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Rural land ownership in Tennessee

Joe Webb McLeary

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To the Graduate Council:

I am submitting herewith a thesis written by Joe Webb McLeary entitled "Rural land ownership in Tennessee." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

Joe A. Martin, Major Professor

We have read this thesis and recommend its acceptance:

Ted L. Jones, Howard S. Dye

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

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

December 6, 1962

To the Graduate Council:

I am submitting herewith a thesis written by Joe Webb McLeary entitled "Rural Land Ownership in Tennessee." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

Joe A. Martin
Major Professor

We have read this thesis and
recommend its acceptance:

Ted L. Jones
Howard R. Hays

Accepted for the Council:

Hilton A. Smith
Dean of the Graduate School

CRANES CREST

RURAL LAND OWNERSHIP IN TENNESSEE

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
Joe Webb McLeary
December 1962

CRAMER'S CREST

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CHAPTER I

INTRODUCTION

Ownership patterns of rural land have far reaching implications for the economic and social structure of the nation. The way in which land is held and the persons by whom the land is owned can have an important bearing on the distribution and production of wealth. Such factors as number, age, tenure and occupation of owners, kind of land held, mortgaged indebtedness and concentration of ownership affect the operation and use of rural land. These factors alone will not explain why changes in agriculture take place, but an understanding of them is important for an explanation of such changes. This study attempted to uncover some of these characteristics of land ownership in Tennessee.

Ownership is the important connecting link between man and land; it is ownership that fixes responsibility for way land is used.¹ As the connecting link between land and its uses, ownership has long been of interest to Americans. This interest is shared by the owners individually and by the general public. To the individual, land ownership and use provides a means of earning a living. Also land ownership has served as a goal in itself for such reasons as: security in old age, social status and an estate to pass on to heirs. Society also shares an interest in the ownership and use of rural land because of the importance of land as

¹Gene Wunderlich and Russell W. Bierman, "What Do We Mean by Ownership?" The 1958 Yearbook of Agriculture, Alfred Stefferud, editor (Washington: Government Printing Office, 1958), p. 287.

a means of maintaining the necessary level of production of food and fiber.

What Is Ownership?

Since the use of land is determined to a great extent by ownership, it is important to clarify what is meant by the term "ownership." In a practical sense ownership of a parcel of land is never absolute. Society reserves certain rights in land so that it will not be used for unfavorable gains.² Ownership of land is a "bundle of rights," which may be decided in many different ways among many different people and society as a whole, but the person, or group of persons, with the greatest number of rights for the longest period is classified as the owner.³ Therefore the ownership of each parcel of land is a unique relationship among the persons who claim some rights in the land. Again, from this relationship, it can be seen that society has a very definite interest in the ownership of land.

The rights that are connected with land ownership are privileges granted to the owners by society. These privileges vary in degree of limitations placed on the owner. The "bundle of rights" that most closely approaches that of absolute ownership is "fee simple." This is the estate with the fewest limitations placed on the owner.⁴ Other forms of ownership exist in which the rights of the owner vary inversely with the rights

²Ibid., p. 289.

³United States Department of Agriculture, Land Ownership in the Great Plains, Agricultural Research Service Publication No. 43 -93 (Washington: Government Printing Office, 1959), p. 7.

⁴Raleigh Barlowe, Land Resource Economics (Englewood Cliffs: Prentice-Hall, Inc., 1958), p. 339.

reserved by society. Fee tail, life estate, conditional estates, estate in common, joint tenancy, estate by entirety and "future interests" are examples of the principal forms of estates listed in order of the rights held by the owner.⁵

In this study a land owner was defined as any person, corporation, institution, or Indian tribe holding land by sole ownership or having a part interest in a multiple-ownership arrangement. Husband and wife were regarded as one owner with ownership ordinarily being attributed to the husband. Interest in this study was centered on owners of rural land as individuals. In most studies emphasis is on a particular parcel of land regardless of the owner or owners.⁶ Decisions concerning the transfer and use of land are an individual matter even if more than one owner is involved in the final decision. Therefore owners, as individuals were emphasized in this study.

I. IMPORTANCE OF STUDY

Rural land represents approximately 70 per cent of the total land area in Tennessee.⁷ Also land accounts for approximately 40 per cent of the total investment in agriculture in Tennessee.⁸ Therefore it follows

⁵Wunderlich and Bierman, loc. cit.

⁶See Land Ownership in the Great Plains, (Publication No. 43-93, 1959).

⁷United States Bureau of the Census, United States Census of Agriculture: 1959, Vol. I, Part 31, Tennessee (Washington: Government Printing Office, 1961), p. 3.

⁸Federal Reserve Bank of Atlanta, Bankers Farm Bulletin, Vol. XIII, No. 10 (Atlanta: Federal Reserve Bank of Atlanta, October, 1961), p. 1; and United States Department of Agriculture, Current Developments in the Farm Real Estate Market November, 1959 - March 1960, Agriculture Research Service Publication No. 43-126 (Washington: Government Printing Office, May 1960), pp. 24, 26.

that the nature of its ownership is related to the public interest. For this reason alone it is important to understand the nature of land ownership patterns. The distribution of agricultural wealth is determined partially by the patterns of land ownership which are of primary concern to the general public. This is of extreme importance in Tennessee which is characterized by many small, low income farms.

It is equally important to understand the nature of land ownership and use because of the longer-term issues involved. Long-run adjustments in agriculture are being made and must continue to be made as changes occur in technology and economic conditions. Table I indicates that such adjustments have taken place in Tennessee. For example the number of farms decreased by approximately 90,000 from 1940 to 1959. While the total land in farms has remained relatively constant during this period, the result has been an increase in the average size of farms from 74.7 to 102.0 acres. In other words, small farms have decreased in number and larger farms have increased in number. This is brought out in the table by a breakdown of the number of farms according to size. Along with the change in number and size of farms, there has been a corresponding change in the type of productive inputs used. The number of tractors and dollars spent on fuel and oil has increased and the number of horses and/or mules has decreased. Part owners have increased, while full owners and tenants have decreased. The average age of owners has remained fairly stable, but has shown a slight increase from 47.0 to 51.7 years.

Table I clearly indicates that adjustments in agriculture in Tennessee are taking place. However the rate at which these adjustments

TABLE I
CHANGES IN CHARACTERISTICS OF TENNESSEE AGRICULTURE
FOR SELECTED YEARS, 1940-1959

Observation	1940	1950	1954	1959
Number of farms	247,617	231,631	203,149	157,688
Land in farms (thousand acres)	18,493	18,534	17,654	16,087
Average size farm (acres)	74.7	80.0	86.9	102.0
Average age of owner	47.0	48.2	50.1	51.7
Number of farms of:				
less than 100 (acres)	187,734	172,256	147,138	106,085
100-179 (acres)	39,403	37,377	33,418	28,961
180-499 (acres)	18,543	19,562	19,899	19,488
500 or more (acres)	1,937	2,329	2,894	3,164
Number of tractors	11,817	59,798	90,025	109,653
Number of horses and/or mules	450,008	370,840	209,662	139,380
Full-owners	128,591	134,670	121,221	98,209
Part-owners	18,852	28,851	30,590	28,985
Tenants	99,735	67,733	51,186	30,212
Dollars spent on gasoline and other fuel and oil for the farm business (millions)	\$2.9	\$14.4	\$18.7	\$22.8

Source: United States Bureau of Census, United States Census of Agriculture: 1959, Vol. 1, Part 31, Tennessee (Washington: Government Printing Office, 1961), pp. 3, 6, 7, 8.

are taking place is not as rapid as is desirable in light of the low incomes on many of Tennessee's small farms. Such needed changes can not occur overnight, but if adjustments in this direction are to take place, they must come through the existing land ownership patterns. These patterns of ownership can either hinder or facilitate such adjustments.

An understanding of the present patterns of land ownership is necessary in order to know the direction in which future adjustments must take place. It is important to know who owns land and under what legal arrangements it is held in order to understand the institutional structure under which adjustments in resource use are made. This study investigated land ownership patterns, characteristics of owners and changes in use of land in rural areas of Tennessee. This information is valuable as a basis for understanding and recommending changes in the agriculture of Tennessee.

II. NATURE OF THE STUDY

The Problem

Many adjustments have taken place in Tennessee agriculture during the last twenty years (Table I). The fact remains, however, that many problems are yet unsolved. As technological developments and social changes occur new problems emerge that add more to the burden of maladjustment. The transfer of control of land is necessary for the consolidation of small farms into larger more efficient ones as advances in technology take place. Consolidation of small units into larger ones may take place by an actual transfer of the ownership of land or by renting land from other owners. People own land for many different reasons, and many times are reluctant to transfer ownership. Renting land does not require any transfer of

ownership, and is more readily accepted by some people. In any case land ownership patterns and the efficacy of the tenure system to transfer the control of land from one individual to another, exert an important influence on the solution of this problem.

As a result of improvements in technology, the production of farm products has become more efficient. Farm output in the United States in 1960 had risen to 129 per cent of the 1947-1949 level. At the same time productive inputs stood at only 102 per cent of the 1947-1949 level. The result is that productivity increased to 126 per cent of the 1947-1949 level.⁹

Larger farms are necessary if this increased efficiency is to be fully realized in Tennessee. The average size farm in Tennessee, according to the 1959 Census of Agriculture was 102 acres. This compared with an average of 302 acres for the United States.¹⁰ Further investigation shows that 67 per cent of the farms in Tennessee were smaller than the average size of 102 acres.¹¹ In general, incomes produced on these small units are too low to provide the operators with more than a subsistence level of living. Therefore one of the pressing problems of the agricultural sector of Tennessee is the low incomes produced on these small farms. The productive potential of farming in Tennessee is such that considerable improvement in farm income is technically possible and economically feasible.

⁹United States Department of Agriculture, Changes in Farm Production and Efficiency; A Summary Report, Statistical Bulletin No. 233 (Washington: Government Printing Office, Revised July, 1961), p. 47.

¹⁰United States Census of Agriculture; 1959, loc. cit.

¹¹Ibid., p. 152.

To realize such an improvement in incomes, requires more efficient farm units. To realize the productive potential requires a sound conservation program. Land ownership patterns can be an obstacle to the fulfillment of this long-run goal.

A reduction in the number of people engaged in farming accompanied by an increase in the use of a larger acreage of land and more capital goods per worker and per farm unit should help in solving the problem of low farm incomes. As a result of increased productivity in agriculture, fewer people are needed in the production of food. In 1960 one farm worker produced enough food for himself and twenty-five other people.¹² Consequently the per cent of workers employed in agriculture has dropped, but still there are too many people engaged in agricultural production. Rural-urban migration will bring about some changes in this direction. However, the present ownership of land undoubtedly exerts an important influence on the willingness of some labor to migrate.

Another problem closely associated with that of land ownership is the competition for land resources among various uses. As opportunities for employment of resources expand in non-farm occupations the competition for available land resources becomes an obstacle to making needed adjustments. Long-run adjustments must be made within the basic framework of these ownership patterns.

The underlying problem is one of long-run adjustments. Adjustments in the size and number of farms, the rate of off-farm migration and the uses of land resources are problems that must be solved within the frame-

¹²Farm Production and Efficiency, (Bulletin No. 233, 1961), p. 43.

work of existing ownership patterns. A study of these patterns of ownership is the first step toward an understanding and possible solution to these problems.

Objectives

The major purpose of this study was to provide an overall inventory of rural land ownership in Tennessee, and to develop inferences about the present and future ownership distribution of agricultural land resources. Many types of basic data are either not available in the Census of Agriculture or are available only for farm lands operated during the census year. Information from this study used in connection with information available in the Census of Agriculture should provide a more complete and useful inventory of land ownership in Tennessee. More specifically, the objectives of this study were:

- (1) to determine how rural land is distributed by types and value among various classes of owners
- (2) to determine the extent of land ownership concentration
- (3) to determine how ownership was acquired
- (4) to determine the estate held in the land
- (5) to determine the amount and security of the ownership interest
- (6) to ascertain what plans owners have for the disposition of their land
- (7) to determine the relationship between ownership characteristics, kind of land held, land use, and changes in land use.

Procedure

The data used in this study were taken from a survey of land ownership in the seven Southeastern states. That part of the data applicable to Tennessee forms the basis of this study. This included questionnaires from 539 sampled land owners in thirteen counties in Tennessee, five of which were in the mountain stratum and eight which were in the Tennessee valley plain stratum. Figure 1 shows the counties sampled in each stratum.

More people are familiar with the well-defined sections of West, Middle and East Tennessee than with the Tennessee valley plain and mountain sections. For this reason one manipulation was performed so the data would correspond to these three sections. Changing the data in this way involved an adjustment in the original expansion factors. The original expansion factors were based on the proportion of land owned by an individual land owner to the total land in that segment. Therefore an adjustment had to be made, when the strata were changed to allow for the difference in the land areas and sampled counties within the new stratum.¹³

One other small change was made. Cumberland County is usually considered as being in Middle Tennessee, but was included as part of East Tennessee for purposes of this study.

An owners total holdings (ownership unit) consisted of all land held by him in sole ownership plus his proportionate share of all multiple-ownership arrangements in which he was a participant. Land held by life

¹³The adjustment was made by multiplying the original expansion factors by $(n_1 N_2) / (n_2 N_1)$ to bring it to the proper level for the new stratum . . . where n_1 is the number of sampled counties in the original stratum which included N_1 counties all together, and n_2 is the number of sample counties in the new stratum which includes N_2 counties all together.

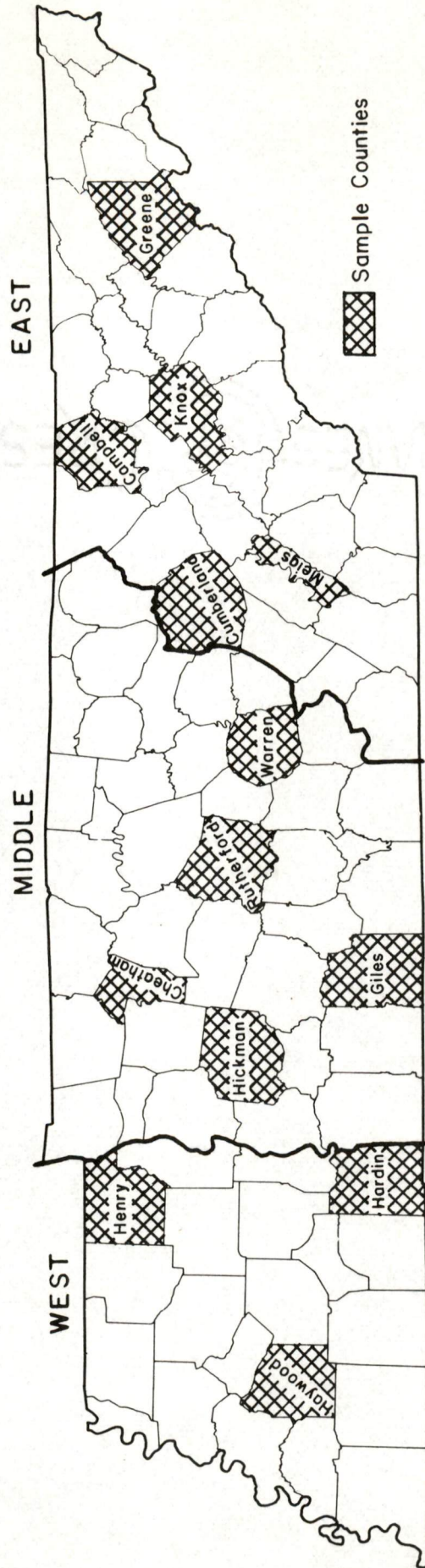


Figure 1. Sampled counties within the three strata of Tennessee, 1960.

estate and land being acquired under purchase contract were considered owned. All owners who lived on the rural land that they owned were eligible for enumeration. Owners not living on their land were eligible unless they owned less than three acres.

Emphasis in this study was on ownership of all rural land not just farm land. Any conclusions about the future uses of rural land as related to agriculture must necessarily take into account owners of all non-urban land. Rural non-farm land is important to agriculture as a transitional zone between farm land and urban land. Adjustments in agricultural land resources can be affected by such a buffer zone.

III. PREVIOUS STUDIES

The latest available data, other than the census, which provide a reasonably complete inventory of land ownership in Tennessee were published in 1946.¹⁴ These data were concerned mainly with the tenure situation in the Southeastern States, and were inadequate in many ways for a thorough appraisal of land ownership in Tennessee. Also significant changes have taken place in the economy of Tennessee since 1946 (Table I, page 5). In light of the information now available from previous sources, a study of land ownership patterns in Tennessee is of very definite interest.

As indicated above, the 1946 study was concerned mainly with the tenure situation in the Southeastern States with emphasis on farm land

¹⁴Max M. Tharp, "The Farm Tenure Situation in the Southeast," Publication No. 1, Southeast Regional Land Tenure Committee, Bulletin No. 370 South Carolina Agricultural Experiment Station in Cooperation with Bureau of Agricultural Economics, United States Department of Agriculture (Clemson: Agricultural College Experiment Station, 1948).

only. The present study considers more aspects of land ownership, and includes all rural land. Any comparison between the two studies must take into account these differences.

A study of land ownership in the Great Plains Area is similar in many respects to the one under consideration in this thesis.¹⁵ Differences in the findings of the two studies would be expected from the differences in the land area characteristics between the two sections. Similarity exists, however, in the nature and scope of the two studies.

¹⁵Land Ownership in the Great Plains, (Publication No. 43-93, 1959).

CHAPTER II

CHARACTERISTICS OF OWNERS

Many people have ownership interest in the rural land of Tennessee. A knowledge of some of the characteristics of these owners is an important phase of an overall inventory of rural land ownership patterns. Characteristics such as number, type, residence, occupation, age and tenure can have an important influence on the way land is used and transferred. Adjustments in the use of agricultural land resources can be accelerated or held back depending on the decisions of owners to make necessary changes. Their willingness or unwillingness to make such changes is the result of many interesting characteristics. This chapter is devoted to that portion of the problem dealing with selected ownership characteristics.

I. NUMBER AND TYPES OF OWNERS

From the sample it was estimated that approximately two-hundred fifty-three thousand owners hold eighteen million acres of rural land in Tennessee.¹ The Census of Agriculture shows there are about one-hundred fifty-eight thousand farm operators and approximately sixteen million acres of land in farms.² The difference between the estimates is only one of definition. All owners of rural land were included in the data

¹See Appendix Table XVIII for sampling errors.

²United States Bureau of the Census, United States Census of Agriculture; 1959, Vol. I, part 31, Tennessee (Washington: Government Printing Office, 1961), p. 1.

from which the former estimates were made. In the census estimates, only farm operators and farm land were included. These estimates only give empirical content to what could reasonably be expected; there are more rural land owners than farm operators, and more acres of rural land than farm land.

The largest portion of the total owners (44 per cent) owned land in Middle Tennessee. East Tennessee had the next largest portion (39 per cent) of the owners, and West Tennessee followed with only 17 per cent. Distribution of land owned between the three sections of the state showed West and Middle Tennessee with a larger percentage of land than owners, and East Tennessee with a smaller percentage. As would be expected from the proceeding statement, the average size ownership unit for the West and Middle sections was larger than for East Tennessee. Average size ownership units for West and Middle Tennessee were 81 and 85 acres respectively and only 65 acres for East Tennessee. The average size ownership unit for the state was 76.5 acres.

Individual and Institutional Ownership

Individual ownership units, which included husband and wife, single men, single women, partnership or estates and individual plus partnership or estates accounted for approximately 97 per cent of the owners. The remaining 3 per cent was divided between corporations and government and municipal agencies. This latter group may be called institutional owners to distinguish them from the individual owners.

Acres owned by each of the two groups were not divided in the same ratio as the owners. Distribution of acres was 92 per cent for individuals

and 7 per cent for institutional owners. Ownership of 1 per cent of the land could not be readily established. This uneven distribution between owners and acres owned indicated a larger than average ownership unit for the institutional group. Individual owners were found to hold an average of only 73 acres while institutional owners held 204 acres on the average. This averaging process, however, covers up the great range in the size of holdings of individuals. One-half of the owners held only 10 per cent of the land; the other one-half owned 90 per cent of the land.

Distribution of ownership by value, in many cases, was more meaningful than distribution by acres. Institutional owners were found to account for 17 per cent of the total value of land owned while representing only 3 per cent of the owners and 7 per cent of the acreage. This means that for the state as a whole the distribution of land by value is somewhat uneven in favor of institutional owners. When each section of the state was viewed separately, however, it was found that this uneven value distribution could be attributed entirely to East Tennessee. In West and Middle Tennessee the distribution of value was weighted in favor of individual owners, but in East Tennessee forestry corporations (institutional) accounted for 28 per cent of the value. Figure 2 shows some of the above mentioned characteristics.

The average value per acre of rural land was 119 dollars for the state. For West, Middle and East Tennessee the corresponding figures were 112, 81, and 176 dollars respectively. The higher value per acre in East Tennessee was largely a result of the high value held by forestry corporations as explained above. Figure 2 shows that forestry corporations account for only 1.1 per cent of the acres but 13.7 per cent of the total value. This

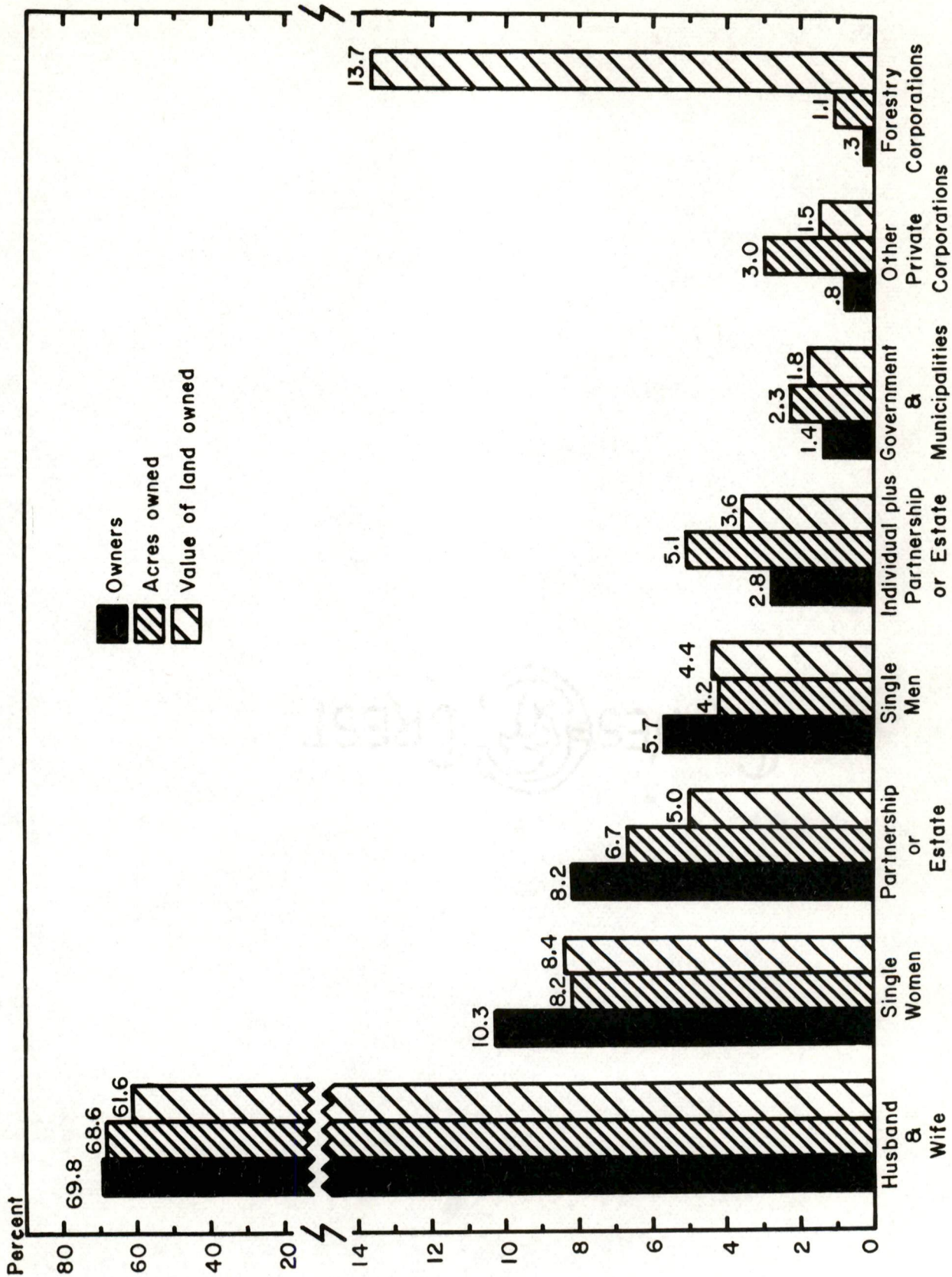


Figure 2. Percentage of owners, acres owned and value of land owned by types of owners, Tennessee, 1960.

also is an indication of the high value per acre for this type of owner. To better understand these relationships, the value per acre by kind of land was computed. The results of these computations are shown in Table II.

Per acre values are shown for the three types of land in the last row of Table II. Farm land had the highest value per acre. When only individual owners were considered the value per acre of the three types of land became 136,45 and 190 dollars for farm land, commercial forest and other rural land respectively. The higher per acre value of other rural land, when only individual owners are considered, points out the high value associated with rural land held only as a place of residence. Per acre value of farm land and commercial forest were about the same for all owners and individual owners only.

Type of Owners

Individual and institutional owners were broken down into smaller groups for purposes of analysis. By far the most important type of owner in both groups was husband and wife. They accounted for 70 per cent of the owners, 69 per cent of the acres owned and 62 per cent of the value. Husband and wife owners held an average of 75 acres which is very close to the 76.5 acre average for the state. Thus it seemed that husband and wife, accounting for a majority of the owners and land owned and holding about the same average size unit as the state average, was the predominate type of ownership unit in Tennessee.

Other individual owners (single men, single women, partnership or estates and individual plus partnership or estates) were relatively less important than husband and wife both in percentage of owners and acres owned

TABLE II
 VALUE PER ACRE BY KIND OF LAND OWNED;
 BY TYPE OF OWNER, TENNESSEE, 1960

Type of owner	Farm land	Commercial Forest	Other rural land	Total
	(Dollars)	(Dollars)	(Dollars)	(Dollars)
Husband and wife	137.64	46.54	245.38	112.9
Single man	168.94	55.15	87.85	126.37
Single woman	117.93	35.22	394.80	122.55
Partnership or Estate	141.61	45.75	66.03	89.24
Individual plus Partnership or Estate	113.29	27.20	112.31	80.85
Agricultural Corporation	--	--	--	--
Forestry Corporation	--	46.80	23.70	13.57
Other Private Corporation	--	36.56	23.26	28.97
Government and Municipal Agencies	--	--	340.50	340.50
Total	131.25	43.80	122.64	118.27

(see Figure 2). Only one group of individual owners (individual plus partnership or estate) held a larger average ownership unit than husband and wife. The average for this group was 138 acres.

Institutional owners were not too important as far as the number of owners and acres were concerned, representing only 3 per cent of the owners and 7 per cent of the acres. Government and municipalities was the only group of institutional owners in West Tennessee of any importance representing 4 per cent of the owners and 3 per cent of the total acres. In East Tennessee institutional owners were more important in respect to the acres owned. Approximately 17 per cent of the total land owned in East Tennessee was held by institutional owners, but they accounted for only 2 per cent of the owners. Institutional ownership was practically nil for Middle Tennessee.

From the above discussion it may be seen that individual owners are the most important in Tennessee. Problems of adjustment and change must be solved, if possible, through the patterns of individual land ownership. For this reason most of this study was concerned primarily with individual land ownership. Unless otherwise stated, the following material has been presented in terms of individual units of ownership.

II. RESIDENCE OF OWNERS

Location of the owners residence is a determining factor in the way land is used. Willingness on the part of owners to reallocate resources to different uses and to adjust to changing conditions depends largely on the location of the owners residence. Owners who live in urban sections or in different regions of the country are not as apt to make changes as

are owners who live on their land and actively participate in the managerial decisions involving the operation of the land.

State or Region of Owners Residence

Although the exact location of an owners residence would be useful in many cases, for purposes of this study only the area in which the owner lived was considered. Each owner was classified by residence into one of the following three groups:

1. In State--Tennessee
2. Not in State but in Southeast
3. Outside region. Other than Southeast.

For futher analysis a rural-urban classification of residence was also used. Almost all the owners (95 per cent) of rural land in Tennessee lived in the state. Two per cent lived in another state in the Southeast and owned land in Tennessee. The remaining 3 per cent lived outside the Southeastern region. Hardly any absentee ownership was accounted for in West Tennessee. Only one per cent of the owners of rural land in that section reported living outside the state, and the entire one per cent lived outside the Southeast. More out-of-state residences by people who own land in Tennessee were reported in Middle and East Tennessee. Approximately 95 per cent of the owners in each of these two sections lived within that section. The remaining five per cent lived outside the state.

The average size ownership unit held by each of the three above mentioned groups was calculated in order to give some indication of the distribution of land in each group. In general, as the residence of the owners was moved further away from the location of the land, the average

size of the holding decreased. For the state as a whole this average ranged from 66.5 acres by owners who lived in the state to 58 acres for owners living outside the Southeast. This same pattern was evident in the West and Middle sections of the state, but the trend reversed itself for East Tennessee. There the averages ran from 50 acres for owners residing in the state to 75 acres for owners living outside the region. The most likely assumption to make regarding the reason for such a reversed trend in East Tennessee would be one concerned with the method of acquiring the land. Inheritance of land by children who had moved to other parts of the country would seem like a good first assumption. However, it should be remembered that the average size holding for East Tennessee was only 65 acres including the larger than average holdings of the institutional owners. Including only individual owners, the average was lower--only 55 acres. Then the above assumption would not explain the larger average size, because a transfer by inheritance would not increase the size unless, of course, a purchase of more land was made in connection with the inheritance. In fact inheritance would serve to break up the land into smaller units. Inheritance then does not explain this phenomenon. When the location of the owners' residence was classified according to method of acquisition, it was found that most of those owners of rural land in East Tennessee living outside the Southeastern Region acquired their land by purchase. This is the most likely assumption concerning the way in which the average size could have increased, unless we assume that there was more selectivity in out-migration from East Tennessee. That is, children of large land owners tend to move out more in East than in Middle and West Tennessee. Purchase of the land with no

inheritance claims to the land, would allow for consolidation of ownership units, thus increasing the average. In Middle and West Tennessee, those owners living outside the region, in most cases, acquired their land through inheritance of some interest. This explains the decrease in average size as the distance from the land to the owners residence was increased in those sections.

Rural-Urban Residence

About 83 per cent of the owners lived in rural sections and 17 per cent lived in urban areas. Many of these rural residences, however, were small and served only as a residence for people working in urban areas. The rural residents who owned less than 10 acres accounted for 21 per cent of the owners, but only one per cent of the acreage (Table III). On the other hand urban residents in this group accounted for almost an equal percentage of both owners and acreage owned. This gives some indication of the many owners who held small sized ownership units only as a place of residence. The same pattern was evident in each of the three sections of the state.

The data indicated that most of the owners who lived in the area where their land was located, were rural residents. Owners living outside the area in which their land was located were almost always urban residents.

III. OCCUPATION OF OWNERS

People own land for many different reasons. Some own land as an investment against inflation; some for speculative reasons; some to farm, while others own land because of the conditions of the ownership right in

TABLE III

INDIVIDUAL OWNERS AND ACRES OF RURAL LAND OWNED BY LOCATION OF OWNERS' RESIDENCE; PERCENTAGE DISTRIBUTION BY SIZE OF HOLDING, TENNESSEE 1960

Size (acres)	Rural		Urban	
	Owners	Acres	Owners	Acres
	(per cent)		(per cent)	
less than 10	21.2	1.0	0.6	0.8
10-20	10.8	2.3	3.6	.1
21-50	13.0	6.4	3.1	1.9
51-100	21.3	21.9	5.7	6.7
101-500	17.7	44.3	1.9	8.9
Over 500	1.0	4.3	0.1	1.4

CRANES & CREST

the land. The occupation of the owner determines to a great extent why the land is held and therefore how it is used. Businessmen and professional people are more likely to hold land out of production than are farmers who depend entirely on farming for a living. Also owners who are not farmers themselves may not have much to say about the managerial decisions concerning the operation of the land. Occupation is very important in determining how the land will be used. This section is devoted to a discussion of the occupation of owners.

Full-time farmers were the largest group of individual owners as they accounted for 30 per cent of the owners and 40 per cent of the rural land (Table IV). The next largest group was that of "combination farmer and other," or "part-time" farmers. This group accounted for 25 per cent of the owners and 24 per cent of the acres. Since the full-time farmers held a higher proportion of land than the owners they represented, it was concluded that this group held more than average size holding. Using the same argument, "part-time" farmers held a smaller than average size ownership unit. Average size holdings for the two groups were 87 and 63 acres respectively compared to an average of 66 acres for the state.³

Moving across the state from West to Middle to East Tennessee showed a decline in the proportion of full-time farmers, and an increase in part-time farmers. This would seem to indicate that the importance of agriculture decreases and that of non-agricultural work increases as one moves across the state from West to East. Land suitable to agricultural enter-

³Only individual owners and land owned by them was included in this average. The state average of 76.5 acres referred to on page 14 included institutional as well as individual owners.

TABLE IV

INDIVIDUAL OWNERS AND ACRES OF RURAL LAND OWNED; PERCENTAGE
DISTRIBUTION BY OCCUPATION; TENNESSEE AND THREE DIVISIONS
OF THE STATE, 1960

Occupation	West		Middle		East		State	
	Owners	Acres	Owners	Acres	Owners	Acres	Owners	Acres
	(per cent)		(per cent)		(per cent)		(per cent)	
Full-time farmer	36.2	44.0	35.0	42.0	23.0	31.0	30.4	39.8
Housewife	14.1	9.7	15.2	17.5	10.9	7.4	13.3	13.0
Business or professional	3.6	2.5	2.4	2.3	4.7	7.6	3.5	3.9
Laborers and others	13.6	2.4	12.6	4.7	21.0	11.8	16.1	6.4
Retired farmer	6.4	16.1	1.8	2.3	4.3	4.3	3.5	5.5
Retired other	3.0	3.7	2.3	.8	3.3	4.1	2.8	2.3
Retired other, now farmer	6.5	2.9	2.5	4.8	2.7	3.1	3.2	3.9
Unable to work	-	-	-	-	1.7	.5	.7	.2
Part-time farmer	15.0	17.0	26.0	23.0	28.4	29.0	25.1	24.0
Not reported	1.6	.6	2.2	1.6	-	-	1.4	1.0

prizes in each of the three sections, would seem to bear out these facts. Also, the percentage of the labor force engaged in agriculture and industry lends added support to these suppositions. The percentage of the labor force engaged in agriculture ranged from a high of 12 per cent in West Tennessee to a low of 8 per cent in East Tennessee.⁴ By this measure, industrialization is further advanced in the East section of the state than in the other two sections, thus more part-time farming in the East.

Besides full-time and part-time farmers there was one other group who considered themselves to be farmers because they had retired from some other occupation and were now farming. This group represented about the same proportion of owners and acreage owned in each of the three sections of the state, and accounted for 3 per cent of the owners and 4 per cent of the acreage for the state as a whole. Including this group and the two groups mentioned above, individuals engaged in farming, either part or full-time, accounted for 59 per cent of the owners and 68 per cent of the acreage owned. Thus not many more than half the owners of rural land were engaged in any kind of farming activities, but they owned more than a proportionate share of the land. The remainder of the land was held by people in occupations other than farming.

Housewives represented 13 per cent of both the owners and land owned. This group was more important in the middle section of the state as they represented 15 per cent of the owners and 17.5 per cent of the

⁴United States Bureau of the Census, United States Census of Population: 1960, Final Report PC (1)-44C Tennessee General Social and Economic Characteristics (Washington: Government Printing Office, 1961), pp. 230-237.

land owned in that section. Owners, who listed their occupation as housewives, included only single women or wives owning land separately from their husband because in cases of joint ownership between husband and wife the husband's occupation was reported.

Those owners whose occupation was business or professional represented 3.5 per cent of the owners and accounted for 4 per cent of the land. This uneven proportion of land over owners was explained by the high proportion of land owned by business and professional people in East Tennessee. In West and Middle Tennessee the percentage of owners in this group was higher than the percentage of land owned. On the other hand, all three sections of the state showed a larger percentage of owners than acreage held in the laborer and other group. The result for the state was 16 per cent of the owners and only 6 per cent of the land owned by laborers and others. The larger than average holdings of the business and professional group suggest that this group might own larger tracts of land as an investment while the smaller than average holdings of the laborers and others may indicate a larger proportion of rural residences in this group.

Approximately 6 per cent of the owners were retired and they owned about 8 per cent of the land. The largest per cent of both owners and land owned in the retired group was accounted for by retired farmers. The retired farmer group held larger than average size holdings, while the reverse was true for retired others.

IV. AGE OF OWNERS

The modal age for owners was 55-64 years of age. However, in East

Tennessee the modal age was somewhat older--65-74 years of age. In general the average size ownership unit increased as the age of the owners increased. This would suggest that owners continued to increase their holding even after retirement. For example the modal age group held an average ownership unit of 85 acres while the age group of 75 and over held an average of 94 acres. All age groups below the modal held less than their proportionate share, while all those above it held more than their share. This was true in all three sections of the state.

V. TENURE OF OWNERS

The tradition of private property in the United States makes it possible for a person to hold and receive the benefits from a resource even though he does not use it himself.⁵ As mentioned previously, different people hold land for many different reasons, but may not have the ability, desire or other resources necessary to operate the land. Also some operators may not choose to own land because of the responsibilities that go along with ownership. When ownership and use become separated, it is necessary to close the gap between the two so that the land may continue to be used effectively as a factor of production. Tenure arrangements provide the necessary link between ownership and use. Tenure means the holding of rights to use land.⁶

⁵United States Department of Agriculture, Land Ownership in the Great Plains, Agriculture Research Service Publication No. 43-49 (Washington: Government Printing Office, 1959), p. 12.

⁶Gene Wunderlich and Walter E. Chryst, "Farm Tenure and the Use of Land," The 1958 Yearbook of Agriculture, Alfred Stefferud, editor (Washington: Government Printing Office, 1958), p. 295.

Age, occupation, sex, residence and other characteristics of owners can affect the separation of ownership and use of land, and thus tenure. Examination of some of the more important tenure arrangements in Tennessee have been made and presented in this section. The various tenure groups considered in this study are listed below.

Full-owner operator: Those who operate land which they own. They do not rent land to or from others.

Part-owner operator: Those who operate land which they own and rent additional land from others.

Full-owner operator-landlord: Those who operate some of the land they own, but also rent out some land.

Part-owner operator-landlord: Those who operate part of their own land, but also rent land to and from others.

Nonoperator-landlord: Those who operate none of their land and rent land to others.

Nonoperator: Those who operate none of their land and rent none of it to others.

The largest tenure group, in terms of both owners and acreage owned, was the full-owner operator group, which represented 40 per cent of the owners and 41 per cent of the acreage owned (Table V). Those owners classified as nonoperators represented the next largest group of owners (22 per cent), but only held 6 per cent of the land indicating small size holdings. Included in this group were owners who held rural land only for a place of residence. This group only held an average of 18 acres compared to an average of 69 acres for the full-owner operators. In each of the

TABLE V
 INDIVIDUAL OWNERS AND ACRES OF RURAL LAND OWNED; PERCENTAGE
 DISTRIBUTION BY TENURE, TENNESSEE AND THREE DIVISIONS
 OF THE STATE, 1960

	West		Middle		East		State	
	Owners	Acres	Owners	Acres	Owners	Acres	Owners	Acres
	(per cent)		(per cent)		(per cent)		(per cent)	
Full-owner operator	32.7	34.8	43.9	47.1	37.5	36.2	39.6	41.4
Part-owner operator	10.5	9.2	16.3	15.8	8.3	11.1	12.1	13.1
Full-owner operator-landlord	15.6	19.6	8.7	13.9	9.7	15.7	10.2	15.5
Part-owner operator-landlord	.8	3.4	.2	.7	1.4	2.7	.7	1.8
Non-operator landlord	20.6	29.0	11.2	17.6	18.2	25.3	15.5	22.1
Non-operator	19.8	4.0	19.7	4.9	24.9	9.0	21.8	6.1

three sections of the state the same patterns were observed for these two groups with only one minor exception. Nonoperator landlords represented a larger percentage of owners in West Tennessee than did nonoperators. One possible explanation might have been the larger number of retired farmers reported in West Tennessee than in the other two sections. Also West Tennessee not being as industrialized as the other sections, there is reason to believe that fewer people own rural land only as a place of residence. People who have been active farmers have usually accumulated a sizeable tract of land (this group held an average of 170 acres in West Tennessee). After retirement they continue to hold the land but rent to others.

Combining the four groups of owner-operators and owner-operator-landlords it was found that they represented 63 per cent of the owners and 72 per cent of the acreage owned. The nonoperator groups (nonoperator-landlords and nonoperators) accounted for the remaining 37 per cent of the owners and 28 per cent of the acreage. The operator groups held a larger than proportionate volume of the acreage and the nonoperators held a less than proportionate share. All three sections of the state followed the same pattern in varying degrees.

Tenure and Type of Owners

Husband and wife represented the largest percentage of owners and acres owned in all the tenure groups. However, the importance of this type of owner diminished in the nonoperator landlord and nonoperator tenure groups. This tends to suggest that upon the death of one spouse there is a tendency for the owner to quit operating the land and rent it

out or leave it idle. In these latter groups (nonoperator-landlord and nonoperator) other types of owners become more important. From this observation it can be said that in the tenure groups where the owners actually operate all or some of the land they own, husband and wife type owners were the most important. Other types of owners such as single men, single women, partnership or estates, and individual plus partnership or estate were more important in the nonoperator groups. In other words a husband and wife type ownership unit was usually associated with those owners who operate their land while some other type ownership unit was most commonly associated with those owners who hold land but did not themselves operate it.

Tenure and Residence of Owner

Classification of each tenure group by location of owners residence resulted in what would commonly be expected.⁷ The four tenure groups composed of operators and operator-landlords showed that most of the owners in these groups resided in rural areas. They accounted for 90 per cent of the acreage. Nonoperator landlords were almost equally divided between rural and urban as to the owners residence. This group included many retired farmers who had moved to urban places to live. The fact that this group was composed of landlords indicated they held fairly large tracts of land. It was found that the average size holding for this group was approximately 95 acres. A logical conclusion would be that nonoperators holding large enough holdings to rent out would consist of many retired

⁷Location as used here refers to either rural or urban with no reference to the state or region.

farmers.

One thing that might not have been expected was the very large percentage (81 per cent) of the nonoperators who lived in rural areas. However, it should be remembered that this group includes many owners who own rural land only as a place of residence. This group was made up almost entirely of such people. Therefore it is not surprising that most of these owners did live in rural areas.

All three sections of the state followed fairly close to the pattern presented above for the state as a whole.

Tenure and Age of Owners

Table VI shows the percentage breakdown of each tenure group by age. Each column in the table adds up to 100 per cent because the percentages are shown as a breakdown within each group only. Table V on page 31 shows what percentage each group is of the total.

Full ownership of land is a long-run goal for many people. Therefore, it would be expected that most full-owners are in the older age groups. The data revealed that the modal age group for full-owner operators was 65-74 years of age. The percentage of full owners in each age group increased as the average age of the owners increased. That is, there were fewer full-owners in the 25-34 age group than in the 35-44 age group. In general this same pattern was observed for each of the three separate sections of the state. However, in Middle and East Tennessee the modal age of full-owners was younger (55-64 years).

Part-owner operators represent the group of owners who own part of the land they operate and rent additional land from others. This is

TABLE VI

INDIVIDUAL OWNERS AND ACRES OF RURAL LAND BY TENURE; PERCENTAGE
DISTRIBUTION BY AGE, TENNESSEE, 1960

Age Group	Full-owner Operator		Part-owner Operator		Full-owner Operator Landlord		Part-owner Operator Landlord		Non-operator Landlord		Non-operator owners	
	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)	acres (per cent)
Under 25	1.8	1.0	--	--	--	--	--	--	9.5	4.7	10.6	32.4
25-34	14.7	11.2	12.4	12.6	5.5	8.1	41.2	16.9	6.2	5.1	16.1	2.1
35-44	19.7	16.5	24.5	16.2	15.8	15.8	26.6	22.5	4.4	3.2	23.0	24.9
45-54	19.2	21.3	27.5	28.6	8.6	8.6	23.9	34.5	16.9	12.7	16.4	5.3
55-64	19.8	31.6	26.5	25.6	35.5	33.6	8.3	26.1	20.0	16.8	15.4	11.9
65-74	21.2	15.3	9.1	17.0	31.5	31.5	--	--	26.2	31.9	12.0	9.0
75 and over	3.6	3.1	--	--	3.1	2.4	--	--	16.8	25.6	6.5	14.4

one of the steps that most owners must take in order to later become full-owners. Just as full-ownership usually comes later in life, the steps which must be taken to get there come earlier, and those owners classified as part-owner operators are, on the average, younger. The modal age for owners in this tenure group was 45.54 years of age. Also of importance here is the fact that most full-time farmers are in this age group and probably rent additional land from others making them part-owner operators.

The two tenure groups full-owners-operator-landlords and part-owner-operator-landlords followed the same pattern in regards to age as the full-owner operators and part-owners operators did. In general, any tenure group classified as full-owners, no matter whether they operate it themselves or rent part of it to others, usually represent an older group of owners; any tenure group classified as part-owners, likewise, usually represent a younger group of owners.

Nonoperator landlords had a modal age of 65.74. The reason for the older age of this group should be apparent from the previous discussions concerning the owners that make up this group--largely retired farmers. The relatively low modal age of 35.44 for the tenure group classified as nonoperators should also be easily explained by the kind of owners in this group. As stated previously, this group is made up mostly of owners who hold land primarily as a place of residence.

Tenure of Owners by Color

Approximately 95 per cent of the owners were "white" owners. The remaining 5 per cent were classified as "non-white." Table VII shows the distribution of owners by color and by tenure. In East Tennessee all the

TABLE VII
 INDIVIDUAL OWNERS AND ACRES OF RURAL LAND OWNED BY TENURE; PERCENTAGE DISTRIBUTION BY
 COLOR OF OWNER, TENNESSEE AND THREE DIVISIONS OF THE STATE, 1960

Color of owner and section of state	Full-owner Operator owners acres		Part-owner Operator owners acres		Full-owner Operator owners acres		Part-owner Operator owners acres		Non-operator Landlord owners acres		Non-operator owners acres	
	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)
West												
White	28.5	31.0	10.5	9.2	15.9	19.0	0.8	3.4	18.5	23.1	19.1	4.1
Non-white	4.2	3.8	--	--	0.5	0.5	--	--	2.0	5.9	--	--
Middle												
White	41.4	46.1	15.7	14.8	8.6	13.9	0.2	0.7	9.7	15.7	17.1	4.3
Non-white	2.1	0.8	0.4	0.9	--	--	--	--	2.3	2.2	2.5	0.6
East												
White	37.4	36.0	8.2	11.1	9.7	15.6	1.4	2.7	18.6	25.6	24.8	9.0
Non-white	--	--	--	--	--	--	--	--	--	--	--	--
State												
White	37.7	40.6	11.9	12.8	10.1	15.6	0.7	1.8	14.6	20.3	20.5	5.7
Non-white	1.6	1.4	0.2	0.5	0.1	0.1	--	--	1.4	0.8	1.2	0.4

owners reported were "white," while in Middle and West Tennessee about 93 per cent were reported as "white." Nonoperator landlords and nonoperators were the most numerous type of "non-white" owners in Middle Tennessee. In West Tennessee the most numerous type of "non-white" owners were fullowner operators.

CHAPTER III

LAND OWNERSHIP CHARACTERISTICS

In the preceeding chapter selected characteristics of owners were discussed in relation to numbers and acreage owned. This chapter is devoted to a discussion of characteristics of the land that these owners reported holding. The kind of land held, method of acquiring the land, ownership rights, financial arrangements and transfer plans are considered.

I. KIND OF LAND HELD

Certain kinds of land tend to become associated with particular groups of individuals through the process of land transfer. Significant ownership patterns in the kind of land held were found by different classifications of the owners. For example, a larger proportion of commercial forest and other rural land was held by owners residing in urban places. One could expect from this that a continued migration of owners from rural to urban places would result in a net transfer of farm land to commercial forest and other rural land.¹ This is only one example among many in this chapter, which attempted to improve the understanding of the relationship between owners and kind of land held.

For the purposes of this study, rural land in Tennessee was classified into three categories. An owner's total holding consisted of one of

¹Chapter IV presents a discussion of changes in land use between 1955-1960.

the following three kinds of land or combinations of the three.

Farm land: Includes farmsteads, cropland, orchards, open pasture, and woodland pasture.

Commercial forest: Includes land used for producing timber products.

Other rural land: Includes unused farm land, rural nonfarm residence, and rural commercial land.

Table VIII shows the importance of each kind or kinds of land in relation to owners and land owned in each of the three sections of the state. The largest percentage of the owners in West Tennessee owned farm land, while in Middle and East Tennessee most of the owners held farm land plus commercial forest. No owners of commercial forest land only were reported in the Western section. Less than one per cent of the owners in Middle Tennessee held only forest land, while in East Tennessee over four per cent of the owners held only forest land. Commercial forest land was more popular in West Tennessee when held in combination with other types of land.²

In general throughout the state, holders of farm land only held a smaller percentage of land than the owners they represented. This indicated a smaller than average size holding for owners of this kind of land. Owners of other rural land also held less than average size holdings as did holders of commercial forest only. Those owners who reported owning commercial forest in combination with farm land held larger than average size holdings. Owners of large holdings can transfer land into commercial forestry use

²Note the large percentage of owners in West Tennessee that reported ownership of farm land plus commercial forest plus other rural land.

TABLE VIII

INDIVIDUAL OWNERS AND ACREAGE OF RURAL LAND OWNED BY KIND OF
LAND. TENNESSEE AND THREE DIVISIONS OF THE STATE, 1960

Kind of Land	West		Middle		East		State	
	Owners	Acres	Owners	Acres	Owners	Acres	Owners	Acres
	(per cent)		(per cent)		(per cent)		(per cent)	
Farm land only	27.5	17.5	27.2	19.1	19.7	10.6	24.3	16.2
Commercial forest only	0.0	0.0	.8	.4	4.3	5.0	2.0	1.7
Other rural land only	16.8	2.9	13.7	2.2	10.5	.5	12.9	1.8
Farm land plus commercial forest	12.6	18.4	37.9	53.2	33.4	55.5	32.0	47.2
Farm land plus other	16.9	17.3	6.0	8.3	7.8	5.5	8.5	9.2
Commercial forest plus other	1.9	1.1	4.3	2.2	9.9	2.1	6.2	2.3
Farm land plus commercial forest plus other	24.3	42.8	10.1	14.6	14.4	19.7	14.1	21.6

and still have an adequate size holding left to cultivate for current production. It takes several years to realize any income from forestry products, and most owners need another source of income in the meantime. This income can come from the cultivation of the land remaining. On the other hand small landowners, if they depend entirely on farming for a living, tend to use their entire holding for current income.

Kind of Land by Type of Owner

Three-fourths of the owners of farm land were husband and wife. The remaining one-fourth was divided among other individual owners in this way: single men 8 per cent, single women 10 per cent, partnership or estate 4 per cent, and individual plus partnership or estates 2 per cent. The type of owner for one per cent of the owners could not be established and was considered as not reported. Acreage owned by each type owner was divided in almost the same ratio as the proportion of owners they represented.

Husband and wife also represented the largest percentage of owners holding commercial forest (50 per cent). Single men represented about the same percentage of owners of commercial forest as they did farm land-- 8 per cent in both cases. Single women, however, accounted for a much larger proportion of commercial forestry owners (27 per cent) than they did of farm land owners (10 per cent). Forestry corporations accounted for 13 per cent of the owners of commercial forest land.

East Tennessee accounted for most all of the owners who held only commercial forest. No owners of only commercial forest were reported in West Tennessee and only about one per cent of the total owners and acreage

was reported strictly as commercial forest holders in Middle Tennessee.

For land reported as other rural land, husband and wife represented the largest per cent of owners (54 per cent), but held only 13 per cent of the acreage. The reason for this was the small per cent of institutional owners who owned a large per cent of this type of land. Private corporations represented only 3 per cent of the owners, but held 15 per cent of the land. Government and municipal agencies represented only 8 per cent of the owners, but held 23 per cent of the land. If only individual owners were considered, then the owners and acreage would be divided in about the same ratio as the farm land was divided.

Approximately 60 per cent of the owners, who accounted for approximately 78 per cent of the land, owned some combination of the three types of land. Farm land plus commercial forest was the most popular of these combinations. Thirty-two per cent of the owners held this combination, and accounted for 47 per cent of the land (Table VIII). Within this group, husband and wife were, by far, the most important type of owner. They represented 80 per cent of both owners and acreage owned. The remaining 20 per cent of the owners and acreage was divided among other individual owners. A larger per cent of land was accounted for by this group than owners indicating a larger-than-average size holding. As mentioned above, commercial forest land is usually held by owners who hold above average size holdings. This was true in the case of owners of farm land plus commercial forest.

The next most popular combination of the three kinds of land was a combination of all three--farm land plus commercial forest plus other. Fourteen per cent of the owners held 20 per cent of the land in this

combination. Husband and wife were also the largest single group of owners in this group.

Almost of equal importance in both owners and acreage owned were the two groups reported as farm land plus other and commercial forest plus other. Husband and wife also represented the largest percentage of owners in these two groups, but not as large as in the other groups. Partnership or estate was an important type of ownership unit in the farm land plus other group. Single men were an important type of owner in the commercial forest plus other group.

Kind of Land by Location of Owner's Residence

Approximately 84 per cent of the owners of farm land lived in rural areas and they owned 76 per cent of the farm land. The owners of farm land that lived in urban areas owned a larger than average size unit. Most owners of farm land only who live in urban places are retired farmers or business or professional people who have had time to accumulate or can otherwise afford larger than average size holdings. This would account for the large size holdings of urban residents who own farm land.

As mentioned previously, most of the owners of commercial forests resided in urban places. Approximately 70 per cent of the owners of this type of land live in urban sections, and they hold an equal share of the land. Owners of commercial forests usually hold this type of land as a long-term investment. People who live in cities and own rural land--most of whom have other sources of income frequently choose to make this type of investment. Owners who depend entirely on the production of the land for income usually do not invest to any great extent in forestry.

Most of the land classified as other rural land, and most of the owners of this type land, were reported to be rural residents. This type of land, which includes idle farm land and rural non-farm land, was occupied mostly by people who own the land for a place of residence only. Most of the owners work in off-farm occupations, but prefer to live in a rural section. This is a very important type of land in that it represents land that is used as a transition from farm to off-farm work. Many people born and reared on a farm hold certain deep-seated values about farming as a way of life. If they can continue to live in a rural area while transferring to off-farm work, the transition may be made easier by the fact that they do not have to give up the thing that they treasure most about farm life.

Most of the owners (90 per cent) of farm land plus commercial forest lived in urban places, but they owned a very small proportion (18 per cent) of the land. The 10 per cent of the owners of this type land who reported their residence as rural owned most of the land in this group.

The three remaining combinations of land--farm land plus other, commercial forest plus other, and farm land plus commercial forest plus other were held mostly by owners reporting their residence as rural. They owned about the same percentage of land as the percentage of owners they represented.

In general the three sections of the state followed about the same trends as did the state as a whole. In West Tennessee rural residences and farm land were predominately more important, while in Middle and East Tennessee urban residences and commercial forest were somewhat more important.

Kind of Land by Occupation of Owner

Kind of land appears to be highly related to occupation of owner. Full-time farmers reported holdings of all types of land that included farm land. The largest per cent of full-time farmers were found in the farm land plus commercial forest type of land. Forty-two per cent of the full-time farmers owned this type land, and they accounted for 51 per cent of the land owned by this group (Table IX). Land reported as farm land only was held by 32 per cent of the full-time farmers, and they accounted for 19 per cent of the land. The remaining two groups of land which included farm land, farm land plus other and farm land plus commercial forest plus other accounted for the remaining owners and acreage owned by full-time farmers.

In West Tennessee the combination that included all three types of land--farm land plus commercial forest plus other, was the most popular type held by full-time farmers. Farm land plus commercial forest was the most popular kind of land for this occupational group in the other sections of the state.

Part-time farmers followed very closely the same patterns of ownership concerning the types of land owned as did full-time farmers. One difference was the larger percentage of land held as commercial forest in combination with other types of land by part-time farmers than by full-time farmers. The reason for this deviation is perhaps explained by the fact that part-time farmers have another source of income on which to depend, and are therefore in a better position to divert part of their land into commercial forests.

TABLE IX

INDIVIDUAL OWNERS AND ACRES OF RURAL LAND OWNED BY KIND OF LAND;
PERCENTAGE DISTRIBUTION BY OCCUPATION, TENNESSEE, 1960

Occupation	Farm land only	Commercial forest only	Other rural land	Farm land plus commercial forest	Farm land plus other	Commercial forest plus other	Farm land plus commercial forest plus other
	Owners Acres	Owners Acres	Owners Acres	Owners Acres	Owners Acres	Owners Acres	Owners Acres
	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)
Farmer	32.0	19.0	---	42.0	8.0	---	18.0
Housewife	15.0	13.0	24.0	30.0	12.0	9.0	10.0
Business or professional	22.0	7.0	11.0	16.0	15.0	1.0	7.0
Labors and others	1.0	1.0	49.0	8.0	3.0	23.0	8.0
Retired farmer	3.0	3.0	22.0	5.0	33.0	4.0	33.0
Retired other	14.0	33.0	21.0	14.0	7.0	28.0	16.0
Retired other now farmer	50.0	19.0	---	38.0	5.0	---	7.0
Unable to work	---	---	---	---	100.0	---	---
Part-time farmer	38.0	21.0	---	42.0	3.0	1.0	16.0
Not reported	10.0	1.0	25.0	65.0	---	---	---

Housewives were particularly important in the other rural land and farm land plus commercial forest groups. Almost one-half the land owned by housewives was of the latter group. The remaining one-half was divided among the other categories of land.

Farm land and other rural land seemed to be more attractive to housewives in West Tennessee than in the other sections. In Middle Tennessee housewives tended to hold a combination of the three types of land, while in East Tennessee farm land plus commercial forest was the type most commonly held by housewives.

The business or professional group accounted for only about 4 per cent of the owners and acreage owned and were almost equally divided as to the type of land owned. Commercial forest seemed to be slightly more attractive to this occupational group as 28 per cent of them held this type of land which accounted for 23 per cent of the land owned by this group. The remaining owners and acreage owned were divided fairly equally among the remaining types of land.

Retired farmers seemed to favor a combination of farm land, commercial forest, and other rural land as the most attractive type of land. As may be expected the holdings of full-time farmers tended to be farm land or some combination of farm land. This would seem to indicate that retiring farmers transfer part of their farm land to other uses after retirement.

Other retired people seemed to follow the same patterns as retired farmers in the type of land held. However, retired others who become farmers after retirement were more disposed to hold farm land. This latter group followed very close to the trend set by full-time farmers as to the

type of land held.

In general the relationship between occupation and kind of land held was the same in each of these sections of the state as for the state as a whole. Owners who were classified as farmers, either full-time, part-time, or retired from other occupations, were found to be more prone to hold farm land, or some combination thereof, than were owners not classified as farmers, in all these sections of the state. The type of land held by owners not classified as farmers varied from one section of the state to another. In West Tennessee nonfarm owners held more farm land and other land. Owners other than farmers in Middle Tennessee were found to be more attracted to farm land and commercial forest, while in East Tennessee they were more attracted to some combination of land that included commercial forest. Thus it appears that owners who hold rural land for purposes other than to farm usually hold that type of land most readily available in the section where they live.

II. METHOD OF ACQUISITION

Ownership of land may be acquired in a wide variety of methods or combinations of methods. Purchase, assumption of tax liability, or inheritance are some of the ways land is acquired. In part, the method of acquisition is an indication of an owner's personal interest in the care and use of his land. Each owner in this study was listed as having acquired his land in one of the following methods.

Purchase from relatives

Purchase from non-relatives

Gift or inheritance of full interest; refers to acreage received as a gift or inheritance with no others sharing in the interest.

Gift or inheritance of part interest and purchase of rest; refers to acreage received as a gift or inheritance shared with other parties plus acreage purchased from the remaining parties share.

Gift or inheritance of part interest without purchase of rest; refers to acreage received as a gift or inheritance shared with other parties with no acreage purchased from the remaining parties shares.

Table X shows the percentage distribution of owners and acreage owned by each method of acquisition listed above for the three sections of the states and for the state as a whole. A majority of the individual rural land owners become owners through land purchase. Eighty-five per cent of the owners acquired land in this manner, and they owned approximately 71 per cent of the land. Twenty-five per cent of the owners, accounting for 29 per cent of the land, acquired their land through gift or inheritance. The fact that the percentage of owners totals 110 per cent indicates that 10 per cent of the owners acquired land by a combination of methods.

Those owners who purchased their land, owned a smaller percentage of the land than the owners they represented. On the other hand those who acquired their land by gift or inheritance of full interest or part interest with purchase of rest, held a larger percentage of the land than the owners they represented. It may seem that this is a misstatement of the facts since the per cent of the owners does not add up to 100.0 per cent. However, even if some owners do appear in more than one place, the

TABLE X

INDIVIDUAL OWNERS AND ACRES OF RURAL LAND OWNED; PERCENTAGE DISTRIBUTION BY METHOD OF ACQUISITION, TENNESSEE AND THREE DIVISIONS OF THE STATE, TENNESSEE, 1960¹

Section	Purchase from				Gift or inheritance of					
	Relatives		Nonrelatives		Full interest		Part interest and purchase of rest		Part interest without purchase of rest	
	Owners (per cent)	Acres	Owners (per cent)	Acres	Owners (per cent)	Acres	Owners (per cent)	Acres	Owners (per cent)	Acres
West	8.3	6.0	75.9	71.7	21.2	19.8	.8	.7	4.0	1.8
Middle	25.1	16.3	57.0	53.2	15.6	15.5	6.9	13.4	3.7	1.6
East	29.2	21.6	59.8	49.2	18.0	22.0	5.1	6.0	1.2	1.2
State	24.0	15.9	61.0	55.7	17.4	18.3	5.2	8.7	1.8	1.6

¹Percentages of owners will not add to 100.0 since an owner may appear in more than one column.

amount of land acquired by each method is added into the appropriate column. Therefore it is justifiable to make the above deductions from the data.

In general, the three sections of the state followed very close to the pattern set by the state as a whole concerning the percentage of acreage and owners who acquired their land either by purchase or by gratuities. However, a breakdown of these two broad categories indicated a wider range of variation between the sections. About 9 out of 10 of the owners in West Tennessee who purchased their land, did so from non-relatives, while in Middle and East Tennessee about one-half of the owners who purchased land did so from nonrelatives. A majority of the owners, in all three sections, who received their land by gift or inheritance acquired full interest in the land. In West Tennessee, acquisition of full interest by gift or inheritance, was more prevalent than in the other two sections. In Middle and East Tennessee, gift or inheritance of part interest with purchase of the rest was much more important than in West Tennessee. Acquisition by gift or inheritance of part interest without purchase of the rest was of about equal importance in West and Middle Tennessee and of less importance in East Tennessee.

The same patterns were evident in each section of the state concerning the acreage owned by the various methods of acquisition. This can be seen by comparing the percentage of owners and the corresponding percentage of acres, under each method of acquisition as listed in Table X.

Method of Acquisition by Type of Owner

A majority (60 per cent.) of husband and wife owners, accounting

for 62 per cent of the acreage, acquired their land by purchase from non-relatives. About 20 per cent of these owners, representing an equal amount of the acreage, acquired their land by purchase from relatives. Thirteen per cent of the owners and acreage was acquired by gift or inheritance of full interest. The remaining owners in this group acquired their land by gift or inheritance of part interest and purchase of the remainder. These figures suggest that a majority of the husband and wife owners, and land owned by them, was acquired by purchase. Acquisition by other methods was relatively less important.

The next largest group of individual owners in the state was single women. Purchase was also the most important method of acquisition for this group. Fifty-eight per cent of the owners acquired 30 per cent of the land by this method. However, this method of acquisition was not as important to this group as to the husband and wife group. Thirty-three per cent of the single women owners acquired their land by gift or inheritance of full interest, but they accounted for 68 per cent of the acreage held by this group. Therefore, most of the acreage held by single women was acquired by gratuitous methods. On the other hand, the larger per cent of owners (58 per cent), who acquired a much smaller per cent of the acreage (30 per cent), by purchase probably did so as an investment.

Single men were very closely related to husband and wife as to the method of acquisition. Approximately 85 per cent of the owners in this group acquired about an equal per cent of the acreage by purchase. Purchase from nonrelatives was the most common method within this group.

The other two types of owners, partnership or estate and individual plus partnership or estate followed, very closely, the same pattern as did

single women concerning the method of acquisition of their land. One difference noted was the land acquired by these two groups by gift or inheritance of part interest without purchase of the rest. Land acquired in this way would give rise to the two types of ownership mentioned above, and would therefore explain the importance of this method of acquisition to these groups.

In general the methods of land acquisition mentioned in the preceding paragraphs concerning the whole state were also applicable to the three separate regions. One noticeable variation was the much larger percentage of single women in West Tennessee who acquired their land by purchase. It was stated above that land purchased by single women was largely for investment purposes. The persons from whom they purchase the land, however, probably has a lot to do with why the purchase was made. Most of the land purchased in West Tennessee by single women was purchased from nonrelatives which would seem to indicate that investment motives were involved. In Middle Tennessee purchases of land by single women were made largely from relatives. Investment in the ordinary sense is not as likely to be the primary motive for purchase in cases of this sort.³ Acquisition of land by type of owner in East Tennessee and by the remaining types of owners in the other sections followed very close the pattern for the state as a whole.

Method of Acquisition by Tenure

A majority of the owners in all tenure groups acquired their land

³Knowledge of the willingness to sell, a better price, desire to keep land in family, and possible other reasons would be likely motives in this case.

by purchase. The group that acquired the least amount of land by purchase (63 per cent) was the nonoperator landlord group. Gift or inheritance of full interest was the most important method of acquisition to this group. The division of purchase methods between relatives and nonrelatives was concentrated mostly in favor of nonrelatives. Part-owner operator landlords acquired the largest part of their land by purchase from relatives.

Acquisition by gratuities, notably gift or inheritance of part interest without purchase of rest, was of more importance to the non-operator groups than to the operator groups. Land acquired by different methods was in about the same proportion as the owners. All three sections followed remarkably close to the pattern for the whole state.

Method of Acquisition by Kind of Land Owned

In part I of this chapter, the kind of land held by section and by selected characteristics of owners was examined. Now a look at the methods of acquiring these different kinds of land is in order. Purchase was the most frequent method noted of acquiring farm land. Approximately 85 per cent of farm land was acquired by purchase. The largest part of this was purchased from nonrelatives and consisted of larger than average size holdings. Farm land purchased from relatives consisted mainly of small holdings. All other types of land, except commercial forest only, were acquired mainly through purchase, but in varying degrees.

For commercial forest land only, three-fifths of both the owners and land owned was acquired by gift or inheritance of full interest. Purchase from nonrelatives accounted for most of the remaining two-fifths of both owners and acreage.

Acquisition by purchase and gratuities within the three sections of the state reflected the same pattern as those mentioned above for the state as a whole. Table X on page 51 shows this to be the case. The sum of the two columns---purchased from relatives and purchased from nonrelatives---are approximately equal for each section. However, there are differences within the columns among the different sections. In West Tennessee approximately 76 per cent of the land bought was purchased from nonrelatives and only 8 per cent purchased from relatives. For Middle and East Tennessee approximately 58 per cent of the land was purchased from nonrelatives, and approximately 27 per cent from relatives. While the per cent of owners who purchased their land and acreage purchased in all three sections remained about the same, purchase from nonrelatives was much more important in West Tennessee and purchase from relatives more important in the other two sections.

III. FINANCIAL ARRANGEMENTS

In the previous section it was pointed out that approximately 85 per cent of the rural land was acquired through purchase. The equity acquired in the land may have been of varying degrees however. Some owners may have acquired full equity in their land by making a cash purchase, while others may have bought land under a mortgage, or purchase contract agreement in which case only a partial equity would have been acquired. Table XI shows the percentage of owners and acres of rural land owned by type of financial arrangement. This table shows that over four-fifths of the owners and acreage owned is held unencumbered, that is, free of debt. The per cent of unencumbered owners was highest in West Tennessee and lowest

TABLE XI

INDIVIDUAL OWNERS AND ACRES OF RURAL LAND OWNED, PERCENTAGE
DISTRIBUTION BY FINANCIAL ARRANGEMENT, TENNESSEE AND THREE
DIVISIONS OF THE STATE, 1960¹

Item	West		Middle		East		State	
	Owners	Acres	Owners	Acres	Owners	Acres	Owners	Acres
	(per cent)		(per cent)		(per cent)		(per cent)	
Unencumbered	90	82.8	84.5	85.8	83.8	86.2	85.3	85.3
Mortgaged	10.8	17.2	15.4	14.2	17.2	13.7	15.4	14.6
Purchase contract					0.1	0.1	0.05	0.05

¹Percentages of owners will not add to 100.0 since an owner may appear in more than one column.

in East Tennessee, but the per cent of unencumbered acreage owned followed the reverse trend. Some indication of the reasons for this pattern may be found by a look at the financial arrangements by kind of land.

Kind of Land

Owners of commercial forest and a combination of commercial forest and other land held approximately 94 per cent of their land free of debt, whereas owners with holdings containing farm land held a smaller proportion of their land free of debt (approximately 84 per cent). As has already been established in previous sections, West Tennessee is characterized by more farm land or combinations of farm land than the other sections. Movement across the state from West to East showed an increasing importance of commercial forest and a decreasing importance of farm land. Therefore, West Tennessee characterized by a majority of farm land, which is held under conditions of encumbrance more so than other types of land,⁴ showed a larger percentage of its land to be held under mortgage than the other sections.

Approximately one-third of the value of all land mortgaged is owned by the sellers of the land. Therefore, since two-thirds of the value is held by the owners, rural land in Tennessee is held with a great deal of security. However, this is an average of all kinds of land. Some kinds are held more securely than others which is not shown in the average.

⁴On page 55 it was stated that most farm land is acquired by purchase while a larger percentage of commercial forest is acquired by gift or inheritance. Land acquired by purchase is likely to have a higher ratio of debt than land acquired by gift or inheritance.

Table XII shows the ratio of real estate debt to the value of the encumbered land along with a summary of the method of acquisition of each kind of land. From the table, one can see that most all types of land that include farm land were acquired largely by purchase. Most of these categories owe about one-third of the value on the land. One exception was the "farm land plus other" group which owed only 19 per cent of the value. Of all the groups that included farm land, this group reported the largest percentage acquired by methods other than purchase, and this is probably the reason for the low ratio of debt to value.

A majority of the acreage of commercial forest and other rural land was acquired by methods other than purchase (Table XII). It could be expected from this that the ratio of debt to value would be lower than for farm land. This was the case for commercial forest in which only 10 per cent of the value was owed, but for other rural land 57 per cent of the value was owed. One reason for this was that a majority of the commercial forest was acquired by gift or inheritance of full interest, while a large part of other rural land was acquired by gift or inheritance of only part interest. Another reason perhaps is that a large part of other rural land is used for residential purposes. This kind of land is usually more valuable and one could expect a higher ratio of real estate debt.⁵

Financial Arrangements by Tenure

The nonoperator groups held the largest proportion of their land

⁵See page 18 for a discussion of values associated with different kinds of land.

TABLE XII
 RATIO OF REAL ESTATE DEBT TO VALUE OF INDEBTED LAND, AND
 METHODS OF ACQUISITION; PERCENTAGE DISTRIBUTION
 BY KIND OF LAND, TENNESSEE, 1960

Kind of Land	Ratio	Method of Acquisition	
		Purchase	Gratuities
		(Percentage of Acreage)	
Farm land only	.365	75	25
Commercial forest only	.100	33	67
Other rural land only	.571	45	55
Farm land plus commercial forest	.302	71	29
Farm land plus other	.192	66	34
Commercial forest plus other	.533	86	14
Farm land plus commercial forest plus other	.337	75	25
All kinds	.326	71	29

unencumbered. Over 90 per cent of the land held by the two nonoperator groups was held debt-free as compared to less than 85 per cent for operator groups (Table XIII). The two groups that included part-owners held a higher proportion of their land under mortgage than any other group.⁶ Part-owners tend to be younger than other owners and therefore have had less time to accumulate the capital necessary to gain full equity of their land. In general, the amount of equity in land according to tenure follows close to the average age of the different tenure groups. Both equity and age usually increase from part-owners to full-owners to nonoperators.

Approximately 17 per cent of the land in West Tennessee was held under mortgage contract as compared to approximately 14 per cent in Middle and East Tennessee. The reason for the higher percentage in West Tennessee was the result of the high per cent of mortgaged land held by the operator groups in that section compared to the other two sections. The per cent of mortgaged land held by the nonoperator groups was about the same throughout the state. West Tennessee is characterized by more farm land and other rural land than are the other sections. It should be remembered that when individual owners only are considered, as is the case here, farm land and other rural land have a much higher value per acre than commercial forest. This per acre value for the most commonly held land in West Tennessee should explain why a higher percentage of the land in that section is held under mortgage than in the other sections.

⁶See page 30 for a list of tenure groups.

TABLE XIII

ACRES OWNED UNDER DIFFERENT FINANCIAL ARRANGEMENTS; PERCENTAGE DISTRIBUTION
BY TENURE, TENNESSEE AND THREE DIVISIONS OF THE STATE, 1960

Tenure	West		Middle		East		State	
	Unencumbered Mortgaged	Mortgaged	Unencumbered Mortgaged	Mortgaged	Unencumbered Mortgaged	Mortgaged	Unencumbered Mortgaged	Mortgaged
Full-owner operator	73.8	26.2	88.2	11.8	81.5	18.5	84.1	15.9
Part-owner operator	100.0	--	70.5	29.5	89.6	10.4	79.3	20.7
Full-owner operator landlord	73.8	26.2	88.9	11.1	80.6	19.4	82.6	17.4
Part-owner operator landlord	52.7	47.3	100.0	--	49.3	50.7	60.6	39.4
Non-operator landlord	95.4	4.6	88.9	11.1	95.9	4.1	93.1	6.9
Non-operator	100.0	--	91.7	8.3	93.5	6.5	93.6	6.4
Total	82.8	17.2	85.8	14.2	86.2	13.8	85.4	14.6

CHAPTER IV

LAND USE

Changes in technology and economic and social forces have altered the way much of the rural land is used in Tennessee. Some land may be used more intensively, while other land may be left entirely unused or transferred to other uses. The present chapter attempted to examine some of the changes in land between different uses from 1955-1960. In order to make this examination four classifications of land use were made: (1) Crop land included open pasture land as well as cultivated land; (2) Woodland included both commercial forest and woodland pasture; (3) Urbanized land included land used for residential purposes, and commercial and industrial tracts; and (4) Idle land included all unused farm land, cut-over and abandoned timberland, and other rural land.

Table XIV presents a summary of changes among these uses from 1955 to 1960. Table XIV differs in two main respects from the other tables in this thesis; (1) absolute figures were used rather than percentages and (2) all land owned by respondents was included rather than rural land only.

A cursory analysis of the data in this table will show that there has been a shift of land from crop land and woodland to urban uses and idle land. Upon closer examination of the data, it was found that all sections of the state have experienced the same trend. The trend then was a shift of land from crop land and woodland to urbanized and idle land.

The largest absolute change in land use between 1955 and 1960 was the net increase of approximately 100,000 acres from other uses to idle

TABLE XIV
 CHANGES IN LAND USE (ACRES), TENNESSEE AND
 THREE SEPARATE DIVISIONS, 1955-1960

Land use	1955 utilization	1960 utilization	Net increase or decrease	Per cent change
<u>West</u>				
Crop land	1,926,688	1,911,664	-15,024	-1.0
Woodland	838,347	817,439	-20,908	-2.5
Urbanized land	13,922	24,624	10,702	76.9
Idle land	357,995	383,225	25,230	7.0
<u>Middle</u>				
Crop land	3,773,130	3,762,584	-10,546	-0.3
Woodland	3,672,498	3,647,306	-25,192	-0.7
Urbanized land	27,965	36,282	8,317	29.7
Idle land	831,430	858,851	27,421	3.3
<u>East</u>				
Crop land	2,229,272	2,171,661	-57,611	-2.6
Woodland	2,491,336	2,487,960	-3,376	-0.1
Urbanized land	36,169	50,283	14,114	39.0
Idle land	161,874	208,747	46,873	28.9
<u>State</u>				
Crop land	7,929,090	7,845,909	-83,181	-1.1
Woodland	7,002,181	6,952,705	-49,476	-0.7
Urbanized land	78,056	111,189	33,133	42.0
Idle land	1,351,299	1,450,823	99,524	7.4

TABLE XV.

CHANGES IN LAND USE BY KIND OF CHANGE, TENNESSEE AND
THREE SEPARATE DIVISIONS, 1955-1960¹

Changes in land use 1955-1960	West	Middle	East	State
Crop land to woodland	1,835	7,222	31,312	40,369
Crop land to urbanized land	9,345	6,451	6,573	22,369
Crop land to idle land	33,811	58,665	90,470	182,946
Woodland to crop land	25,233	38,684	33,716	97,633
Woodland to urbanized land	---	---	703	703
Woodland to idle land	---	---	2,985	2,985
Idle land to crop land	4,734	23,108	37,028	64,870
Idle land to woodland	2,490	6,270	2,716	11,476
Idle land to urbanized land	1,357	1,866	6,838	10,061

¹No land was reported transferred from urban to other uses.

land. In percentage terms the change was relatively small, only 7.4 per cent. On the other hand, land used for urbanized purposes showed a net increase of only about 33,000 acres but this was the greatest percentage change, increasing by 42 per cent. The increase in these two categories came as a result of a net decrease in both crop land and woodland. Crop land showed a net decrease of approximately 83,000 acres or slightly over one per cent. Woodland decreased approximately 49,000 acres which was less than one per cent. Throughout the state the same trend was observed; crop land and woodland showed a net decrease and urbanized and idle land a net increase with the largest proportion of the net increase going into idle land.

The percentage changes are shown in the last column of Table XIV. In West Tennessee urbanized land increased by 76.9 per cent. One reason for this large percentage increase was the small amount of land in urban uses in West Tennessee in 1955. However the absolute increase of 10,702 acres in urbanized land was an indication that urbanization had expanded in West Tennessee since 1955.

In East Tennessee idle land increased by 28.9 per cent which was a large increase compared to the other sections. The 2.6 per cent decrease in crop land in this section was the highest in the state. Most of the increase in idle land came from previous crop land as shown in Table XV.

Changes in Land Use by Occupational Groups

Approximately 433,000 acres have changed uses since 1955. About 68,000 acres of this was merely a swap-out between uses, leaving approximately 365,000 acres that represented a real change. Just as the occupation

of the owners affects the use to which the land will be put, likewise the occupation of owners affects the willingness or unwillingness to make changes between different land uses.

It has already been pointed out that idle and urbanized land showed a net increase during the 1955-1960 time period. In the case of both of these, the increase came largely from crop land. Sixty-eight per cent of the increase in urban land came from crop land while 98 per cent of the increase in idle land came from crop land. Idle land accounted for 30 per cent of the increase in urban land and woodland accounted for 2 per cent of the increase. The remaining 2 per cent increase in idle land came from woodland. Thus, most of the increase in idle and urban land came from previous crop land, but idle land was also important as a contributing factor to increases in urban land. Therefore if land did not move directly from crop land to urban land, but moved into idle land first, there was still a possibility that later the land would go into urbanized uses.

Active farmer groups were important in the transfer of crop land to idle land.¹ One reason for this may be that a transfer in this direction would allow for another transfer later. Land held as idle land can be easily shifted back into crop land or into urban uses if an unexpected opportunity arises to do so. Full-time farmers were the least likely to make a transfer from crop land into idle land. The reason for this was that full-time farmers attempted to utilize their land resources to a

¹Active farmers are those currently engaged in farming activities; full-time, part-time, and retired from other occupations, but now farming.

greater extent than part-time farmers. Part-time farmers were more important in transferring land from crop land to idle land. None of the active farmer groups reported a transfer directly from crop land to urbanized land.

Housewives, laborers and others and retired farmers contributed most to the transfer of land to urbanized uses. Most occupational groups other than full-time farmers, were not as interested in the cultivation of the land and were more likely to transfer land to other uses. Many of these non-farmer groups held land only as an investment and therefore wanted the land in the highest valued use.

Changes in land use since 1955 by occupational groups were presented above. Now a look at how some of these changes took place is in order. This will be done by first looking at some of these changes by owners who held land in 1950, and then a look at some of these changes by owners who have become owners since 1950.

Owners Who Held Land in 1950

Most all the occupational groups, composed of owners who owned land in 1950, increased their holdings during the 1950-1960 decade. Only two groups showed a net decrease in the amount of land owned during this period. These two groups were laborers and others, and retired others-now farmers. However, the reasons for the decrease were different in each case. The decrease of land owned in the laborers and others group was caused mostly by sale at market value. On the other hand, the retired other-now farmer group showed a net decrease in acreage owned as a result of disposal at less than market value. This seemed to indicate that laborers and others held land mostly for investment purposes, and were willing to sell

when a profit could be realized. Retired others-now farmers held land for different reasons, because they disposed of their land at less than market value. This latter group, apparently gave their land away, or at least part interest in it.

The other occupational groups, made up of owners who owned the land in 1950, showed a net increase in land holdings during this same time. However, the increase came in different ways. The full-time farmer group acquired most of their increase by purchase, while the others acquired the majority of their increase by gift or inheritance.

For the most part, the same trends were observed in each section of the state. However, one interesting deviation was noticed in East Tennessee. Full-time farmers in East Tennessee showed a net decrease in the amount of land owned during the 1950-1960 decade.² This was just the reverse of what was observed in West and Middle Tennessee. On the other hand part-time farmers in East Tennessee followed the same trend as in the other two sections of the state. That is, part-time farmers showed a net increase in the amount of land held. This fact gives further empirical content to the point made in Chapter II that part-time farming was more important in East Tennessee than in the other sections because of the greater degree of industrialization in that section.³

Owners Not Holding Land in 1950

The most noticeable change for owners not owning land in 1950 was

²Only considering those owners who owned land in 1950

³See page 27.

the tremendous increase in land owned by part-time farmers. Approximately one-third of the land held in 1960 by owners not owning land in 1950 was held by part-time farmers. Therefore part-time farming is favored by new owners of land. Also many owners who held land before 1950 shifted into part-time farming. This was especially true in East Tennessee where land owned by full-time farmers showed a net decrease while the reverse was true for part-time farmers.

Changes in land use by occupation were presented above. After such changes have taken place, it was interesting to note the 1960 use of land by the different occupational groups. Four classifications of use are shown in Table XVI. These uses were: (1) farm land or commercial forest rented out, (2) land used for urbanized purposes, (3) unused and idle land and (4) farm land or commercial forest operated by owner. Table XVI shows the amount of land devoted to each of these uses by the different occupational groups. Each section of the state followed closely the pattern for the state as a whole, and only information for the whole state was included in Table XVI.

Table XVI shows that most of the occupational groups operated a majority of the land that they owned. However, as would be expected the two retired groups and the unable to work group rented out most of their land. The three groups that consisted of active farmers (full-time, part-time, and retired others - now farmer) could have been expected to operate most of the land they owned. This they did. One would expect, however, that the housewives, business or professional and laborers and others would follow a different pattern. Contrary to this, these three groups reported operating a majority of the land they owned, but the percentage

TABLE XVI

OWNERS AND ACRES OF LAND OWNED BY HOLDERS OF RURAL LAND IN TENNESSEE;
DISTRIBUTION BY LAND USE AND OCCUPATION OF OWNER, 1 1960

Occupation	Farm land and commercial forest rented out		Land used for urbanized purposes		Unused and idle land		Farm land or commercial forest operated by owner		Total
	Owners	Acres	Owners	Acres	Owners	Acres	Owners	Acres	
Full-time	15,493	243,864	1,852	2,297	17,522	243,045	75,017	6,019,546	6,508,752
Housewife	13,704	772,386	14,003	24,984	8,325	370,084	18,142	950,756	2,118,174
Business or professional	5,102	128,402	1,191	1,820	2,317	194,035	4,489	319,722	644,029
Laborers and others	8,059	149,745	27,370	37,245	14,449	247,982	18,109	564,643	1,049,624
Retired farmer	6,729	612,249	6,507	13,118	4,332	142,303	3,093	136,084	903,754
Retired other	5,020	320,482	4,378	7,978	1,982	12,199	1,941	41,237	381,896
Retired other, now farmer	1,222	9,726	---	---	589	4,644	7,931	623,922	638,292
Unable to work	1,642	14,778	1,642	1,642	821	9,031	---	---	25,451
Part-time farmer	9,855	141,559	3,001	4,894	9,339	127,912	61,918	3,647,475	392,184
Not reported	2,443	104,741	---	---	925	46,250	813	5,610	156,601
Total	XI- 2,497,932		XX 93,951		XX 1,447,485		XX 12,309,045		16,348,413

¹Owners will not add up to the correct number because an owner may appear in more than one column.

they operated was not as high as the percentage operated by the farmer groups.

Housewives operated and rented out about an equal amount of this land. Business or professional and laborers and others held a large percentage of unused and idle land. These two groups included many owners who held land only as a place of residence and land held for that purpose was classified as unused. All occupational groups, except the unable to work and retired others, operated most of their land. However the extent to which this was true varied among the different groups.

Active farmers were responsible for most of the increase in idle land, while the non-farmer groups contributed the most to the increase in land used for urbanized purposes. In both cases the most of the land that shifted to these uses was previously classified as crop land. A major factor in these changes in land use during the 1950-1960 decade has been an increase in the importance of part-time farming. A large percentage of new owners of rural land fall into this group, and many owners who owned land before 1950 were making changes in this direction.

Transfer Plans

The discussion in the previous sections had to do with changes in land use that had already taken place. Of equal importance are plans that owners have for transferring land that they now own. All owners were classified into one of nine groups depending on the plans that they had for transferring their land. These nine groups were: (1) plan to sell on open market, (2) plan to sell to relatives, (3) transfer by trust, (4) transfer by gift, (5) no plan, (6) sell part on open market and part

to relatives, (7) sell part on open market and no plan for the rest, (8) sell part to relatives and no plan for rest, (9) transfer part as gift and no plan for rest. Owners were further sub-classified into age groups and kind of land owned.

Approximately 93 per cent of the owners, which accounted for 91 per cent of the acreage reported having no plan to transfer their land. About 5 per cent of the owners representing 6 per cent of the land reported plans to sell on the open market. The remaining 2 per cent of the owners and 3 per cent of the land were scattered among the other seven transfer plans.

The owners reporting "no plan" for transfer were scattered fairly evenly over all age groups, with the highest concentration in the 55-64 year age group. Twenty-two per cent of the owners and 28 per cent of the acreage owned were in this group. Owners reporting plans to sell on the open market represented only a small percentage of the total owners, but most of these owners were in the 35-44 age group. A majority of the owners who planned to sell their land on the open market were somewhat younger than the owners who had no plan to transfer their land.

The kind of land held by most of the owners who had no plans for transfer was farm land plus commercial forest. This was what one would expect. Most farm land and commercial forestry was held by farmers and active farmers plan to hold on to their land. The desire to continue to hold the land, however, does not prevent a transfer in the use of the land. This fact was substantiated in the previous section by reference to the large amount of land transferred to idle land from cultivated land

by active farmers.

Each of the three sections of the state followed the above mentioned characteristics closely. In East Tennessee, however, the owners reporting "no plan" for transfer of their land represented only 87 per cent of the owners as compared to the average of 93 for the state. The difference was made up in a larger percentage (10 per cent) who planned to sell on the open market and no plan for the rest. This suggested that land in East Tennessee was more likely to be transferred than land in other sections of the state.

CHAPTER V

CONCENTRATION OF LAND OWNERSHIP

The rural land in Tennessee was widely distributed among the estimated 247,000 owners in 1960. However, this land was not equally divided among these owners. There were a few very large ownership units, but most were very small units. In Chapter II it was pointed out that the averaging of all these units covers up many of the important characteristics of land ownership.¹ In this chapter some of these important characteristics will be discussed.

An analysis of concentration was made by arraying the sample ownership units in order from smallest to largest. This was done for all owners, then for individual owners only.² The owners were then divided into ten equal groups such that each group contained approximately 10 per cent of the sample. With this accomplished the percentage of acreage and value was tabulated for each group. The technique permitted the comparison of the characteristics of the small owners with those of the large owners. Table XVII shows the results of these tabulations.

The average size ownership unit in Tennessee was, as stated in Chapter II, approximately 76.5 acres. This average size unit was found within the seventh decile of owners as arrayed in Table XVII. In other words,

¹See page 16.

²Individual owners include only private owners. All owners include these individual owners plus corporate and government and municipal agencies.

TABLE XVII
 CONCENTRATION OF LAND OWNERSHIP FOR ALL OWNERS
 AND FOR INDIVIDUAL OWNERS ONLY ¹

Per cent owners	All Owners		Individual Owners	
	Per cent Acres	Per cent Value	Per cent Acres	Per cent Value
10	0.2	3.4	0.2	5.4
20	0.9	8.07	0.9	10.3
30	2.5	12.2	2.6	16.8
40	5.0	16.6	5.6	23.7
50	9.9	21.0	11.1	30.7
60	16.9	29.2	19.1	43.7
70	26.1	33.5	29.7	50.4
80	38.7	41.8	43.4	63.4
90	60.1	75.5	61.4	75.6
100	100.0	100.0	100.0	100.0

¹All owners include individual plus institutional owners.

70 per cent of the owners held an average of less than average size ownership unit, while about 30 per cent of the owners held larger than average size units. This suggested a very uneven distribution between owners and acreage owned. Table XVII shows this uneven distribution. Seventy per cent of the owners holding the smallest size units owned 26.1 per cent of the acreage. The remaining 73.9 per cent of the acreage was owned by the 30 per cent of the owners that held the largest ownership units.

One would expect an uneven distribution of owners and acreage when "all owners" were considered because of the very large holdings of a few institutional type owners. When these institutional owners were excluded and only individual owners considered, the distribution was somewhat less uneven, but concentration of ownership was still evident. For example, 70 per cent of the owners owned 29.7 per cent of the acreage when only individual owners were considered. The fact that institutional owners accounted for such a small percentage of the rural acreage, meant that there should not be much difference in the concentration of ownership between "all owners" and individual owners.³

Size alone is not a good measure of concentration. Quality of soil, nearness to market, expected future value, and many other factors are important in determining the value of a parcel of land. Therefore the value of the land should be considered in a measure of the concentration of ownership. The columns headed "per cent value" in Table XVII show the percentage of the total value of rural land held by the corresponding

³Institutional owners accounted for only 7 per cent of the rural land in Tennessee. See page 16.

percentage of owners as shown in column one. It was found that the value was more evenly distributed than acreage. The seventh decile which showed 26.1 per cent of the acreage owned by "all owners" and 29.7 per cent by individuals, shows 33.5 per cent and 50.4 per cent of the value for these two groups respectively.

It was interesting to note that while the difference between the concentration of acreage for all owners and for individual owners was small, the difference between the value for these two groups was greater. The apparent reason was the larger percentage of value owned by the institutional owners than the owners they represented. It may be recalled from Chapter II that institutional owners accounted for 17 per cent of the value, but represented only 3 per cent of the owners.⁴

Explanation of Concentration Curves

In Figure 3 a cumulative percentage distribution of owners was plotted on the abscissa and a cumulative percentage distribution of acres or values was plotted on the ordinate. If perfect equality existed between the magnitudes being measured, then the concentration curve would be a line running diagonally across the graph. Such a line would have a slope of one, meaning that an increase or decrease in one magnitude would result in an equal increase or decrease in the other. Therefore deviations away from this line of perfect equality are a measure of concentration. The farther a particular concentration curve lies from the diagonal line, the higher the degree of concentration.

⁴See page 16.

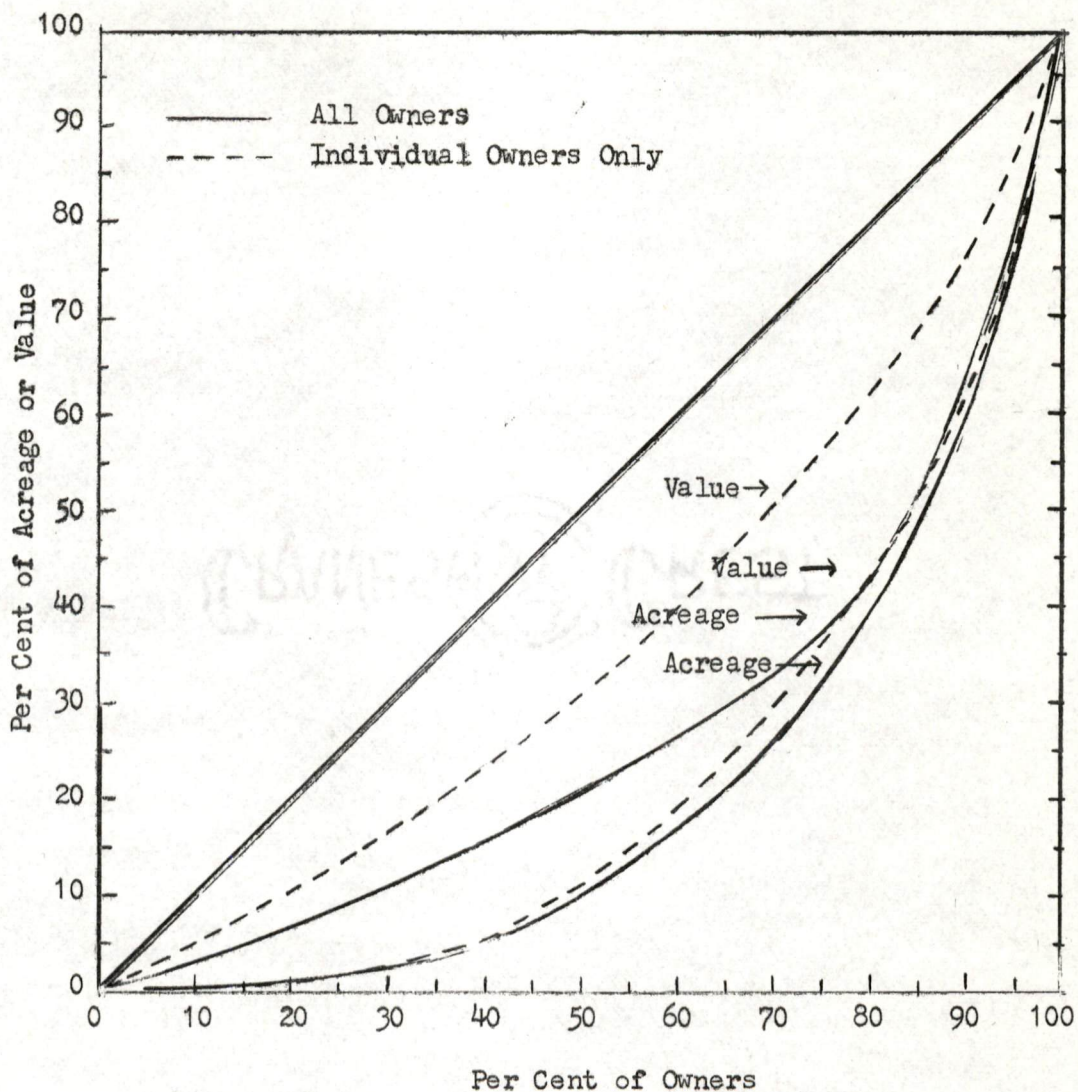


Figure 3. Concentration of acreage and value of rural land ownership in Tennessee, 1960.

Acreage was more concentrated than values as shown in Figure 3. That is, acreage was more unevenly distributed than value. Also the concentration of acreage between "all owners" and individual owners was very similar. However, the concentration of value between these two groups of owners was much farther apart.

Concentration by Section

Figure 4 shows the concentration of acreage and value for each of the three sections of the state. The concentration curves shown include all owners. However, if curves were drawn for individual owners they would be almost identical with the ones for "all owners" since institutional owners made up such a small percentage of the owners and acres owned in each section.

Figure 4 shows that acreage was more concentrated in West than in Middle Tennessee, and more concentrated in Middle than in East Tennessee. Movement across the state from West to East shows that land ownership becomes less concentrated. However, the differences were not great. The concentration of value was found to be practically the same for each section as shown by the dotted line in Figure 4.

The average size ownership unit was 81, 85, and 65 acres, for West, Middle, and East Tennessee respectively. When the owners and acres owned were arranged in order by size of holding for each section it was found that the average sized unit fell in the eighth, seventh, and sixth decile respectively. In other words, in West Tennessee 80 per cent of the owners owned less than the average size, while 20 per cent owned larger than the average size. For Middle Tennessee 70 per cent owned less than the average

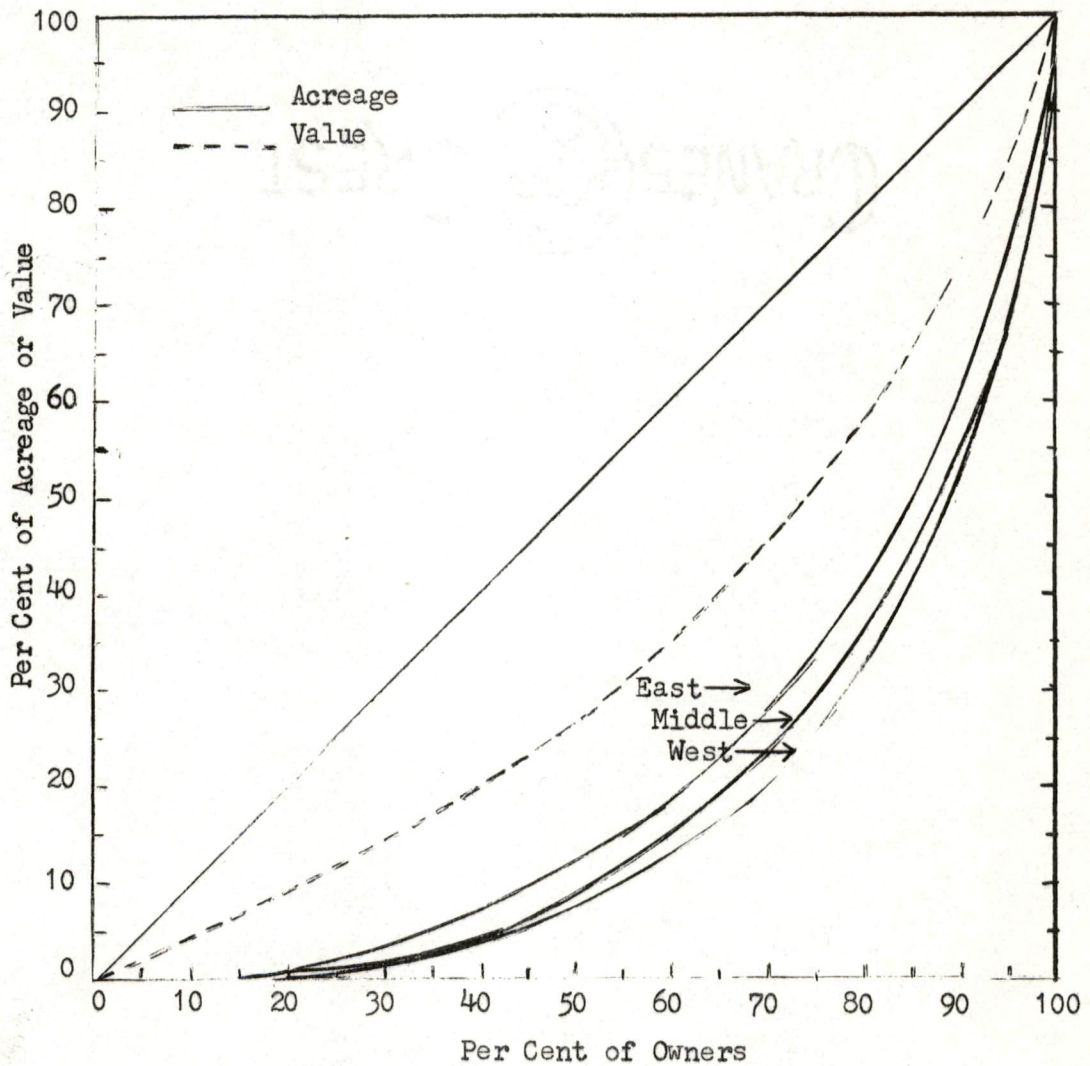


Figure 4. Concentration of acreage and value of rural land ownerships for West, Middle and East Tennessee, 1960.

size, and in East Tennessee 60 per cent owned less than the average. This again suggested that concentration of ownership was greater in West Tennessee, and became less concentrated in Middle and East Tennessee.

Value was less concentrated than acreage, and was practically the same for each section. One reason for this may be the larger investment in homes on the small units of part-time farmers, laborers, and retired people who hold land for residential purposes. Also value is more subjective than acreage, and this probably accounted for part of the more even distribution of value.

Concentration by Kind of Land

In Figure 5 the concentration of acreage and value was shown by the kind of land owned. Farm land and commercial forest were more concentrated than other land. Apparently the reason for this was that other rural land was made up of much land held only as a place of residence. This being the case, the average size ownership unit for other land was smaller, and less concentrated while the average size unit for farm land and commercial forest was larger.

When value was used as a measure of concentration the results were as shown by the dotted lines in Figure 5. Commercial forest was the most highly concentrated in terms of value. It should be remembered from Chapter II that a large percentage of the value held by institutional owners was held by forestry corporations. This explained the high concentration in terms of value of commercial forest. It was interesting to note that the value of commercial forest was more concentrated than acreage. This reflected the well known fact that the small forest land owner did not

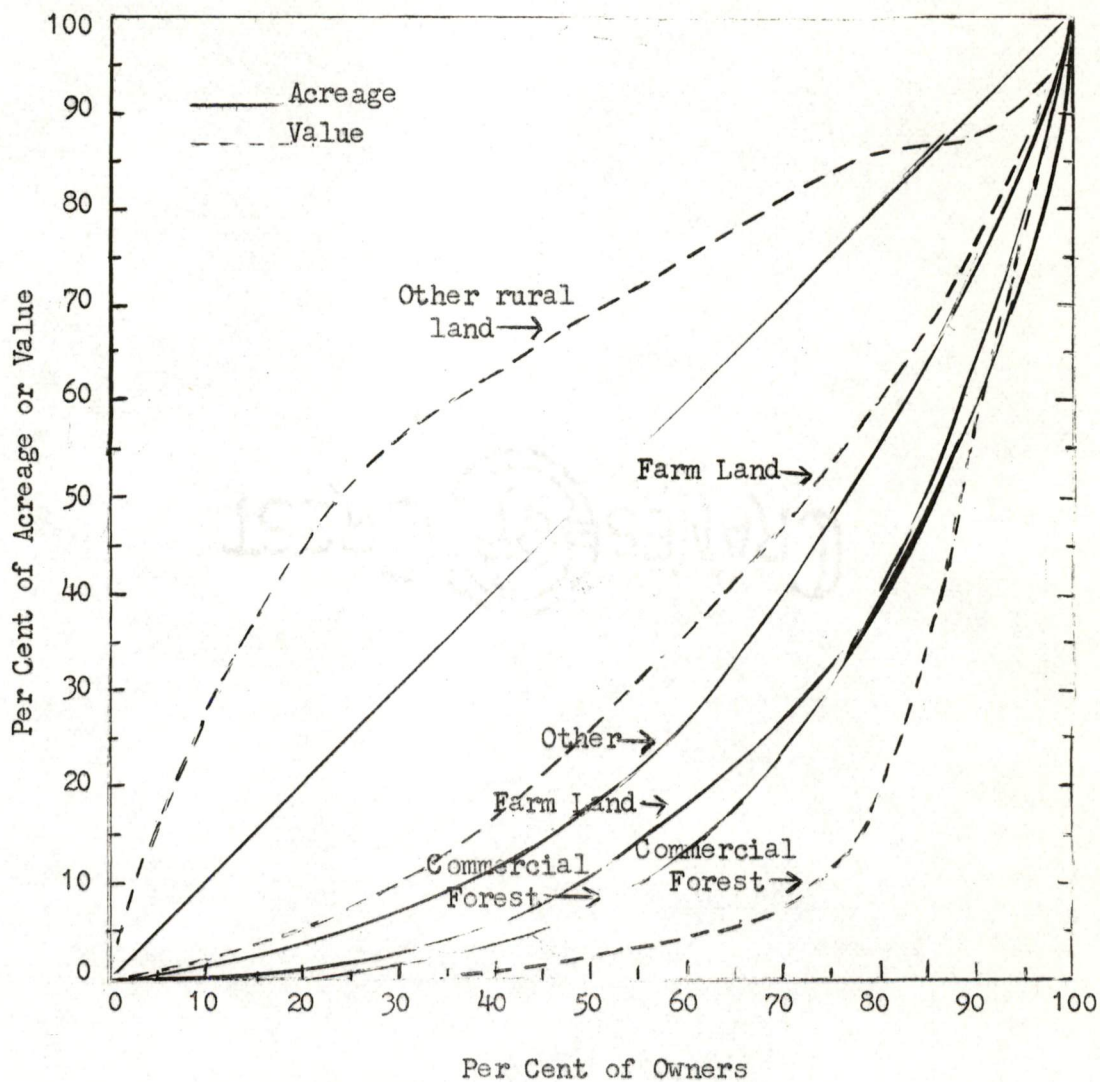


Figure 5. Concentration of acreage and value of rural land ownership for farm land, commercial forest, and other rural land in Tennessee, 1960.

do as good a job in forest management as the larger commercial forest owner, hence the value per acre for the small forests was lower than for the larger tracts.

The value of farm land was less concentrated than the acreage of farm land. Here the effect of investment in building rural residence by part-time farmers and others who carry on small farm operations was evident. The value of farm land depended largely on the type of farming for which the land was used as well as size.

Other rural land showed a very peculiar distribution concerning the concentration of value. All the other concentration curves were convex from below, but the curve under consideration was concave from below. A curve with these characteristics suggest an uneven distribution of value in the hands of the owners owning the smallest holdings. Other rural land was made up of many small rural residences and idle land. These small residences, which made up part of that held by the owners of "other rural land" in the first few deciles, were valued fairly high. Most "other rural land" held by the largest land owners was held as idle land and in general had a low per acre value.

CHAPTER VI

SUMMARY AND CONCLUSION

Many adjustments have taken place in agriculture during the last twenty years. These adjustments have been the result of technological and social changes. As these changes continue, adjustments must also continue if a balance within agriculture and between agriculture and non-agriculture is to be achieved. Since land is a very important factor in agricultural production, many of these changes involve adjustments in the land resources devoted to agricultural production. It follows then, that land ownership patterns play a very important part in agricultural adjustment. Who owns the land, how it is held, and plans to transfer the land are all important questions that need to be answered for an understanding of how changes take place. Patterns of land ownership that now exist exert a very important effect on the changing world of agriculture. This thesis attempted to examine such ownership patterns in Tennessee.

There were approximately two-hundred, fifty-three thousand owners of rural land in Tennessee which held an estimated eighteen million acres. Table XVIII in the Appendix shows estimates and sampling errors. Individual owners accounted for 97 per cent of the owners, 92 per cent of the acres and 83 per cent of the value. Institutional owners accounted for the remainder of the owners, acres and value. The fact that there was a larger percentage of individual owners than the percentage of acres or value that they represented indicated a concentration of acres and value

in favor of the institutional owners. Both acreage and value were found to be concentrated with the large institutional owners. However, acreage was more concentrated than value. The average size ownership unit was found to be 76.5 acres for the state, but because of the concentration 70 per cent of the owners held less than this amount.

Concentration of ownership was very similar in each section of the state, but became a little less concentrated in moving from West to East Tennessee. Distribution of owners among the three sections of the state showed that 44 per cent of the owners lived in Middle Tennessee, 39 per cent lived in East Tennessee and 17 percent lived in West Tennessee. Acres of rural land owned was distributed in this way; 51 per cent in Middle Tennessee, 30 per cent in East Tennessee and 19 per cent in West Tennessee. The average size ownership unit was found to be 85, 81 and 65 acres for Middle, West and East Tennessee, respectively.

An analysis of concentration of kind of land showed that commercial forest, farm land and other rural land were concentrated in that order. The high degree of concentration of commercial forest was the result of the larger size holdings by people who held commercial forest only. Value was less concentrated than acreage for farm land and other rural land but more concentrated than acreage for commercial forest. Concentration of value of other rural land was very peculiar in that the concentration was in the hands of the owners of smaller size ownership units. This reflected the high value associated with other rural land held for residential purposes.

The basic problem of agricultural land adjustment lies within the

bounds of individual ownership patterns. This is not to say that institutional owners are unimportant, but that the problem is more closely associated with individual owners. Institutional owners could be very important in absorbing some of the marginal land at a higher value than could otherwise be attained, hence reducing the concentration of value of individual owners. Since the problem seems to be more closely associated with individual owners, this study was concerned mainly with that type of owner.

Individual owners included husband and wife ownership units, single men, single women, partnership or estates and individual plus partnership or estate. By far the most important of these was the husband and wife group. They accounted for 70 per cent of the owners, 69 per cent of the acreage and 47 per cent of the value. The average size ownership unit for husband and wife was 75 acres which was very close to the average for the state. The other individual ownership patterns were also important, but to a lesser degree than husband and wife.

Husband and wife represented the largest group of owners and acreage owned in all tenure groups. However, the husband and wife type ownership unit was usually associated with those owners who operated their land. Approximately 70 per cent of the acreage owned was held by the operator tenure groups. This again pointed to the importance of the husband and wife owner. The importance of this type owner decreased in the nonoperator groups. This suggested that upon the death of one spouse there was a tendency for the owner to quit operating the land and rent it out or leave it idle.

The modal age of owners was 55 to 64 years of age. In general,

the average size ownership unit increased as the age of the owners increased. Also, the full-owner-operator tenure group showed an older modal age than did the part-owner groups. This reflected the long-run nature of land ownership.

Approximately 95 per cent of the owners of rural land were found to live in Tennessee. Two per cent lived in another state in the Southeast and three per cent lived outside the Southeastern region. A further breakdown of the location of the owners residence showed that 85 per cent lived in rural areas and 17 per cent lived in urban areas. Many of these rural residents, however, held land only as a place to live. Most of the operator tenure groups lived in rural areas while the nonoperators were almost equally divided between rural and urban areas.

Land was classified into three groups; (1) farm land, (2) commercial forest and (3) other rural land. Husband and wife was the dominant type of owner in all three of these land classifications. Approximately 75 per cent of the owners of farm land were husband and wife, while only 50 per cent of the owners of commercial forest and other rural land were husband and wife. Single women and forestry corporations represented a much larger percentage of land held as commercial forest only. Laborers and others and business or professional people and government and municipal agencies were important holders of other rural land.

Kind of land was associated with different tenure groups as would be expected. The operator tenure groups were found to hold a larger percentage of their land as farm land or some combination of farm land and the other kinds of land. Nonoperators were more likely to hold com-

mercial forest or other rural land. Farm land only and farm land plus commercial forest accounted for a majority of the land owned.

A classification of kind of land held by location of owners residence revealed that owners of farm land only were usually rural residents and owners of commercial forest land only were usually urban residents. Owners of other rural land were mostly rural residents which included rural land held only as a place of residence.

Ownership of land may be acquired in many different ways. Purchase, assumption of liability or inheritance are some of the ways land is acquired. Over four-fifths of the owners acquired their land by purchase and accounted for almost three-fourths of the acreage owned. In general, owners who acquired their land by purchase held a smaller than average size ownership unit while those who acquired their land by gift or inheritance held a larger than average size ownership unit.

The method of acquisition, value and amount of equity held in land were found to be closely related. Farm land was acquired mostly by purchase and had a higher debt ratio than did commercial forest which was acquired largely by gift or inheritance. Other rural land was acquired largely by methods other than purchase, but showed a higher debt ratio. The reason for this was the high value associated with other rural land held largely for residential purposes.

Occupation of owners determines to a great extent why the land is held, how it is used and willingness to change to other uses. Land used for urbanized purposes and held idle showed a net increase between the years 1955-1960. This increase came at the expense of a net decrease in crop land and woodland. Most of the increase in urban and idle land came

from land previously classified as crop land. Full-time farmers contributed most to the transfer of land from crop land to idle. Housewives, laborers and others and retired farmers contributed most to the transfer of land to urbanized uses. During the decade of the 50's the importance of part-time farming increased for both new owners and owners holding land before 1950.

Approximately 93 per cent of the owners representing 91 per cent of the acreage reported no plan for the transfer of their land.

I. CONCLUSION

It was stated earlier that one of the major problems of agriculture in Tennessee in light of the low farm incomes was the small size of farm units. Such small units cannot achieve the level of efficiency necessary to provide more than a subsistence level of living for the owners. Increasing the size of farm units may be accomplished by purchase of more land, by gaining control of land through renting or by gift or inheritance of the land. In each case a transfer is closely associated with land ownership patterns.

Purchase of land was the most important method of land acquisition in Tennessee. Approximately 85 per cent of the rural land was acquired by purchase. This method of acquisition was particularly important to the husband and wife type owners who were very closely associated with land operated by owners. Any program aimed at increasing the size of farm units must be directed largely to this group. Husband and wife held a majority of their land as farm land which was acquired largely by purchase.

Gift or inheritance was more important to non-farmers, and was usually associated with land other than farm land. This method of acquiring land is not likely to contribute much to an increase in farm sizes.

The average size ownership unit increased as the age of the owners increased. Also older owners were usually associated with full-ownership, which means a larger size ownership unit. Therefore, steps which would ease the problem of capital accumulation should help solve the problem of small farms.

Full-ownership of land, however, is a long-run objective and gaining control of land by renting seems to be more important in the short-run as a means of increasing farm sizes. Policies designed to make capital accumulation easier and to enhance the efficacy of the tenure system used together should contribute to the objective of increasing farm sizes.

In light of what has been said previously concerning the importance of acquiring farm land by purchase and the fact that only about one-third of the value of farm land is mortgaged, it seems that willingness to go into debt does not present much of a problem. This willingness to go into debt must be accompanied by a program of credit financing that will encourage borrowing by farm operators, if an increase in farm size is to be accomplished.

Increases in farm size would make for a greater concentration of land ownership. The farm operators who are not able to finance an increased size operation or who cannot otherwise gain control of more land may be at a disadvantage in the short-run. However, from the stand-

point of society, the advantages gained by increasing the size of farm operations would outweigh the disadvantages associated with a greater concentration of land ownership. In the long-run as opportunities for employment of farm workers and farm resources expand, making value less concentrated, the problem created by more concentration of acreage will be relieved to some extent.

A policy designed to make credit easier to farm operators, increasing the efficacy of the tenure system and expanding opportunities for off-farm employment should be followed in Tennessee in an effort to increase the size of farm units. Such a policy would probably result in conflicting objectives, but in light of the data reviewed here it seems that this policy would contribute most to a solution of the problem.

There has been considerable concern over the loss of land to urban uses in the United States during the last decade. It was found that land used for urbanized purposes in Tennessee increased by 42 per cent during the years 1955-1960. This was a tremendous percentage increase in urban land in only five years mainly because there was not much land in urban uses in 1955. This increase came from crop land and woodland, but represented only a very small percentage of both. As long as the urban land increase is as small in acreage terms as the rate for this five year period there is no need for alarm. In fact there must be a transfer of land into urban uses if non-farm employment is to expand as is necessary as farm sizes increase and fewer people are needed on the farms.

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APPENDIX



TABLE XVIII
ESTIMATES AND SAMPLING ERRORS

	Estimate	Standard Error of Estimate	Coefficient of Variation of Estimate (Per Cent)
Farm Land			
Owners	194,985	25,192	12.92
Acres	9,846,606	1,690,662	17.17
Commercial Forest			
Owners	134,303	29,238	21.77
Acres	6,006,774	1,773,800	29.53
Other Rural Land			
Owners	102,968	24,764	24.05
Acres	2,303,896	1,162,085	50.44
Total Rural Land			
Owners	253,191	34,459	13.61
Acres	18,157,276	2,540,203	13.99

TABLE XIX
CORRECTION FACTORS TO BE APPLIED TO
ORIGINAL EXPANSION FACTORS¹

	West	Middle	East
Correction	.9655	1.1034	.9189

¹The correction factor was computed by the formula, $(n_1 N_2) / (n_2 N_1)$ where n_1 is the number of sampled counties in the original stratum which included N_1 counties all together and n_2 is the number of sampled counties in the new stratum which includes N_2 counties all together.