yield enough income for debt repayment and investment, even excluding depreciation. This was true both in 1958 and in 1961. Hence, part of the borrowers had to rely on off-farm income for retirement of their debts.

Off-farm income. For all farms, gross cash income in 1961 was 29 per cent higher than in 1958 due to the combined increase in gross cash farm income, 29 per cent higher, and in off-farm income, which was 31 per cent higher (Table XXVI). The analysis showed that overall earnings for beef and hog farms were depending more and more upon non-farm income than other types. The 53 per cent decrease experienced by hog farms in their net farm income was more than compensated by the 165 per cent increase in their non-farm income. By the same token, beef farms more than doubled their off-farm receipts during the study period. Although general and "other" farms did not increase their non-farm incomes as much as beef farms, the increase was large enough to offset their smaller net farm incomes. Finally, dairy farms did not substantially change their rate of non-farm income.

As indicated by Table XXVII owners' non-farm income in 1961 averaged one-third higher than in 1958; part owners in 1961 had off-farm incomes averaging \$1,419, or 56 per cent higher than those in 1958. On the other hand, tenants decreased their outside earnings by 20 per

TABLE XXVI

CHANGES IN GROSS CASH INCOME, GROSS CASH FARM INCOME AND OFF-FARM INCOME, FARMERS HOME ADMINISTRATION BORROWERS, BY FARM TYPE, ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Tobacco</u>				
Gross cash income	3,021	3,333	312	10
Gross cash farm income	2,336	2,559	223	10
Off-farm income	685	774	89	13
Proportion of gross cash income	23	23		—
<u>Dairy</u>				
Gross cash income	4,884	7,055	2,171	44
Gross cash farm income	3,796	5,947	2,151	57
Off-farm income	1,088	1,108	20	2
Proportion of gross cash income	22	16		-6
<u>Hog</u>				
Gross cash income	4,425	6,322	1,897	43
Gross cash farm income	3,583	4,089	506	14
Off-farm income	842	2,233	1,391	165
Proportion of gross cash income	19	35		16
<u>Beef</u>				
Gross cash income	5,319	4,402	-917	-17
Gross cash farm income	4,386	2,435	-1,951	-44
Off-farm income	933	1,967	1,034	111
Proportion of gross cash income	17	45		28
<u>General</u>				
Gross cash income	3,615	4,608	993	27
Gross cash farm income	2,865	3,577	712	25
Off-farm income	750	1,031	281	37
Proportion of gross cash income	21	22		1
<u>Other</u>				
Gross cash income	8,687	8,943	256	3
Gross cash farm income	7,300	7,087	-213	-3
Off-farm income	1,387	1,856	469	34
Proportion of gross cash income	16	21		5

TABLE XXVI (continued)

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
All farms				
Gross cash income	4,132	5,348	1,216	29
Gross cash farm income	3,268	4,220	952	29
Off-farm income	864	1,128	264	31
Proportion of gross cash income	21	21		—

TABLE XXVII

CHANGES IN GROSS CASH INCOME, GROSS CASH FARM INCOME AND OFF-FARM INCOME, FARMERS HOME ADMINISTRATION BORROWERS, BY TENURE STATUS, ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Tenure status	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Owners</u>				
Gross cash income	4,315	5,609	1,294	30
Gross cash farm income	3,504	4,541	1,037	29
Off-farm income	811	1,068	257	32
Proportion of gross cash income	19	19		—
<u>Part-owners</u>				
Gross cash income	4,120	5,954	1,834	45
Gross cash farm income	3,208	4,535	1,327	41
Off-farm income	912	1,419	507	56
Proportion of gross cash income	22	24		2
<u>Tenants</u>				
Gross cash income	3,582	3,385	-197	-5
Gross cash farm income	2,637	2,629	-8	*
Off-farm income	945	756	-189	-20
Proportion of gross cash income	26	22		-4
<u>All farms</u>				
Gross cash income	4,132	5,348	1,216	29
Gross cash farm income	3,268	4,220	952	29
Off-farm income	864	1,128	264	31
Proportion of gross cash income	21	21		—

*Less than 1.0 per cent.

cent. The foregoing analysis showed that tenants had the lowest average net farm income and the lowest average gross cash income. Owners and part owners were deriving their gross cash incomes from non-farm sources at an increasing rate and ranked higher in the financial classification.

IV. ANALYSIS OF CAPITAL

Gross farm income and net farm income were compared with total farm capital to estimate the return on invested capital.

Although gross cash farm income for all farms in 1961 averaged almost \$1,000 above the 1958 average, its rate of return to total capital decreased slightly from 27.2 per cent in 1958 to 26.4 in 1961. With the exception of tobacco and dairy farms, which improved their rate of return, the other groups in 1961 obtained a smaller rate of capital return than in 1958 (Table XXVIII).

When the productivity of capital was estimated as a rate of return related to net farm income, the average for all farms dropped from 12.4 per cent to 10.6 per cent during the period under study. In this case, the dairy farms were the only group which increased their rate of return although by only one-half of 1 per cent. Rates of return for all the other categories were substantially reduced. No positive relationship was found between changes in the rate of return either with amounts of beginning capital or with increases in amounts of capital.

The analysis by tenure status indicated an inverse relationship between amounts of farm-owned capital and the rate of average productivity of capital (Table XXIX). In both 1958 and in 1961 tenants had the lowest

TABLE XXVIII

GROSS AND NET CASH FARM INCOME EXPRESSED AS A PERCENTAGE RETURN ON
 PRODUCTION FARM CAPITAL OWNED BY FARMERS HOME
 ADMINISTRATION BORROWERS, BY FARM TYPE, ELEVEN SELECTED
 MIDDLE TENNESSEE COUNTIES, 1958 AND 1961

Farm type	Average per farm		Change Per cent
	1958 Per cent	1961 Per cent	
<u>Tobacco</u>			
Gross farm income	25.1	26.0	.9
Net farm income	13.0	13.0	—
<u>Dairy</u>			
Gross farm income	26.0	28.2	2.2
Net farm income	10.3	10.8	.5
<u>Hog</u>			
Gross farm income	26.3	20.0	-6.3
Net farm income	12.4	3.9	-8.5
<u>Beef</u>			
Gross farm income	19.2	16.9	-2.3
Net farm income	9.3	6.2	-3.1
<u>General</u>			
Gross farm income	27.4	25.8	-1.6
Net farm income	13.6	11.1	-2.5
<u>Other</u>			
Gross farm income	46.2	28.5	-17.7
Net farm income	18.8	11.0	-7.8
<u>All farms</u>			
Gross farm income	27.2	26.4	-.8
Net farm income	12.4	10.6	-1.8

TABLE XXIX

GROSS AND NET CASH FARM INCOME EXPRESSED AS A PERCENTAGE RETURN ON
 PRODUCTION FARM CAPITAL OWNED BY FARMERS HOME ADMINISTRATION
 BORROWERS, BY TENURE STATUS, ELEVEN SELECTED MIDDLE
 TENNESSEE COUNTIES, 1958 AND 1961

Tenure status	Average per farm		Change Per cent
	1958 Per cent	1961 Per cent	
Owners			
Gross income	24.7	23.9	-.8
Net income	11.2	9.3	-1.9
Part-owners			
Gross income	26.5	26.3	*
Net income	11.7	10.3	-1.4
Tenants			
Gross income	52.5	59.7	7.2
Net income	26.4	29.8	3.4
All farms			
Gross income	27.2	26.4	-.8
Net income	12.4	10.6	-1.8

*Less than 1.0 per cent.

amount of owned capital but achieved the largest rates of return on a percentage basis. Moreover, the average productivity of capital decreased in the case of owners by nearly 1 per cent when measured in relation to gross income and by almost 2 per cent when measured by net income. Part owners did not change their rate of return as measured by gross income, but that rate dropped by 1.4 per cent, from 11.7 to 10.3 per cent, when related to net income. In marked contrast, the tenants' rate of return increased by 7.2 per cent when measured by gross income and by 3.4 per cent when net farm income was used.

However, in evaluating the results of this analysis, one fact must be kept in mind. Tenants were operating larger amounts of farm capital than those figures in the tables because the value of their rented capital was excluded from the data.

Marginal analysis would probably be necessary to establish more accurately whether the declining earning power of farm capital is related to low farm capital investments within a given value of farm assets.

On the other hand, during the study period farmers were faced with uncontrollable economic changes which influenced the final result of their farm business. Among these changes, some important ones were the increased cost of non-farm inputs, the higher family budgets and a downward trend in prices of farm commodities with the exception of dairy products prices and tobacco prices.⁷ These factors were obviously connected with the problem under discussion.

⁷See Table XXXV.

V. ANALYSIS OF LOANS

Loans advanced to farmers were classified either as operating loans or real estate loans.

Changes in amounts borrowed. In 1958, operating credit borrowed by all farms averaged \$1,125 and real estate credit averaged \$958, making a total of nearly \$2,100 (Table XXX). In 1961, the average operating loan was \$1,321 (a \$196, or 17 per cent, increase from 1958), while real estate credit was increased by 71 per cent, from \$958 to \$1,637. The average of total credit borrowed in 1961 was \$2,958, an increase of \$875 or 42 per cent for the three-year period. The largest increase in operating credit, 115 per cent, was made by "other" farms. Tobacco farms made the largest increase in real estate loans (about \$1,400 or 700 per cent), while dairy farms increased the same item by 132 per cent.

When borrowers were grouped by tenure status the following changes were observed (Table XXXI). In 1961, part owners borrowed, on the average, \$3,230, which was 91 per cent higher than this group borrowed in 1958. The largest difference, 195 per cent, was seen in real estate credit, from \$651 to \$1,918. In 1958 owners borrowed an average of \$1,876 and in 1961 more than \$2,300. On the average, tenants obtained the largest amounts of borrowed funds, which averaged \$3,366 in 1958 and \$4,290 in 1961.

TABLE XXX

OPERATING AND REAL ESTATE CREDIT BORROWED DURING THE YEAR,
FARMERS HOME ADMINISTRATION BORROWERS, BY FARM TYPE,
ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES,
1958 AND 1961

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Tobacco</u>				
Operating credit	700	1,120	420	60
Real estate credit	198	1,597	1,399	706
Total borrowed	898	2,717	1,819	203
<u>Dairy</u>				
Operating credit	1,601	1,589	-12	*
Real estate credit	1,016	2,356	1,340	132
Total borrowed	2,617	3,945	1,328	51
<u>Hog</u>				
Operating credit	1,584	857	-727	-46
Real estate credit	2,850	2,620	-230	-8
Total borrowed	4,434	3,477	-957	-22
<u>Beef</u>				
Operating credit	2,938	1,810	-1,128	-38
Real estate credit	4,083	488	-3,595	-88
Total borrowed	7,021	2,298	-4,723	-67
<u>General</u>				
Operating credit	874	1,120	246	28
Real estate credit	889	1,151	262	29
Total borrowed	1,763	2,271	508	29
<u>Other</u>				
Operating credit	947	2,038	1,091	115
Real estate credit	673	792	119	18
Total borrowed	1,620	2,830	1,210	75
<u>All farms</u>				
Operating credit	1,125	1,321	196	17
Real estate credit	958	1,637	679	71
Total borrowed	2,083	2,958	875	42

*Less than 1.0 per cent.

TABLE XXXI

OPERATING AND REAL ESTATE CREDIT BORROWED DURING THE YEAR,
FARMERS HOME ADMINISTRATION BORROWERS, BY TENURE STATUS,
ELEVEN SELECTED MIDDLE TENNESSEE COUNTIES,
1958 AND 1961

Tenure status	Average per farm			
	1958 Dollars	1961 Dollars	Change Dollars Per cent	
<u>Owners</u>				
Operating credit	1,122	1,212	90	8
Real estate credit	754	1,142	388	51
Total borrowed	1,876	2,354	478	25
<u>Part-owners</u>				
Operating credit	1,037	1,312	275	27
Real estate credit	651	1,918	1,267	195
Total borrowed	1,688	3,230	1,542	91
<u>Tenants</u>				
Operating credit	1,276	1,673	397	31
Real estate credit*	2,090	2,617	527	25
Total borrowed	3,366	4,290	924	27
<u>All farms</u>				
Operating credit	1,125	1,321	196	17
Real estate credit	958	1,637	679	71
Total borrowed	2,083	2,958	875	42

*Some of the borrowers in this group began the year as tenants and became owners during the year through FHA real estate loans.

Apparently, credit emphasis was shifted from operating loans, which have the effect of reducing the farmers' equity, to real estate loans, which are asset-creating.

Total debt outstanding. At the end of 1961 the farmers had borrowed funds averaging \$8,466, or \$3,045 more than those borrowing in 1958. The average debt repaid increased from \$1,179 to \$1,615 between the two periods (Table XXXII).

As of December, 1958, beef farms had the greatest amount of total debt outstanding (\$11,221); dairy farms had the second largest worth \$7,406, and tobacco farms had the smallest with \$3,226.

The analysis of debt status for the 1961 borrowers showed that at the end of this period, the largest indebtedness was held by dairy farms with \$12,529, followed by hog farms whose total debt averaged \$10,699. Tobacco farms had the smallest amount of debt outstanding with an average of \$5,698.

In 1961 owners had, on the average, the largest amount of debt outstanding (\$9,267); part owners had \$8,968, and tenants \$5,050 (Table XXXIII).

Total credit used by all farms on the average in 1958 was \$6,600, and in 1961 averaged \$10,081. As of January, 1961 farmers' average debt was \$7,123, and at the end of the same year the average was \$8,466.

The changes in the financial structure, net farm income, non-farm income, production expenses, family living expenses, and debt

TABLE XXXII

CHANGES IN BORROWED FUNDS AND DEBT REPAID, FARMERS HOME ADMINISTRATION
BORROWERS, BY FARM TYPE, ELEVEN SELECTED MIDDLE TENNESSEE
COUNTIES, 1958 AND 1961

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
Tobacco				
Debt beginning year	3,249	4,059	810	25
Borrowed during year	898	2,717	1,819	203
Total credit	<u>4,147</u>	<u>6,776</u>	2,629	63
Debt paid	921	1,078	157	17
Debt end of year	<u>3,226</u>	<u>5,698</u>	2,472	77
Dairy				
Debt beginning year	6,111	10,637	4,526	74
Borrowed during year	2,617	3,945	1,328	51
Total credit	<u>8,728</u>	<u>14,582</u>	5,854	67
Debt paid	1,322	2,053	731	55
Debt end of year	<u>7,406</u>	<u>12,529</u>	5,123	69
Hog				
Debt beginning year	4,120	9,244	5,124	124
Borrowed during year	4,434	3,477	-957	-22
Total credit	<u>8,554</u>	<u>12,721</u>	4,167	49
Debt paid	1,199	2,022	823	69
Debt end of year	<u>7,355</u>	<u>10,699</u>		
Beef				
Debt beginning year	6,237	5,705	-532	-9
Borrowed during year	7,021	2,298	-4,723	-67
Total credit	<u>13,258</u>	<u>8,003</u>	-5,255	-40
Debt paid	2,037	1,658	-379	-19
Debt end of year	<u>11,221</u>	<u>6,345</u>	-4,876	-43
General				
Debt beginning year	3,671	5,429	1,758	48
Borrowed during year	1,763	2,271	508	29
Total credit	<u>5,434</u>	<u>7,700</u>	2,266	42
Debt paid	1,018	1,368	350	34
Debt end of year	<u>4,416</u>	<u>6,332</u>	1,916	43

TABLE XXXII (continued)

Farm type	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Other</u>				
Debt beginning year	7,971	9,581	1,610	20
Borrowed during year	1,620	2,830	1,210	75
Total credit	9,591	12,411	2,820	29
Debt paid	2,656	2,660	4	*
Debt end of year	6,935	9,751	2,816	41
<u>All farms</u>				
Debt beginning year	4,517	7,123	2,606	58
Borrowed during year	2,083	2,958	875	42
Total credit	6,600	10,081	3,481	53
Debt paid	1,179	1,615	436	37
Debt end of year	5,421	8,466	3,045	56

*Less than 1.0 per cent.

TABLE XXXIII

CHANGES IN BORROWED FUNDS AND DEBT REPAYED, FARMERS HOME ADMINISTRATION
BORROWERS, BY TENURE STATUS, ELEVEN SELECTED MIDDLE TENNESSEE
COUNTIES, 1958 AND 1961

Tenure status	Average per farm			
	1958 Dollars	1961 Dollars	Change	
			Dollars	Per cent
<u>Owners</u>				
Debt beginning year	5,779	8,578	2,799	49
Borrowed during year	1,876	2,354	478	25
Total credit	<u>7,655</u>	<u>10,932</u>	3,277	43
Debt paid	1,283	1,665	382	30
Debt end of year	<u>6,372</u>	<u>9,267</u>		
<u>Part-owners</u>				
Debt beginning year	4,270	7,646	3,376	79
Borrowed during year	1,688	3,230	1,542	91
Total credit	<u>5,958</u>	<u>10,876</u>	4,918	83
Debt paid	1,107	1,908	801	72
Debt end of year	<u>4,851</u>	<u>8,968</u>	4,117	85
<u>Tenants</u>				
Debt beginning year	1,000	1,658	658	66
Borrowed during year	3,366	4,290	924	27
Total credit	<u>4,366</u>	<u>5,948</u>	1,582	36
Debt paid	970	898	72	1
Debt end of year	<u>3,396</u>	<u>5,050</u>	1,510	44
<u>All farms</u>				
Debt beginning year	4,517	7,123	2,606	58
Borrowed during year	2,083	2,958	875	42
Total credit	<u>6,600</u>	<u>10,081</u>	3,481	53
Debt paid	1,179	1,615	436	37
Debt end of year	<u>5,421</u>	<u>8,466</u>	3,045	56

outstanding were some of the principal items covered in the analysis. These data apply only to the 11 county area of Middle Tennessee for 1958 and 1961. However, a more general application may be made through comparison of similar farm types and tenure groups in other areas.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Summary. This study was concerned with differences in two populations (one for each year of 1958 and 1961) of Farmers Home Administration borrowers. Emphasis was placed upon the differences in the financial structure and farm and non-farm income.

The data were developed almost entirely from FHA records. A sample of eleven Middle Tennessee counties was selected to insure representation of similar kinds of agricultural and economic conditions. Some of the common factors among them were the low soil fertility, a relatively low degree of industrial development, and lack of non-farm job opportunities. In 1959, the average gross cash farm income in the sample region ranged from a low of \$1,238 in Van Buren County to a high of \$3,605 in Macon County. This compares to a state average of \$3,009 for the same year.

In 1958, there were 281 FHA borrowers in the selected area. In 1961, there were 353 borrowers, an increase of 26 per cent or 72 cases. In 1958, the average borrower was 40.9 years old, while in 1961 the borrower's average age was 41.3 years, compared with 51.4 years of average age for all state farmers in 1959.

Conclusions in this work necessarily refer statistically to averages for the two populations under analysis. However, many of the general findings may be true of the general population of similar farms in the area.

The borrowers were classified into six categories according to their type of farming (tobacco, dairy, hog, beef, general and "other" types of farm); and into three tenure status categories (owners, part-owners, and tenants).

In 1958, as well as in 1961, general farms were the predominant type of farms. Dairy and tobacco farms were the second and third largest types. In both years, the remainder of farm types accounted for less than 15 per cent of all farms. Owners were granted more than 50 per cent of all loans in both 1958 and 1961. Part owners obtained 28 per cent of all loans in 1958 and 32 per cent in 1961. Tenants had 17 per cent of the number of loans in 1958 and 1961.

In 1961, non-farm income made up a larger percentage of total family income than in 1958. In 1958, the average farm operator and his wife devoted about one-fourth of their working time to non-farm jobs. In 1961, they worked more than one-third of the year in off-farm employment.

The average size of farm was 153 and 167 acres in 1958 and 1961, respectively. In both years these averages were about 50 per cent greater than the 1959 state average of 102 acres. More than two-thirds of the borrowers' land was tillable acreage. In 1958, the average borrower produced 9 acres of tobacco and 8 acres of corn, and had 5 milk cows. In 1961, tobacco acreage was 9 acres, while corn acreage was 5 acres. The average number of milk cows was 8. In both 1958 and 1961, corn yields were higher than the state averages for the two periods. In 1958, tobacco yield per acre was 1,863 pounds while in 1961 it was 1,832

pounds per acre. In 1961, the annual milk production per cow was 2 per cent higher than the 4,990 pounds obtained in 1958.

Among agricultural production assets the study data included land and buildings, workstock and equipment, and productive livestock. They excluded liquid assets, household and consumption goods, and crop inventories. Also excluded was the value of real estate capital rented by tenants and part owners.

The value of farm capital used by the borrowers in 1961 was \$3,999 more than the \$11,995 of capital the borrowers had in 1958. As of January 1, 1961, families in the study had total liabilities averaging \$7,123, or \$2,606 more than the borrowers had at the beginning of 1958. Differences in net worth did not parallel the differences in farm capital between the two borrowers' groups under study. While the average equity ratio was 62 per cent for the 1958 borrowers, those borrowing in 1961 had an equity ratio of 55 per cent.

In 1958, the FHA borrowers had a gross cash farm income of \$3,268, compared with \$4,220 obtained by those farmers borrowing in 1961. Both figures were higher than the comparative 1959 census average of \$3,009 for all state farmers. In 1958, farm operating expenses amounted to \$1,769. In 1961, these expenses had advanced to \$2,517. However, percentage-wise farm operating expenses in 1958 absorbed 46 per cent of the borrowers' gross cash farm income, while in 1961 they only accounted for 40 per cent of the equivalent income. The amount spent by the two groups of borrowers in family living expenses was also different. The FHA borrowers of 1961 were spending \$190 more on family living than the \$916 borrowers spent in 1958.

After deductions were made for farm and living expenses, in both 1958 and 1961, the average borrower had less than \$600 of farm income available for debt repayment and investment. In both years these amounts were not large enough to pay the scheduled debt commitment of the average borrower. Therefore, the borrowers had to rely on off-farm income for part of the debt retirement and new investment. Non-farm income accounted for 21 per cent of the farmers' gross cash income in both 1958 and 1961. In 1958, borrowers had only \$864 of non-farm income while those borrowing in 1961 had \$1,128 of off-farm income. Besides the above incomes, the farmers had other returns that were not accounted for in the farmers' records such as rental value of the dwelling, value of farm perquisites, and land-appreciation value, the latter in the case of owners and part owners only.

On a comparative basis and percentage-wise, the rate of return on total farm production capital, as measured by gross and net cash farm incomes, was lower in 1961 than in 1958. That was true for all borrowers, except tenants. Tenants, in fact, obtained higher rates of return in 1961 than those obtained in 1958 by the similar group.

In 1958, the average farmer borrowed \$2,083. Over one-half of this amount, \$1,125, was for operating expenses. In 1961, the average farmer borrowed \$2,958, but in this year over 55 per cent of borrowed funds, or \$1,637, was in real estate loans.

At the end of 1958, the average debt load for all farms amounted to \$5,421, while at the end of 1961 it amounted to \$8,466. This increased

indebtedness of \$3,045, or 56 per cent, showed the growing dependence of the borrowers upon credit sources.

Conclusions. It is commonly accepted that one of the causes of low farm income is lack of productive resources, mainly land and working capital. On the other hand, it is also stated that good management of these productive resources is a determinant factor with respect to the level of production efficiency. Hence, size of business capital and managerial ability have an important bearing on the rate of progress achieved by individual farmers.

During the last decade, agriculture has experienced many changes. Improved technology, widespread use of expensive machinery and higher land prices have increased the capital requirements per farm. Consequently, economic progress has become increasingly difficult for low-income, low-equity farmers. Usually, these farmers are not acceptable credit risks for conventional lenders. However, they are eligible for FHA loans.

The results of this study showed that the financial changes made by the FHA borrowers under survey were in line with the general pattern stated above. Based on the differences between the 1958 and 1961 groups, it may be concluded that there were no important improvements in the individual farmers' financial status. The amounts of their cash farm income available for debt retirement and capital expenditures were, on the average, too small for the scheduled debt repayment; hence, substantial non-farm earnings were essential to bridge the gap.

The findings of the study seem to indicate that the low-income problem of these farmers was only partly solved through the financial and technical aid provided by the lending agency.

The inescapable conclusion seems to be that in addition to FHA assistance other area-wide, or nation-wide, long-run policies will be necessary before these farmers surmount the great problems that face them.



BIBLIOGRAPHY

BIBLIOGRAPHY

- Baker, C. B. and G. D. Irwin. Effects of Borrowing from Commercial Lenders on Farm Organization. Agricultural Experiment Station Bulletin 671. Urbana; University of Illinois, 1961.
- Baum, E. L. and K. L. Bachman. "The Economic Growth Problem," E. L. Baum, H. G. Diessliker and O. E. Heady (ed.). Capital and Credit Needs in a Changing Agriculture. Ames; The Iowa University Press, 1961.
- Belshaw, H. "Capital and Credit," I. F. Davis (ed.). Selected Readings in Agricultural Credit. Berkeley; University of California, 1952.
- Bishop, C. E. and W. D. Toussaint. Agricultural Economic Analysis. New York; John Wiley and Sons, Inc., 1958.
- Beckman, Theodore N. and Robert Bartels. Credit and Collections in Theory and Practice. Fifth Edition. New York; McGraw-Hill Book Company, Inc., 1949.
- Fisher, Irving. The Nature of Capital and Income. New York; The MacMillan Company, 1912.
- Garlock, Fred L. "Financing Capital Requirements," United States Department of Agriculture. The Yearbook of Agriculture 1962. Washington; Government Printing Office, 1962.
- Helmberger, Peter and Reynold Dahl. Financing Farms with 100 Per Cent Loans. Agricultural Experiment Station Bulletin 447. Saint Paul; University of Minnesota, 1958.
- Hendrix, William E. Approaches to Income Improvement in Agriculture. United States Department of Agriculture, Production Research Report No. 33. Washington; Government Printing Office, 1959.
- Hesser, Leon F. and Melvin R. Janssen. Capital Rationing Among Farmers. Agricultural Experiment Station Research Bulletin No. 703. Lafayette, Indiana; Purdue University, 1960.
- Hoffer, Charles R., Jean K. Boek and Walter E. Boek. Evaluation of Supervised Farm Loans in Hillsdale County, Michigan. Agricultural Experiment Station Technical Bulletin No. 257. (East Lansing; Michigan State University, 1956.
- Horton, Donald C. Patterns of Farm Financial Structure. Princeton, New Jersey; Princeton University Press, 1957.

- Kalecki, Michal. Essays in the Theory of Economic Fluctuations. New York; Farrar and Rinehart, Inc., 1939.
- Larsen, Harold C. "Limitations to Obtaining Developmental Capital in Agriculture," I. T. Davis (ed.). Selected Readings in Agricultural Credit. Berkeley; University of California, 1952.
- Martin, James R. and John H. Southern. Part-Time Farming in Northeast Texas. Texas Agricultural Experiment Station Bulletin No. 970. College Station; The Agricultural and Mechanical College of Texas, 1961.
- Martin, Joe A. and B. H. Luebke. Types of Farming in Tennessee. Agricultural Experiment Station Bulletin No. 311. Knoxville; The University of Tennessee, 1960.
- Murray, William G. and Aaron G. Nelson. Agricultural Credit. Fourth edition. Ames; The Iowa University Press, 1960.
- Ogren, Kenneth L. and Orlin J. Scoville. "Farm Supply and Marketing Activities," Mervin G. Smith (ed.). Adjustments in Agriculture—A National Basebook. Ames; The Iowa State University Press, 1961.
- Parry, P. Stanton and Donna G. Greiner. Changes in the Structure of the Tennessee Dairy Industry. Agricultural Experiment Station Bulletin No. 348. Knoxville; The University of Tennessee, 1962.
- Raugh, Philip M. "Farm Family Capital Accumulation and Investment Process," E. L. Baum, H. G. Diessliier and E. O. Heady (ed.). Capital and Credit Needs in a Changing Agriculture. Ames; The Iowa University Press, 1961.
- Reiss, Franklin J. Getting Started and Established in Farming. North Central Regional Extension Publication No. 8. Urbana; University of Illinois, 1960.
- Schumpeter, Joseph A. The Theory of Economic Development. Trans. R. Opie. Cambridge, Massachusetts; Harvard University Press, 1936.
- Smith, Adam. The Wealth of Nations. Vol. II. New York; P. F. Colliere and Son, 1902.
- Spencer, Milton H. and Louis Siegelman. Managerial Economics. Homewood, Illinois; Richard D. Irwin, Inc., 1959.
- Spitze, R. G. "Determinants of Capital Formation," E. L. Baum, H. G. Diessliier and E. O. Heady (ed.). Capital and Credit Needs in a Changing Agriculture. Ames; The Iowa University Press, 1961.

Tostlebe, Alvin S. Capital in Agriculture: Its Formation and Financing Since 1870. Princeton, New Jersey: Princeton University Press, 1957.

United States Bureau of the Census. County and City Data Book, 1962. (A statistical abstract supplement). Washington: Government Printing Office, 1962.

_____. Historical Statistics of the United States, Colonial Times to 1957. Washington: Government Printing Office, 1960.

_____. United States Census of Agriculture: 1958. Vol. I, Counties/Part 31, Tennessee. Washington: Government Printing Office, 1961.

United States Department of Agriculture. Loan Programs of the Farmers Home Administration. Publication PA 360. Washington: Government Printing Office, 1961.

_____. Loan Programs of the Farmers Home Administration. Unnumbered Publication. Washington: Government Printing Office, 1962. (Mimeographed.)

_____. Agricultural Prices. Agricultural Marketing Service, Crop Reporting Board Pr 1 (1 - 58) through Pr 1 (12 - 58). Washington: Government Printing Office, January to December, 1958.

_____. Agricultural Prices, 1961 Annual Summary. Statistical Reporting Service, Crop Reporting Board Pr 1 - 3(62). Washington: Government Printing Office, 1962.

_____. The Balance Sheet of Agriculture 1959. Agricultural Research Service Information Bulletin No. 214. Washington: Government Printing Office, 1959.

_____. The Balance Sheet of Agriculture 1962. Economic Research Service Information Bulletin No. 270. Washington: Government Printing Office, 1962.

_____. Statistical Reporting Service; Tennessee Department of Agriculture. Federal-State Cooperative Crop Reporting Service. Nashville: Periodical Reports 1959 and 1962. (Mimeographed.)

Wilcox, Walter W. and Willard W. Cochrane. Economics of American Agriculture. Second edition. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1960.

Wirth, M. E. and James Nielson. Resource Ownership and Productivity
on Michigan Farms. Agricultural Experiment Station Special Bulletin
No. 435. East Lansing; Michigan State University.



APPENDIX

TABLE XXXIV

AVERAGE YIELDS PER ACRE OF CORN AND BURLEY TOBACCO,
AND AVERAGE ANNUAL MILK PRODUCTION PER COW,
TENNESSEE, 1958 AND 1961

Product	Unit	Average		Change	
		1958	1961	Units	Per cent
Corn*	Bushel	39	43	4	10
Burley tobacco*	Pound	1,680	1,855	175	10
Milk**	Pound	4,300	4,800	500	12

Source: *Computed from United States Department of Agriculture Statistical Reporting Service; Tennessee Department of Agriculture. Federal-State Cooperative Crop Reporting Service (Nashville: Periodical Reports 1959 and 1962). (Mimeographed.)

**Stanton P. Parry and Donna G. Greiner, Changes in the Structure of the Tennessee Dairy Industry, Agricultural Experiment Station Bulletin 348 (Knoxville: The University of Tennessee, August, 1962), p. 9.

TABLE XXXV

ANNUAL AVERAGE PRICES RECEIVED BY FARMERS, SELECTED COMMODITIES,
TENNESSEE, 1958 AND 1961*

Commodity	Unit	1958 Dollars	1961 Dollars	Change	
				Dollars	Per cent
Milk, wholesale, all	Cwt.	4.06	4.19	0.13	3
Beef cattle	Cwt.	19.10	17.50	-1.60	-8
Hogs	Cwt.	19.55	16.80	-2.75	-14
Tobacco, burley**	Cwt.	65.70	66.60	0.90	1
Corn	Bushel	1.36	1.20	-0.16	-12

*Sources: Data for 1958 computed from: United States Department of Agriculture, Agricultural Prices, Agricultural Marketing Service, Crop Reporting Board, Pr 1 (1-58) through Pr 1 (12-58) (Washington: Government Printing Office, January to December, 1958).

Data for 1961 computed from: United States Department of Agriculture, Agricultural Prices, 1961 Annual Summary, Statistical Reporting Service, Crop Reporting Board, Pr 1-3 (62) (Washington: Government Printing Office, June, 1962), pp. 13-54.

**Season average.