

AN EXPLORATION IN THE USE OF THE
RETARDATION HYPOTHESIS AS AN EXPLANATION
OF A LOW-INCOME AREA IN
NORTHERN MICHIGAN

Thesis for the Degree of Ph. D.
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Milton Homer Steinmueller
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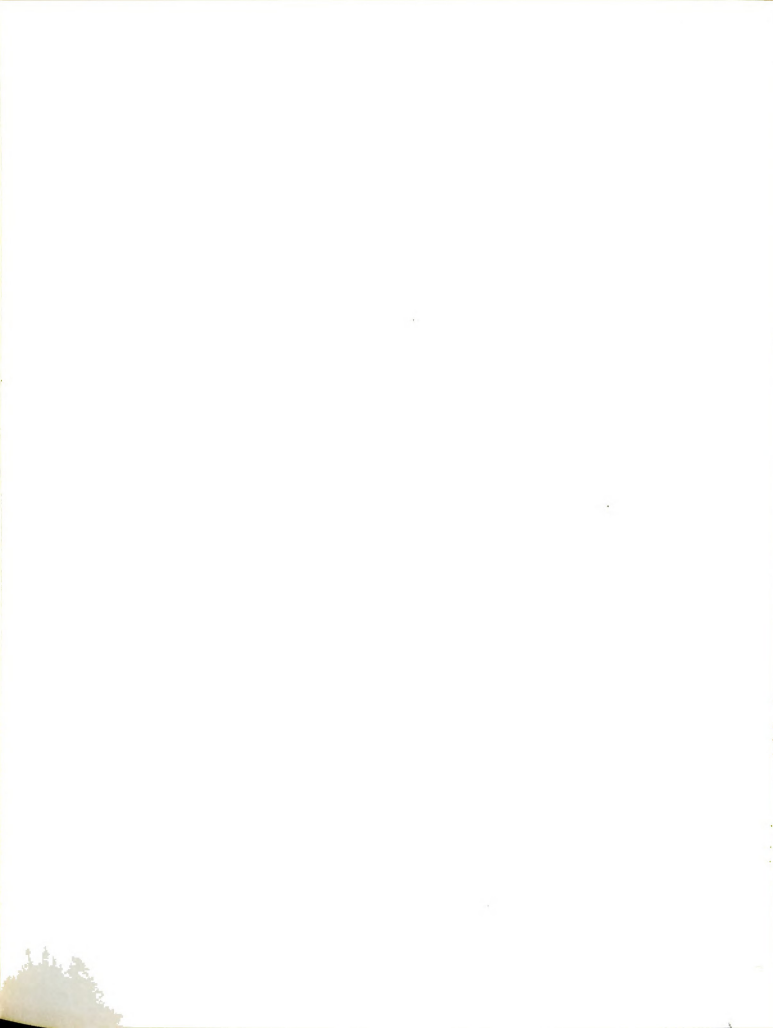
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A THESIS

Submitted to the School for Advanced Graduate Studies
of Michigan State University of Agriculture and
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AN ABSTRACT

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ABSTRACT

Economic development and the income position of people in the "cutover" has long been of concern to the people of Michigan. As late as 1950, all of that area north of the "Bay City-Muskegon line" was designated as a low-income agricultural area. The basic objective of this study was to obtain more definitive information about the nature and causes of low-income conditions in the area. The second objective was to evaluate proposals that have been suggested as solutions to low-income conditions.

The retardation hypothesis is an explanation of the existence of low-income areas. It is essentially a denial of the efficient operation of the resource allocation mechanism in the perfect competition model of economic theory. Extensions of the retardation hypothesis were used as an analytical framework for this study.

This study proceeded on two levels of generality. First selected aspects of development and migration for the area as a whole were examined. Previous research and census data provided the information for this examination. Second, information obtained from 339 open-country households randomly selected in a six-county sub-area of the cutover was analyzed. In order to structure this information for its best use in the analytical framework, each household was viewed as a unit of inquiry moving through time and space. Viewing households in this manner enables the development of insight with respect to some of the elements that resulted in a situation at a given point in time.

This procedure, for certain research inquiries, is superior to a cross-sectional approach.

The retardation hypothesis suggested that the Northern Lower Peninsula cutover area of Michigan would exhibit evidence indicating relatively static conditions over time. The evidence developed in this study indicated that several aspects of the economy have not been static. Number of farms, the size distribution of farms, population numbers, location of population, and migration to and from the area have shown important, but varying, degrees of change.

Extensions of the retardation hypothesis suggested it would be appropriate to assume that a large proportion of low-income cases would be found in each age stratum of the population in the study area. The results of this study indicated that more than eighty percent of the households with heads 20-34 years of age obtained gross household incomes of \$1,000 or more; seventy-seven percent of the households with heads 35-54 years of age obtained gross household incomes of \$4,000 or more; and thirty-eight percent of the households with heads fifty-five years of age and over obtained gross household incomes of \$4,000 or more in 1956. In total, 38.9 percent of the households in the sample obtained less than \$4,000 gross household income in 1956--69.7 percent of the low-income households had heads who were fifty-five years of age or older and 77.3 percent had heads fifty years of age or older.

The results of this study indicated that a large proportion of the household heads 20-54 years of age are not disadvantaged in terms of being able to develop income generating activities or in terms of

migrating. Agriculture, as the only source of income, was noted in twelve percent of the cases. Many of the native-born household heads contacted had been out of the area to live and work but have returned. More than one-half of the native-born heads interviewed have inherited all or part of their resources or are currently working in some form of family arrangement. Transitional elements and disability explain an important number of the low-income cases in this age group.

Adjustments towards retirement or adjustments because of failing health are characteristics of the activities in many of the households with heads fifty-five years of age or older. About one-third of the household heads in this age group either migrated to the area or returned to the area after being in the labor force for twenty years and most of these persons had been in the labor force for thirty years or more.

In view of the concentration of the low-income cases in the older age groups, most of the universally advocated public policy programs for solving low-income situations would be of limited applicability in the study area. Relatively few of the low-income cases would be in a position to benefit directly from a policy to facilitate migration from the area, to encourage industrialization of the area, or to expand agriculturally oriented programs. Additional research and experimentation are needed with respect to the actual need to increase income levels and the efficacy of programs to achieve this goal.

The results of this study indicated that the retardation hypothesis may not be an adequate explanation of low-income situations in this

study area and thus may not be an appropriate explanation of why the study area is a low-income area. On the other hand, the results of the study suggest the market process of allocating labor to remunerative employments (or people to low-cost sites) may be operating quite effectively.

The outcome of this study indicated that the retardation hypothesis was a useful research framework for guiding the analysis. Further, viewing each household as an individual experiment enabled new dimensions of the income situation in the study area to come into focus. The results suggest that additional refinements of the techniques used will permit important contributions to be made in future analyses of low-income situations and low-income areas.

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CHAPTER I

INTRODUCTION

Need for the Study

Scientific inquiry always starts from things of the environment experienced in our everyday life. Where there is doubt or conflict in respect to that experience, there is a starting point for a line of scientific inquiry. The function of science is to determine ways of acting that will bring activities to a stated consequence. Science is a continuing process of problem solving in order to give man better control over his experience.¹

The generation of individual incomes, broadly, and the incidence of groups in agriculture with low-incomes, particularly, are areas of research that exemplify the above quotation. The receipt of incomes by individuals is a necessary (but not always a sufficient) condition for the successful operation of our type of economy and the well-being of people. However, there is considerable doubt and confusion regarding the "problem" or "problems" of income generation and distribution among individuals and among geographic areas.

Evidence from recent statements of research people contained in the next paragraphs exhibits the general nature of several arguments about the causes of low-income situations and low-income areas. But before turning to these statements it may be helpful to excerpt

¹Leonard A. Salter, Jr., A Critical Review of Research in Land Economics, (Minneapolis: The University of Minnesota Press, 1948), p. 56.

several comments from an article by Hendrix which tend to place the attitudes about low incomes in an historical perspective. Hendrix said:

. . . Only recently have low incomes in agriculture been widely regarded as public action problems. Before the 1930's, they were commonly dismissed as problems for public action on one or more of the following grounds: (1) that such conditions were inherent in the low-income areas--as a result of poor land or other unfavorable natural features; (2) that they were a result of the inherently inferior abilities and characters of low-income people; (3) that they were a result of the values, or preferences of low-income people; (4) that low incomes were welfare problems of individual responsibility or, at most, problems for local charitable agencies; or (5) that they were transitory aspects of progress that would work themselves out in time. These attitudes towards low-income in agriculture were partly dispelled in the 1930's. In that decade, severe economic depression engulfed the Nation and unemployment and economic distress spread to all parts of the economy, including agriculture. With so many needy people seeking public assistance in the several forms extended during the 1930's, the problem of chronic low incomes in agriculture could no longer be ignored. Large scale rural relief programs that involved both direct relief and work projects, farm rehabilitation for families with agricultural backgrounds, large federal purchases of sub-marginal land, rural resettlement, supervised farm credit, tenant-purchase loans, cooperative farms--these are some of the better known social innovations that Federal and State agencies devised in the 1930's for what was a fairly large-scale attack on the problems of rural poverty. . . .

With our involvement in World War II, the general economic scene changed rapidly from the depression conditions of the 1930's to one of full employment, large labor shortages, and high labor earnings, throughout most of the economy, including much of agriculture. With full employment in the rest of the national economy, we assumed that the problem of rural underemployment in the low-income farming areas would work itself out through normal social and economic processes. The public programs that were designed to help increase the productivity and incomes of low-income farmers were sharply curtailed.

Today, after several years of high-level employment and prosperity throughout most of the economy, this "social experiment" is enlightening. The problem still exists on a scale that makes it seem a larger economic paradox and more deep-seated than ever before. Also, the recent progress by the economy makes the low

farm incomes stand out in sharper relief than has been true heretofore. . . .¹

In the same article, Hendrix made two major points regarding people with low incomes. Both of these points refer primarily to people rather than non-human resources. Hendrix makes the statement that:

. . . Because of their limited capital wealth and limited backgrounds of training and experience, these people are poorly prepared to make the adjustments that are needed to bring them into full production and employment. This fact is often overlooked, and the low-income farm problem is dismissed as an outgrowth of the values of low-income farm people. The truth is, however, that the adjustments many of the low-income farm people need to make are the kinds of adjustments that for many other people in the rest of the Nation's economy were made by earlier generations at a time when the resources needed to bridge the income gaps that existed were relatively small. . . .

. . . Because many low-income farm people are advanced in age or have physical or mental conditions that limit their production and employment potentialities, it is obvious that much of the low-income farm problem cannot be alleviated except by welfare measures, such as old-age pensions, and aid to dependent children. Here, however, the need for direct relief may often be lessened or the level of living of these people appreciably improved by the provision of supervisory and financial assistance to enable them to do better farming. . . .²

The consequences of a high "man-land" ratio is the basic cause of low-income farming according to Martin. This point is contained in the following statement:

. . . The problem of low income in agriculture has not been a subject of research very long. A lot of questions pertaining to this complex problem and its solution remain to be answered. However, there is agreement among those who have studied the problem as to the basic causes of low-income in agriculture. The most obvious fact is that in the low income areas too many people are wholly dependent upon farming. This results in the land's being divided

¹W. Elbert Hendrix, "The Problem of Low Farm Incomes," NUFA Manual, Volume I, 1956, pp. 212-213.

²Ibid., pp. 214-215.

into many small inefficient farms. On a small acreage the gross output of products per family and per worker on many farms is small; hence the income per family is low. . . .¹

The age structure of the population in low income areas was emphasized by Ducoff. With his remarks grounded in census data, Ducoff indicated:

. . . The most distinctive characteristics of the farm population in these areas is the high proportion of children and youths and the low proportion of adults in the productive ages. . . .²

The value structures held by low-income people were emphasized by Kaufman and Back. In recent, but independent, articles they said:

. . . Evidence exists to support the position that for a number of families in low-income areas the attachment of local community and agriculture as a way of life is much stronger than the pull of higher paying jobs elsewhere. . . .³

. . . Obviously the area I have described is not typical of all low-income areas--it probably is an extreme case. The problems of limited knowledge, attitudes and values are interrelated in this area, but perhaps the attitude and value problem would be predominant in any locally oriented development program with an emphasis on agriculture. This value and attitude problem is not due primarily to a leisure motive. I believe the major source of the lack of strong incentives to increase income arise from their accustomed standards in consumption. That is, values of the people are poverty oriented, and their levels of living never have varied enough to greatly influence this orientation. . . .⁴

¹Joe A. Martin, Problems of Low Income in Agriculture, University of Tennessee Agricultural Experiment Station Farm Economics Bulletin No. 9, (Knoxville: January, 1956), p. 11.

²Louis J. Ducoff, "Trends and Characteristics of Farm Population in Low-Income Farming Areas," Journal of Farm Economics, XXXVII. No. 5, (December, 1955), p. 1407.

³Harold F. Kaufman, Rural Families with Low Incomes: Problems of Adjustment, Mississippi State Agricultural Experiment Station, Sociology and Rural Life Series No. 9, (State College: February, 1957), p. 6.

⁴W. B. Back, "Discussion: Approaches to the Rural Development Program," Journal of Farm Economics, XXXIX, No. 2, (May, 1957), pp. 279-280.

The social process in general and the educational process in particular are emphasized by Fox. Selected comments from a recent article illustrating these points are as follows:

. . . At the outset, I should like to view low-income problems very broadly as the resultant of a social process. Individuals are, I believe, born with different innate capacities, some of which may be associated with the ability to earn income in our kind of society. More important and less speculative are the differences in personality and motivation that are impressed upon young children in the home. Some of these differences are associated with the economic and educational levels of the parents and the neighborhood. The public schools act as an equalizing influence in trying to impart a common body of knowledge that contributes, among other things, to economic productivity. . . .

. . . Racial discrimination has been a major factor in the maintenance of geographical concentrations of low income. . . .

. . . Looking to the future, then, two of the prerequisites for breaking up concentrations of low income are improved education and the reduction of discrimination. Equality of educational facilities and instruction should be attainable in most areas within a reasonably short time. However, the effects of different home and neighborhood standards cannot be erased quickly. Past discrimination and low educational achievement on the part of parents will be visited noticeably upon the children for at least another generation. . . .¹

The following quotation from a paper by Hayes is placed here not as a summary but as an indication of the extent to which it is possible to expound on this subject if the writer decides to encompass the subject area rather than emphasize certain of its aspects. In a statement before a congressional committee Hayes said:

. . . In a number of rural areas in the United States a series of relationships exist which operate in a sort of chain or circular fashion to perpetuate themselves. This series may be expressed as follows: (1) Relatively large families, continually expanded through high birthrates; (2) concentrated in certain general areas; (3) living as owners, tenants, or sharecroppers; (4) on small farms

¹Karl A. Fox, "Low-Income Problems in a High Employment Economy," Journal of Farm Economics, XXXVII, No. 5, (December, 1955), pp. 1083-1086.

often with poor and eroded soils, and hilly ground; (5) with inadequate capital and limited, if any, credit on difficult terms; (6) with inadequate tools and equipment; (7) using inefficient methods and poor management; (8) underemployed much of the time and unemployed part-time; (9) produce very little income of any kind; (10) obtain the lowest levels of food, clothing, and housing; (11) maintain low levels of physical energy attested by frequent sickness and varied forms of chronic illness; (12) are uneducated, often functionally illiterate, and subject to control by folklore and superstition; (13) with very limited incentives, little hope, and often seem unresponsive to opportunities made available; (14) relatively immobile, clinging to habitat and way of life, with outmigration little, if any, more than natural increase; (15) sometimes, perhaps compensating, given to excessive and ecstatic behavior and sadistic episodes. . . .¹

Perhaps an appropriate quotation to bring the discussion into focus is one that Larson made in 1955. Among other points Larson indicated:

. . . Despite agreement for more than two decades on the existence of a low-income farm problem, the literature continues to show considerable variation in the definition of "low-income farmer" and the use of a variety of measures for identifying the individual low-income farmer and for delineating the concentration of such farmers in "problem areas". . . .²

The above quotations are submitted as evidence that suggests the existence of important differences in emphasis regarding the characteristics, causes, and therefore remedies of low-income situations and low-income areas. A part of this difference in emphasis stems from differences in the training and research orientation of the various writers and also possibly to their personal value structures. It should be noted here that the differences in emphasis are not conflicts but are

¹Wayland J. Hayes, "Rehabilitation of Depressed Rural Areas," in Hearings, Low-Income Families, U. S. Congress, Joint Economic Committee, Sub-Committee on Low-Income Families, 84th Congress, 1st Sess., 1955, p. 429.

²Olaf F. Larson, "Sociological Aspects of the Low-Income Farm Problem," Journal of Farm Economics, XXVII, No. 5, (December, 1955), p. 1418.

more in the form of attempts to differentiate among probable magnitudes. However, another part of the difference in emphasis stems from the fact that relatively little research has been published recently that was designed to focus on low-income situations in small geographic areas. The various census publications and USDA estimates have provided the bases for most of the recently published research. The wide range in emphasis on the nature of the problem and its remedies comes as no surprise when viewed in relation to the kinds of data used in most analyses.

The need for this study, in view of the discussion above, is grounded in the assumption that all low-income areas are not similar in causes and characteristics and therefore not similar in terms of appropriate policy prescriptions. The causes and characteristics of the low-income situation in Northern Michigan may preclude the application of policies developed elsewhere for solving low-income problems.

Objectives of the Study

All of the northern half of the Lower Peninsula and the Upper Peninsula of Michigan were designated as low-income areas in a recent United States Department of Agriculture publication.¹ The criteria for

¹U. S. Department of Agriculture, Development of Agriculture's Human Resources, a report on problems of low-income farmers prepared in the U. S. Department of Agriculture and transmitted to the President of the United States (Washington: U. S. Government Printing Office, April, 1955), p. 8.

Low-income areas were delineated on the basis of three criteria: (1) A residual farm income to operator and family labor in 1949 of less than \$1,000 provided the State economic area had a level of living index below the average for the region and had 25% or more of its commercial farms classified as "low-production." Residual farm income to operator

delineating low-income areas throughout the Nation were applied to data contained in, or developed from, the 1950 Census of Agriculture.

Although the delineating procedure classified as low-income a few areas that would not ordinarily be thought of as low-income areas, most of the generalized low-income areas have been of concern to people for many years. Further, most of the low-income areas were centered in the Southern States.

The first objective of this study is to provide information regarding the magnitude of the low-income and resource malallocation situations of a selected area in the northern half of the Lower Peninsula of Michigan. This objective will be achieved, in part, by determining the human and physical resource combinations presently used in generating various kinds and levels of income in the study area. The objective also will be achieved, in part, by a determination of changes and adjustments in human and physical resource allocation that are being, and have been, executed by residents in the selected area.

The second objective of this study is to evaluate some of the public policy programs that have been suggested to bring about a better allocation of human and physical resources in low-income areas in light of the findings achieved in the first objective. If the basic

and family labor represents the income (including value of home use) above operating expenses and a return to capital invested in land and machinery. (2) A level of living index in the lowest fifth of the Nation. Items in the index include (a) percentage of farms with electricity, (b) percentage of farms with telephones, (c) percentage of farms with automobiles, and (d) average value of products sold. (3) "Low-production" farms comprising 50% or more of the commercial farms. Low production farms are those with sales of \$250-\$2,499 with the operator not working off farm as much as 100 days and farm sales exceeding family income from other sources.

assumption of this study is valid, some policy proposals will be of importance for the area and others may not.

The third objective of this study is to evaluate the research techniques employed and to suggest alternative research methodologies that might be used to further clarify the income situation of specific cases and in the general area.

The fourth objective of this study is to provide basic data and information for more comprehensive investigations of the various inter-related effects of changes in several sections of the economies of Michigan and the Nation. Other phases of these comprehensive investigations are now underway in the Department of Agricultural Economics at Michigan State University and the United States Department of Agriculture in Washington, D. C.

Analytical Procedure

The comparison of primary and secondary information about a low-income area with extensions of a theoretical explanation of low-income areas is the basic analytical procedure of this study. The theoretical explanation is grounded in the perfect competition model. Theoretical explanations grounded in other disciplines such as sociology or psychology are not utilized in this study although, as suggested by some of the quotations earlier in this chapter, other disciplines may contribute to fuller understanding of the situation in a given area.

The primary data is a portion of the information obtained in a cross-sectional type survey of 339 open country households randomly selected in Wexford, Missaukee, Lake, Osceola, Newaygo and Mecosta

Counties located in the northern half of the Lower Peninsula of Michigan. The survey was one of several similar studies being conducted in other low-income areas of the Nation. Basically, these studies are designed to reveal sizes and sources of incomes and resource combinations of present-day households in the selected areas. However, in the Michigan study it was possible to obtain some information from respondents with respect to their locational and occupational mobility, adjustments in their income generating activities, and their plans for the future. The survey was taken in the summer of 1957, and refers to the calendar year 1956.

A portion of the secondary information was obtained from previously published research and the remainder was obtained from census publications. Previously published research findings provided the basis for the historical discussion of selected developmental aspects of the Lake States Cutover Region. This area consists of the northern parts of Michigan, Wisconsin, and Minnesota. Census data and previous research findings provide the basis for the historical discussion of selected developmental aspects of the northern part of the Lower Peninsula of Michigan. This cutover area contains the thirty-one counties of the north of the "Bay City-Muskegon line" excluding Bay, Isabella and Muskegon Counties.

CHAPTER II

THEORETICAL FRAMEWORK

Introductory Comments

The distribution of the factors of production among employments has been the central theme of much of economic theorizing for centuries. On the one hand, theoretical models have been developed for resource allocation deep within the production or consumption process of individual firms; while on the other hand, theoretical models have been developed to help explain resource allocation between and among large aggregated sectors of the economy. The latter of these two levels of generality provides the starting point for the development of a theoretical framework for this study.

T. W. Schultz brought into focus the allocation concept with regard to agriculture in 1950.¹ Essentially Schultz asked: Why did not all communities share equally in the economic progress that has characterized the economy of the United States? In order to ask this question, Schultz had to define the concept of economic progress to bring it into a present-day frame of reference. Economic progress as developed in the classical economic apparatus of Ricardo and Malthus was in terms of

¹T. W. Schultz, "Reflections on Poverty Within Agriculture," Journal of Political Economy, LVIII, No. 1, (February, 1950), pp. 1-15; and "A Framework for Land Economics--The Long View," Journal of Farm Economics, XXXIII, No. 2, (May, 1951), pp. 204-215.

increases in total production (income) which was soon divided among an increased population, leaving per capita income unchanged--clearly at variance with observed facts in the United States.

Schultz said:

. . . We need, however, a formulation with greater generality; for it is clear when the concept of economic progress is restricted to an increase in aggregate income with per capita income remaining constant, it is conceived altogether too narrowly. The following is proposed: economic progress consists of an increase in aggregate income with changes in per capita income unspecified, except that no community becomes worse off. . . .¹

The classical concept then becomes a special case in the over-all concept proposed by Schultz.² Parenthetically, it should be added that Schultz was thinking in terms of a period of time that would be independent of short-run aberrations such as booms, depressions, and other phenomena of an episodic nature. Evidence of this is as follows:

. . . I take the American scene as it has developed during the comparatively few decades that have elapsed since the settlement of this continent as the empirical setting of this problem. I neglect, for the most part, the effects of sudden changes in the main economic magnitudes of either World War I or II or of the great depression upon poverty in agriculture. Accordingly, in order to make my task manageable, I abstract from short-run fluctuations in the basic argument. . . .³

and in a slightly different context:

. . . More particularly, I am concerned about the economics of agricultural land in a period covering decades, during which the economy as a whole grows and develops in the sense that real output of workers rises, not by some small percentage, but one, two or more fold as has been the case in the United States. . . .⁴

¹Schultz, Reflections, op. cit., p. 7.

²A detailed discussion of definitions of economic development can be found in, Gerald M. Meir and Robert E. Baldwin, Economic Development, (New York: John Wiley & Sons, Inc., 1957), pp. 2-10.

³Schultz, ibid., p. 2.

⁴Schultz, A Framework, op. cit., p. 205.

A denial of the efficient operation of the resource allocation model of neo-classical economic theory is implicit in the question of why did not all communities share equally in the economic progress of the United States.¹ A brief examination of this model is therefore in order.

General Theory

The process by which resources get committed to the production process can be studied according to many different sets of rules. One set of rules is the perfect competition model. The perfect competition model is an explanation of how the production and consumption phases of the economy result in an instantaneous equilibrium according to a set of rather specific rules and classification of units. This set of rules and classification of units has probably been used more than any other set by economists because it provides a starting point for an analysis of the economic system and also provides one norm against which the actual performance of the economy can be judged and evaluated.

The extremely simplified perfect competition model of an economic system in a stationary state will suffice to show the broad outlines of the nature of the classifications and rules of the perfect competition general equilibrium model. First of all, economic units are classified as (1) business firms and (2) household "firms." Markets are classified as (1) resource markets and (2) consumer goods markets.

¹This point is substantiated on p. 22 of this chapter.

The business firms buy factors in the resource markets and sell products in the consumer goods markets; household firms sell factors in the resource markets and buy products in the consumer goods markets. If a "money" economy is assumed (in contrast to a barter economy), business firms pay money to resource owners for services to produce consumer goods; the money paid resource owners is used by them to buy the consumer goods. All money paid resource owners is spent on consumer goods and all money received for consumer goods is paid to resource owners. Thus a system of equilibrium is established. This basic model can be expanded to include several variables and assumptions.

The system of rules under which this simplified model of the economy operates in perfect competition is essentially contained in the following generalizations. First, no business firm or household firm is large enough to influence the price of what is bought or sold either by actions in the markets or by remaining out of the markets. Second, there are no elements of coercion present in either market exerted by government and/or organizations of buyers and/or sellers. Third, all factors and products are fully mobile as between users and consumers. Fourth, all participants in the markets have complete knowledge of elements needed in decision-making.

An additional set of rules is needed to indicate how firms operate in the perfectly competitive economic system. This set of rules is usually referred to as the first and second-order conditions for equilibrium.¹

¹Second-order conditions are not elaborated here as diminishing marginal returns to scale are assumed in both the production and consumption process. See William J. Baumol, Economic Dynamics, (New York: Macmillan, 1951), pp. 78-79.

In its (nearly) simplest form, the economy can be thought of as having two resources and two consumer goods. At this point, the concepts of maximization of profits and maximization of satisfactions is introduced. In order to clarify these concepts, two additional concepts are needed--the production function and the utility function. The production function is a statement of the physical relationship between the inputs of factors and the output of products or goods. The utility function is a statement of the relationship between the inputs of consumer goods and the output of utility or satisfaction. The business firms are assumed to maximize money profits and the household firms are assumed to maximize utility or satisfactions.

All business firms and household firms in perfect competition face given prices for inputs and outputs. The first-order conditions state that for profit to be a maximum the business firm must so organize its production that no small change in (1) the substitution of one input for another, or (2) one output for another, or (3) increase or decrease inputs and outputs together, will increase profits. The first-order conditions for the household firm are identical with those of the business firm when it is understood that the input and output terminology is reversed, i.e., inputs of household firms are outputs of business firms and outputs of household firms are inputs of business firms, the term satisfaction is substituted for the term profit.

The rules outlined above are those under which a simplified economic system is presumed to operate. A set of conditions is usually stated to further simplify the operation--namely, no changes occur in the state of the arts, population numbers or composition, institutional arrangements,

the patterns of wants on the part of individuals, and income distribution. A closed economy, i.e., no foreign trade, is a further condition of simpler models.

Given this model and these rules and conditions many operations in the economic system can be brought into focus and analyzed. The allocation of a resource, namely labor, to the production process can serve as a case in point. Assume at the outset that the economic system is in equilibrium and full employment of labor prevails throughout the economy--that is, everyone who desires to work is employed in such a manner that an individual, given his training, aptitudes, and preferences could not earn more by transferring his employment to another site or occupational placement. The first step in an analysis of labor resource allocation would be to assume a change in one of the simplifying conditions and determine the probable repercussions in the system. Assume an increase in the supply of labor used in the production of agricultural products. If the increase in the supply of labor causes an increase in the supply of products, the price of products will fall, the marginal physical productivity of labor will fall and the marginal value productivity (price) of labor will fall. A redistribution of labor among occupations will then follow until all markets are again in equilibrium--with regard to the labor resource, all labor will reach an equilibrium in terms of no longer being able to earn higher returns by changing its site or occupation. Any position short of complete equilibrium would result in a situation where some labor is earning less than it could if it shifted to other sites or occupations. This disequilibrium is termed "disguised unemployment" or underemployment.

The instantaneous and complete equilibrium is, of course, impossible to achieve in the real world. The labor force, in order to instantaneously and completely adjust would have to be fully mobile--as stipulated in the rules for the perfect competition model. Thus it is appropriate, at this point, to examine more closely the conditions necessary for the population, or labor force, to be fully mobile. First, transportation, if necessary, must be painless in terms of money costs. Secondly, all individuals must be motivated entirely by the concept of maximization of money profits from the sale of their labor resource. Third, all individuals must have complete knowledge of all elements needed in the decision-making process. Fourth, there must be no coercion or restraint on the part of any persons or groups who may want to maintain the disequilibrium status quo, i.e., labor unions, employers, or unorganized employees.

Transportation is seldom, if ever, costless. The earning power at the new site must be greater than at the old site by at least slightly more than the cost of transportation plus cost of new facilities, loss in earnings while in transit, and other non-specified costs. The time required for recouping these costs may be sufficiently long to discourage the migration, i.e., time-preference of some individuals may reduce the greater earning power at the future site to an equivalence with the earning power at the present site. The initial cost of the move may be beyond the savings or borrowing capacity of the potential migrant. This element may be particularly true of low-income groups.

Profit maximization is seldom, if ever, completely operative. Income in the real world is an extremely complex concept. A part of the

elements in the income of an individual do not enter the marketing system in the usual sense. The value-preference system of the individual may be quite different from that of other individuals, groups, or society in general. Social obligations, local ties, habits, attitudes, inertia, and degree of trust in one's own abilities represent elements that are extremely difficult to price. The ultimate resolution of this problem is one of determining real incomes.

Complete knowledge is seldom, if ever, completely realized. Knowledge in the context here has two parts, (1) the actual physical knowing or not knowing about alternative employment possibilities, costs, and remuneration and (2) the elements of risk. Elimination of the lack of knowledge of the first kind can be accomplished. Elimination of the second kind cannot, because the future is never completely known. Potential migrants could conceivably discount the future so heavily that the earning power at the future site is brought into equivalence with earning power at the present site quite in the same manner as that mentioned above.

The complete absence of coercion or restraint is seldom realized. Legal restraints on the physical movement of people are essentially nonexistent within the physical boundaries of the United States and indeed are almost unknown between the mainland and most territories and the Commonwealth of Puerto Rico. But extra-legal restraints, in the form of discriminatory practices, have been and probably still are operative in some geographic areas with regard to some activities. Professional associations and some forms of labor organization may impede occupational mobility and thus impede geographical mobility.

Statutory regulations in the form of residence requirements for obtaining certain benefits or privileges may act as restraints on the mobility of some individuals.

To this point it has been implicitly assumed that potential migrants has the required capacities and skills to qualify in a reasonable range of occupational pursuits. Sufficient research has not developed unequivocal evidence that a reasonable range of occupational pursuits is not open to some potential migrants. However, data on the variations in investments in the human agent in the form of expenditures for formal education suggests the possibility that the range of occupational pursuits may be more limited for people in certain areas relative to people from other areas. If this is in fact true then the mobility of some populations will be less than others and total mobility will be less. In real world situations this element could conceivably be much more important in terms of mobility than the cost of transportation and possibly more important than lack of knowledge of alternatives.

In view of the above observations with respect to the possible deviation of real world conditions from those stipulated by the model for full mobility, the following general principle is suggested: the required differential in earning power between one site and another for a potential migrant is increased (probably in some proportion) to the extent that real world conditions fail to coincide with conditions of full mobility.¹ As an extension of this principle, it is suggested

¹For an extended discussion of this line of reasoning see Harold W. Saunders, "Human Migration and Social Equilibrium," Journal of Business, University of Iowa, March, 1943, pp. 5-6, 11-15.



here that some of the real world conditions approximate those of the model at certain times and for certain groups or individuals in the labor force; and at certain times and for certain groups of individuals the deviations are increased.

The Retardation Hypothesis

Economic progress, as defined earlier in this chapter, while increasing tremendously during the history of the Nation, has not proceeded evenly with respect to geographic areas or segments of the economy in the view of many research people. The precise reasons for this disparity between geographic areas, between segments of the economy, and within segments of the economy are not known. In order to focus on this disparity or divergence between agriculture and the rest of the economy and within agriculture, Schultz organized a set of propositions now commonly referred to as the "retardation hypothesis."¹

The first part of the hypothesis is best stated by the words of Schultz:

(1) In general, the differences in per capita income and level of living among communities were not so great at the time when people pioneered new areas or at the time industrialization began as they have become since then. Poverty of whole communities did not generally exist under pioneering conditions, because levels of living were in their essentials quite similar, although if we look back, people were undoubtedly exceedingly poor by present day standards.

¹This terminology was first used by Schultz in "A Framework For Land Economics--The Long View," previously cited. Later in The Economic Organization of Agriculture, (New York: McGraw-Hill, 1953), pp. 146-151, Schultz changed the name to "Divergencies in Economic Development Related to Location."

(2) The marked differences in the level of living that have emerged within agriculture are not mainly the result of a deterioration on the part of those communities in which people are now living under conditions of poverty but largely the consequences of the increases in per capita incomes that have been realized by people in other communities. This proposition means that families in some localities have been virtually stationary in their level of living. Others have advanced somewhat in their level of living, and still others have shown marked advances. The gap between the first and third types of community has become exceedingly wide, is becoming even wider, and will continue to increase as the first type remains stationary or advances less rapidly than does the third.

(3) These gaps, consisting of differences in level of living, are basically consequences of the way in which the economy of the United States has developed and not primarily the results of any original differences in the cultural values or capabilities of the people themselves.¹

Historical accounts and time-series data, Schultz maintains, indicate that the first two propositions are true. The third proposition is the most important from the analytical viewpoint. Additional propositions are needed to bring this hypothesis into focus. Again in the words of Schultz:

(4) Economic development occurs in a specific locational matrix; there may be one or more such matrices in a particular economy. This means that the process of economic development does not necessarily occur in the same way, at the same time, or at the same rate in different locations.

(5) These locational matrices are primarily industrial-urban in composition; as centers in which economic development occurs, they are not mainly out in the rural or farming areas although some farming areas are situated more favorably than are others in relation to such centers.

(6) The existing economic organization works best at or near the center of a particular matrix of economic development and it also works best in those parts of agriculture which are situated favorably in relation to such a center; and, it works less satisfactorily in those parts of agriculture which are at the periphery of such a matrix.²

¹Schultz, Economic Organization of Agriculture, ibid., pp. 156-157.

²Ibid., p. 147.

The latter three propositions provide the working hypotheses--the fourth and fifth propositions narrow the working area and the actual testing is accomplished within the framework of (6). If (6) is tested and accepted, it would follow that economic development does occur in a specific matrix and differences in levels of living among communities is a consequence of the way in which the economy has developed and not primarily the result of original differences in cultural values or capabilities of the people themselves.

The Nexus of General Theory and the Retardation Hypothesis

The retardation hypothesis deals with the question of why all communities did not share equally in the economic progress that has characterized the economy of the United States. That is to say, some communities were located at the periphery of economic development matrices and the existing economic organization works less well there than at the center of such matrices. However, this poses another question: Why does the economic organization work less well at the periphery of an economic development matrix? If the term "economic organization" is translated into an "organization for the allocation of factors (resources) and products," the answer is obvious--imperfections exist. The existence of imperfections is identical with the concept of real world conditions not coinciding with the conditions of the perfect competition model outlined in the previous section.

Thus, a combination of the general theory of resource allocation and the retardation hypothesis brings the problem area into focus and specifies the features of the problem area that should be investigated.

The retardation hypothesis has narrowed the problem area out of a much larger group of alternative formulations. The general theory of resource allocation has specified the probable causes of the imperfections out of a much larger group of alternative causes.¹

Before leaving this area of discussion, it should be noted there are two major points that Schultz made in order to further delineate the research area. These points are brought into focus by two questions: (1) Can land quality be an element contributing to disparity between communities? and (2) Can long-run changes in product prices be an element in contributing to disparity between communities? Schultz indicates both of these questions can be answered in the negative.²

Differences in land quality is not an element in causing disparity because it can be demonstrated that there are communities situated on land of low quality yet these communities appear to have relatively high incomes. On the other hand, it can be shown that there are communities located on land of good quality yet these communities demonstrate characteristics of having been bypassed by economic progress.³

The long-run drift in prices of products produced in a community relative to other product prices does not give rise to increasing disparity. It can be demonstrated there are communities that have

¹In passing it should be noted that the combination of the general theory of resource allocation and the retardation hypothesis demonstrates quite vividly the use of theory in problem formulation. Without theory, this problem area would have been extremely nebulous and exceedingly complex.

²Schultz, "A Framework," op. cit., pp. 212-213.

³For a rebuttal see C. W. Loomer, "A Comment on Professor Schultz's Framework for Land Economics," Journal of Farm Economics, XXXIII, No. 3, (August, 1951), pp. 384-396.

experienced such drifts in relative prices yet do not show characteristics of having been bypassed by economic progress.

Thus in summary it can be noted that the nexus of the perfect competition model in general economic theory, the retardation hypothesis, and the accompanying remarks delineates an area for research that is limited specifically to the investigation of elements affecting the efficiency and capacity of the non-land resource allocation process.

Research Studies Utilizing the Retardation Hypothesis

Most of the research utilizing the retardation hypothesis has been developed at the University of Chicago. Some research has been developed at Vanderbilt University and by the Government Relations and Economics Staff of the Tennessee Valley Authority. Few projects have been developed at the State Experiment Stations that focus directly on the research area suggested by the retardation hypothesis.¹

The bulk of the studies to-date have centered around the use of secondary data to establish the broad outlines of the problem area. A study by Ruttan published in 1955 indicated that some propositions of the retardation hypothesis have been substantiated and that other portions have not received sufficient attention to establish complete agreement.²

¹This is not to say that State Experiment Stations have entirely neglected research in the area of low-income farming. See Elizibeth Gould Davis, Low-Income Farm People, A Selected List of References, U. S. Department of Agriculture Library List No. 62, (Washington: U. S. Government Printing Office, 1955).

²Vernon W. Ruttan, "The Impact of Urban-Industrial Development on Agriculture in the Tennessee Valley and the Southeast," Journal of Farm Economics, XXXVII, No. 1, (February, 1955), pp. 38-56.

Investigations over time have shown that economic development does take place in locational matrices which are primarily industrial-urban in composition. The relationship between the median income of nonfarm people and the percent of the population that is nonfarm in different geographic areas indicates a high statistical correlation. Whether or not the existing economic organization works best in those part of agriculture which are situated favorably in relation to particular matrices of economic development has not yet been widely subjected to empirical research. Ruttan's study was a partial step in this direction. It was found that a positive relationship existed between the median income of rural farm families and the degree of local urban-industrial development. The impact of the industrial-urban development was apparently channeled through the labor market--more farmers or family members worked off the farm in the more developed industrial-urban centers.

Ruttan then shifted the analysis to a different base--the relationship between income per worker from farming and the level of capital inputs as related to the level of industrial-urban development. It was found that a positive relationship existed although the proof is not as substantial as in the family income-urban industrial relationship, i.e., there is a definite relationship between capital inputs and the degree of urban-industrial development, but a less unequivocal relationship between important capital inputs and income per farm worker. On balance, Ruttan's analysis appeared to substantiate the hypothesis that the labor and capital markets do "work better" near the center of urban-industrial development matrices--at least those urban-industrial development matrices in the Southeast.

Bishop reports another study that yields some interesting conclusions in the general research area of the retardation hypothesis but is not as definitely grounded in it as was Ruttan's.¹ Specifically Bishop investigated differentials in returns to resources in Southeastern agriculture and various other segments of the economy--primarily the labor resource. First the estimated net income per farm from agriculture for various areas of the United States in 1949 were examined and it was found that farm families in the Southeast had net incomes of only .44 as much as farm families in the non-Southeast. Furthermore, other data indicates the ratio of net income of farm operators in the Southeast relative to the non-Southeast has been decreasing since, at least, 1929. Data of yet another kind shows that "net income from agriculture per white farm family in the Southeast was approximately 32 percent less than the mean income of white nonfarm families in the South and 40 percent less than the mean income of nonfarm families in the non-South."² Still other data shows that the net mean income received by white farm operator families in the Southeast in 1949 from all sources was 25 to 30 percent less than the wage and salary income of nonfarm families in the United States. Bishop then asks: Can the differences in returns for labor services be attributed to differences in capacity? As evidence for a negative answer Bishop cites a study by Johnson on migrants during the 1935-40 period and a study of his own to indicate that farm people have a nonfarm earning capacity approximately equal to that of nonfarm

¹Charles E. Bishop, "Underemployment of Labor in Southeastern Agriculture," Journal of Farm Economics, XXXVI, No. 2, (May, 1954), pp. 258-272.

²Ibid., p. 268.

residents.¹ Although the data used in the study were rather broad aggregations in many cases, Bishop argued that the differences did indicate labor employed in Southeastern agriculture was earning less than it could elsewhere, i.e., more than 2,000,000 people from farms in the East South Central and South Atlantic areas moved to nonfarm areas during the period 1939-48.

The retardation hypothesis was utilized in a recent study reported by Tang.² Whether or not the factor and product markets work better near the centers of industrial-urban development rather than imperfections as such was the primary concern of the study. The analysis showed a significant positive relationship between the level of industrial development and farm income per worker on all farms in the Southern Piedmont area. A greater relationship existed between industrial development and farm income per worker on part-time farms than on commercial farms. These conclusions are explained in two ways: (1) part-time units near the industrial-urban centers are able to reduce the amount of labor used in farming,

Modern part-time farms represented small subsistence units of the past with much initially underemployed family labor with the result that later diversion of even a substantial part of this labor to off-farm work did not appreciably decrease output per farm.³

¹D. Gale Johnson, "Comparability of Labor Capacities of Farm and Nonfarm Labor," American Economic Review, XLIII, No. 2, (June, 1953), pp. 296-314.

Charles E. Bishop and J. G. Sutherland, Resource Use and Incomes of Families on Small Farms, Southeastern Piedmont Area, North Carolina, North Carolina Agricultural Experiment Station AE Information Series 30 (Raleigh: February, 1953), p. 34.

²Anthony M. Tang, "Industrial-Urban Development and Agricultural Adjustments in the Southeastern Piedmont Area, 1940-50." Journal of Farm Economics, XXXIX, No. 3, (August, 1957), pp. 657-675.

³Ibid., p. 670.

and (2) although the scale of operations on commercial farms was not related to industrialization, higher farm income per worker resulted--

Because of the salutary effects of industrial-urban development upon the efficiency and competitiveness of local product markets, the developed counties' farmers tended to receive higher prices for their products and pay lower prices for their inputs. The creation of new markets for certain farm products as a direct result of urban growth (and rises in per capita income) also tended to give these farmers opportunities to engage in income-raising product innovations. Moreover, imperfections in product markets tended to put the developed counties in a position to market greater portions of some of their products (e.g. milk) in the most favorable form (fluid milk) in terms of price.¹

Although income per worker on commercial farms was related to the level of industrial-urban development, i.e., via the product and input markets, changes in scale of operation over the 1940-50 decade were not so related. In view of this Tang observed (but did not analyze):

. . . scale adjustments represent a relatively slow and difficult process because of the restrictions imposed by imperfections in the capital market, difficulties in land transfers, inadequate talent, and the dependence of these adjustments upon adequate outflow of farm operators.²

Research focusing specifically on the labor market was reported by Johnson in 1951 and 1953.³ Most of the data analyzed referred to the 1934-45 decade. Johnson reached several important conclusions regarding migration that have at least a partial bearing on the retardation hypothesis. First, data by regions demonstrated that average labor returns per worker from farming were considerably lower in the South. Second,

¹Ibid., p. 669.

²Ibid.

³D. Gale Johnson, "Function of the Labor Market," Journal of Farm Economics, XXXIII, No. 1, (February, 1951), pp. 75-87. Also see, "Comparability of Labor," previously cited.

in view of the fact that migrants move short distances, could it be that there is not a significant differential between farm and nonfarm earnings in the South to encourage migration? The answer is no, because data shows, for whites, that if nonfarm communities in the South are compared with communities in the North (after standardizing for size) the same incomes prevail. Third, no conclusive evidence exists to suggest that unions or government labor legislation had an adverse effect on migration. Johnson concluded the first study by indicating two possible reasons for the failure of migration: (1) uncertainty of unemployment due to business fluctuations, and (2) factors indigenous to the farm people and the conditions in which they live. Neither of these suggestions was investigated. In the second article Johnson reported the results from an analysis of 1934-40 migration data. Essentially Johnson concluded (1) that farm migrants were not appreciably better educated than nonmigrants in the 25-34 age group, (2) that farm migrants did not come predominantly from either high or low farm income regions, and (3) that farm people, as interpreted from experience of migrants, have a labor capacity of approximately 90 percent of non-farm people.

Nicholls reported the results of research that is in the area of the retardation hypothesis but not focused on recent developments.¹ Specifically, Nicholls asked: Why did certain southern areas experience substantial industrial-urban development and how, within such areas,

¹William H. Nicholls, "Some Foundations of Economic Development in the Upper East Tennessee Valley, 1850-1900," Journal of Political Economy, LXIV, (August and October, 1956), pp. 277-302 and 400-415.

did the socio-economic background of today's more advanced counties differ from that of contiguous counties which have little or no industrial development? The study area consisted of twenty eastern Tennessee and five southwestern Virginia counties. The counties were "entirely rural and very heavily dependent upon agriculture in 1860" but have developed to quite different stages today. Since the analysis is only reported to 1900, a complete discussion of the causes of divergence are not available. Presumably the analysis indicates that the basis for the development or nondevelopment of industrial-urban development centers is formed very early in the history of an area, and that many of the elements contained in the early situation are perpetuated and compounded. However, the analysis also indicates that some of the effects of the "original" differences, such as soil quality, may be eliminated by resource mobility. Final evaluation of the findings cannot be accomplished until the second period, 1900-1950, has been reported.

Summary. Much of the research in the area of the retardation hypothesis has been concerned with the South and Southeast. Much of the research has been in the form of broad quantitative and qualitative manipulations of Census data and other aggregate estimates. Extremely little research has focused on the direct recordings of experiences of the people studied. This is not meant as a criticism of what has been done, but rather it is meant as a reminder of what has not been done.

The research to date using the retardation hypothesis, or parts of it, appear to reasonably substantiate that the factor and product

markets do "work better" near the centers of industrial-urban development and that communities have been "bypassed" because they were outside the mainstream of economic development. However, there has been relatively little progress on identifying and measuring the effects of particular kinds of "imperfections" that presumably exist in the low-income areas.

Theoretical Guidelines for Present Study

The theoretical background outlined above suggests and substantiates, in general, that human and physical resources are out of adjustment in low-income rural areas for a number of reasons, as yet not specifically identified. The theoretical possibility exists that one, two, or a combination of imperfections occur in a given low-income area, and yet the over-all appearance of the data does not suggest any differentiation of problems, i.e., imperfections in the functioning of the product and resource markets. However, before a concrete discussion of imperfections is developed a differentiation of resource structures and their magnitudes must be accomplished. Furthermore, the nature and magnitudes of adjustments that have already taken place must be carefully examined in order to focus directly on imperfections in the product and resource markets.

One possible starting point is to assume that the situation in a given study area will exhibit the most extreme distortions in resource combinations and resource adjustments with the result that all strata of the population exhibit high proportions of low-income cases. In actuality, this need not be the situation at all. But, by starting

from this position the actual situation in a given area can be brought into focus much quicker and more definite suggestions can be made relative to the nature and magnitude of market imperfections. Thus, the theoretical guidelines of the present study center primarily around the question: What are the extreme situations regarding resource combinations and resource adjustments that would be expected in an area essentially by-passed by economic development? Examples of some extensions of this question are outlined in the following paragraphs.

A large number of young people, relative to the total number growing up in the area, will be found in an area that has been by-passed by economic development. The young people will have low incomes, or none at all, because they represent a portion of the oversupply of labor in both the farm and nonfarm labor markets. The young people could conceivably be found in a great variety of household arrangements, but they would be expected to be primarily in one of the two following categories: (1) living with their parents on the home farm, or (2) living in an established household of their own. If a large portion of the young people are living with their parents on the home farm, it would follow that there are extremely serious elements in the situation preventing them from either migrating out of the area or obtaining sufficient resources to establish their own households within the area. (A large proportion of the young people growing up in the area and remaining in the home of their parents would represent the most extreme situation.) If a large portion of them are found living in established households of their own, it would follow that there is something less than a perfectly rigid situation relative to obtaining at least some

resources in the area but the elements preventing them from migrating out of the area are still fully present.

A large proportion of the people, say 35-54 years of age, will have low incomes in an area that has been by-passed by economic development. The people in this age group represent entrants to the labor supply during the period 1925-45. Most of these people have been restricted in terms of their possibilities of migrating or in terms of obtaining more assets to use in the generation of income. Low levels of income generation over time is a common characteristic of most people in this age group.

A large proportion of the older people in the area, that is to say, people 55 years of age and older, will have low incomes. This group represents entrants to the labor supply before 1925. Most of this group represent situations in which restrictions have prevented them from either migrating or obtaining sufficient assets to generate a level of income that would take them out of the low income category.

The degree to which the above propositions are validated or not validated for the study area will bring into focus the broad outlines of the nature and magnitudes of market imperfections characteristics. To avoid repetition, additional propositions needed to focus on functioning of the markets will be developed in the appropriate chapter in which the results are presented. The important point to note in conclusion is that observations about the functioning of the markets, and the labor market in particular, will be grounded in the experiences of the people in addition to available secondary data. This approach has not been widely used in the current research suggested by the retardation hypothesis.

CHAPTER III

HISTORICAL PERSPECTIVE: SELECTED ASPECTS OF DEVELOPMENT AND MIGRATION

The area delineated by the report mentioned in Chapter I has long been of concern to many people in the State of Michigan. It is generally known as the "Cutover" and is a part of the larger area known generally as the "Lake States Cutover Region." This area has, from time to time, been the subject of much public discussion. However, a search of the literature reveals that surprisingly little detailed research effort has been devoted to a better conception of conditions and changes in the economy of the area. Notable exceptions to this generalization have occurred sporadically since about 1925. Previous research and Census data provide the basis for the discussion in this chapter.

The Lake States Cutover Region

The Lake States Cutover Region contains 57 million acres--21.7 million acres in the 47 northern-most counties of Michigan, 18.3 million acres in the 14 northeastern counties of Minnesota, and 16.7 million acres in the central and northern part of Wisconsin--equivalent to over a million acres more than the combined area of the six New England

states, plus New Jersey, Delaware and Maryland.¹ The area experienced initial development in the 1870's starting in central Michigan and Wisconsin and rather swiftly moving northward. However, this development was centered in the mixed hardwood and conifer forest resource rather than in the land, per se. "The westward tide of land settlement in the last half of the nineteenth century passed this region almost completely by, moving on to the prairies of Nebraska and the Dakotas, and even into Canada."²

The development of the land resource into farms occurred almost immediately after removal of the timber in some parts of the cutover and only after a considerable lag in other parts. The forces behind the development of farms in the cutover were enumerated by Barlowe:

(1) the success achieved by those farmers who were lucky enough to settle on islands of good agricultural land: (2) the good local markets, both for labor and for farm products provided by the thriving lumber industry; (3) the steadily rising values of farm land throughout the country; and (4) the promised disappearance of the virgin prairie lands to the West.³ On the other hand, there were strong forces that impeded the overall farm development in the cutovers. Black and Gray list four

¹Raleigh Barlowe, Administration of Tax-Reverted Lands in the Lake States, Michigan Agricultural Experiment Station Technical Bulletin 225 (East Lansing: December, 1951), p. 6.

²John D. Black and L. C. Gray, Land Settlement and Colonization in the Great Lake States, U. S. Dept. of Agriculture Bulletin 1295 (Washington: U. S. Government Printing Office, March, 1925), p. 6.

³Barlowe, op. cit., p. 7.

major factors limiting the general development: (1) timber, (2) climate, (3) quality of land, and (4) accessibility.¹

The cutover land rather quickly reverted to brush and second growth. Pine stumps did not decay and had to be pulled or blasted. Estimates of the costs of preparing land ranged from \$15 to \$200 per acre and generally from \$25 to \$60 per acre.² The length of growing season in the cutovers is appreciably shorter than in the southern parts of the Lake States and the varieties of crops available were not suited to the area in the initial phases of development. The quality of land in the cutovers was extremely varied. Land considered suitable for agriculture was interspersed with substantial portions of land that was too sandy, too rocky, too swampy, or rough for cultivation. Barlowe cites literature to substantiate the statement: ". . . with farm prices at their present levels, probably not more than a third of the cutover area can be considered as really suited for permanent agricultural use."³ The cutover area was partially isolated--railroads were not extensively developed and "the main lines from Chicago and Milwaukee run northwest through Minneapolis and St. Paul and thus leave this region off to the right of the main current of traffic. . . . The Upper Peninsula of Michigan and the unsettled part of the Lower Peninsula have somewhat the transportation economy of a large island that is icebound for a

¹Black and Gray, op. cit., pp. 6-13.

²Ibid., p. 6.

³Barlowe, op. cit., p. 7. Also see Black and Gray, op. cit., p. 12 for a brief but comprehensive discussion of the geological characteristics of the area. Also see A. P. Coleman, The Last Millicn Years, (Toronto: University of Toronto Press, 1941).

third of the year."¹

In retrospect, it may be quite clear that farm development in the cutover region was subject to many handicaps. However, as late as 1916, it was observed that:

. . . Strange as it may seem, the lumberman rated the land that produced the heavy growth of timber as having little or no agricultural value. While this may be true of some of the swamp land and sandy belt areas, it is by no means generally true of this extensive cutover district. At present prices for farm products, the very sandy lands cannot be farmed successfully by ordinary methods now in use and the swamp lands must be drained before they can add to farm profits, but a large percentage of both these soil types can and will eventually be brought under successful cultivation. . . .²

Approximately 39 million acres in the three Great Lake States were granted by the Federal Government.³ Most of this land was in the cutover region. Grants by the States and Federal Government to railroads and the purchase of timber lands, either directly or indirectly from the states, resulted in a significant concentration of land holdings by the turn of the century.⁴

¹Black and Gray, op. cit., p. 13.

²J. C. McDowell and W. B. Walker, Farming on the Cutover Lands of Michigan, Wisconsin, and Minnesota. U. S. Department of Agriculture Bulletin 425 (Washington: U. S. Government Printing Office, October, 1916), p. 3.

³Raleigh Barlowe, Public Land Ownership in the Lake States, Michigan Agricultural Experiment Station Special Bulletin 351 (East Lansing: August, 1948), p. 8.

⁴Black and Gray, op. cit., p. 13, report a study made by the U. S. Bureau of Corporations in 1914 which indicated that nearly 12 million acres were owned by timber holders. These timber holders were in the 60 million feet class or larger. Further analysis indicated that one owner held over 1.5 million acres, mostly in Michigan; and 32 owners held 47.1 percent of the entire area of the Upper Peninsula of Michigan (one holding 14.2 percent).

Farm unit development. The forces behind the development of farms cited by Barlowe are elements primarily on the demand side--there were also important elements on the supply side. The need for tax revenues became more acute as the population grew, and as towns, cities, and local governments were developed. In order to remove the increasing burden of taxation and also to capitalize on the existing demand for cutover lands, (and also to effectively increase the demand) the owners of large tracts began to develop or utilize organizations for the disposal of their holdings. Some formed "land" or "colonization" companies while other enlisted the services of agents.¹ Dealers who bought and sold smaller holdings also operated in the area--sometimes in a dual capacity as dealer-agent.

A wide range of policies characterized the land settlement activities in the cutover area between 1890-1920. Black and Gray studied the policies and procedures of 153 "settlement" agencies and some 3,000 settlers in the cutover in 1919. This wide range of policies was due in part to the rather sharp differences in the kind of agency operating in a particular area. For instance, in Minnesota the holdings of land were small and dispersed offering opportunities primarily for dealers and agents; in Wisconsin the holdings were larger offering the opportunity for systematic and intensive colonization on the part of dealers and large timber companies; in Michigan the holdings were larger but "the large landowning firms for the most part have exhibited little

¹Ibid., pp. 17-18. Also see Francis Favill Bowman, Why Wisconsin, (Madison: Democrat Printing Company, 1948), pp. 123-124.

enterprise in promoting the settlement of their holdings."¹ A different source, however, indicates that the large landholders in Michigan were not quite so lethargic:

. . . as soon as forfeiture for non-payment of taxes became a probability, holders of large cutover areas could no longer hang on indefinitely without hope of realizing a return from those acres. So into the scene rushed the speculative gentry, purchasing--often for a pittance--great tracts from cautious tax conscious owners. . . .

The practices of these vendors of real property ranged from well-intentioned but ill advised efforts to populate the choppings to downright fraud. . . .²

Size of farm during the initial development period in the cutovers is difficult to document. Evidence from the Census will be introduced at a later point in the analysis. Black and Gray, in their study of 15 settlement projects in Wisconsin and Minnesota, found that the initial tract purchased tended to center around the 40- and 80-acre unit. In fact, 402 of 510 initial purchases studied (78.8 percent) were in the 25-45 and 65-85-acre size groups.³ Unpublished data of the land selling operations of a railroad company in Osceola County, Michigan, around the turn of the century indicated most of their sales were in 40- and 80-acre units. Several conflicting elements were present in determining the size of tract to be sold by the large land holders. The cost of selling a 20- or 40-acre tract is as much as that for an

¹Black and Gray, op. cit., p. 20.

²Harold Titus, The Land Nobody Wanted, Michigan Agricultural Experiment Station Special Bulletin 332 (East Lansing: April, 1945), p. 8. Also see page 9 of this publication for an advertisement of a railroad corporation selling land.

³Black and Gray, op. cit., p. 39.

80- or 120-acre unit. On the other hand, if a holder of large tracts divided the land into relatively large tracts for sale to settlers the rate of development would likely be slower, given equal amounts of settler capital, and the turnover of capital on the part of the seller will be much slower assuming he sells on a contract or mortgage.

A slower rate of development means that general land values in the area rise more slowly--thus giving a poorer impression to prospective settlers. From the standpoint of the settler there were probably fewer alternatives--he was restricted by the policy of the land seller and by his own capital.

The settlers. Popularized discussions of the early settlement period of the cutover region are replete with examples of the "perils of the ignorant immigrant."¹ Although it is not possible to determine the extent of this alleged bilking of the unsuspecting newcomer, a little evidence is available regarding the influx of foreign-born settlers to the area. Hartman and Black in 1931 reported on a survey of 1,615 settlers in Wisconsin, Michigan, and Minnesota.² The study indicated that 62.2 percent of the settlers in 33 selected settlement areas were foreign born. In 16 of the 33 areas the percent of foreign-born settlers was 77.5. Hartman and Black also noted that the rate of farm reversion was relatively small in these 16 areas (less than 10 percent) which led them to observe:

¹Titus, op. cit., p. 11; Bowman, op. cit., pp. 120-123.

²W. A. Hartman and J. D. Black, Economic Aspects of Land Settlement in the Cutover Region of the Great Lake States, U. S. Department of Agriculture Circular No. 160 (Washington: U. S. Government Printing Office, April, 1931), p. 78.

Although it would be necessary to analyze many contributing factors in order to account for the lack of or small amount of farm reversion . . . observations suggest that nativity of settlers is of primary importance. The land in three areas is of poor quality for farming purposes, and in two areas it varies from good to poor; yet farm abandonment by foreign-born settlers is decidedly lacking. One of the reasons for this is that, in general, foreign-born settlers are willing to work longer and harder and maintain a lower standard of living than is the average native-born settler. They are willing to sacrifice more than the average to satisfy a desire for land ownership.¹

Evidence regarding the capital position of settlers is difficult to document. The general tone of the above discussion indicates that progress may have been hampered seriously by a shortage of available funds to effect development. The following quotations help to focus on this problem:

The great majority of the settlers were poor people. Rarely did they embark on their new venture with a cushion of resources to help absorb the shock of even temporary setbacks.²

In general the beginning net worth of the settler is higher with age, except for the very oldest, but it is not proportionately higher. Those under 30 years average about \$700; those between 40 and 55 about \$1,200; and those between 50 and 60 about \$1,600. A man who is worth only \$1,600 at 50 years of age is not very promising material for land settlement in the cutover regions. In general, the settlers were not a very prosperous lot of people at time of settlement. Fifty-seven percent of the settlers were worth less than \$1,000 at the time of settlement.³

. . . It was not until they had wearied of the slums, the dirt and the noise, had accumulated a few hundred dollars and had forgotten all they had once known of the soil that they became restless and willing to move on. By then they were ripe for a plucking and the great sale of poor Wisconsin land boomed ahead for twenty years.⁴

¹Ibid., pp. 77-78.

²Titus, op. cit., p. 10.

³Black and Gray, op. cit., p. 30.

⁴Bowman, op. cit., p. 123.

Evidence regarding the age and previous experience of settlers in the cutover is fragmentary. However, the evidence that is available suggests that all of the settlers were not necessarily young "pioneers." The average age at the time of settlement of the 15 projects studied by Black and Gray in Wisconsin and Minnesota was 37.3 years. There is some evidence to suggest that the majority of settlers in the projects studied by Black and Gray came to the cutovers from occupations other than farming—on only two of 15 projects did more than 50 percent of the settlers come directly from farming. However, the settlers with no farm experience exceed 15 percent in only four of the 15 projects.

The settlers who were farmers prior to settlement consisted of tenants, farmers' sons who preferred to own a cutover farm to renting an improved one at home, and all sorts and descriptions of farm operators who for various reasons sold their farms in other North Central States and decided to try their fortunes with cheaper lands. The reason these people usually give for becoming settlers is that land is too high where they formerly lived. Interpreted, this statement means for some that they believed that although they could make money in farming in their former homes, they could make still more money in the cutover land. For more of them, however, it meant that they had found themselves unable to get ahead on the land at home at prevailing prices, and that others more efficient had outbid them for the land. Thus, competition had operated to force the poorer farmers onto the less desirable lands. . . .

The native born city people who go to the cutover county are usually farmers' sons and daughters who left the farm for the city to make their fortunes, and having had a sample of both, have decided that, after all, they will prosper better in the country. Such people usually shirk from returning to their old homes and starting in as laborers and tenants. They, therefore, easily accept the idea of a farm of their own in the cutover country. With these people, too, there is a wide range in quality. Some of them are fagged-out and almost without real hope. Others are full of fresh hope and fighting spirit. They also vary in their knowledge of farming. It is almost the unqualified testimony of all land companies that very few of this kind succeed. . . .

Foreigners who become settlers in this region more often come out of mining than any other industry. . . . Most of these foreigners lived or worked on farms in Europe, although there are notable examples of foreigners who came out of European city industries. These have generally fared about as poorly at the start as did the Pilgrim Fathers in New England. . . .

Experience of the projects studied tends to show that those who come directly from farms usually insist upon growing corn or wheat and doing other things suited to agriculture where they came from but not adapted to the conditions in the new region. . . . They often bring horses and heavy machinery with them which they will not be able to use for several years. Sometimes they bring several head of cattle and find they cannot carry them through the first winter. . . . Such men are usually hard to advise. They think they know more about farming than the land companies, when as a matter of fact they were in many cases only indifferent farmers where they came from. . . .

City settlers of American birth are not so hard to advise, but they are usually less apt in handling horses and tools and less able and less willing to do a hard day's work. Too many of them are persons with no farm experience who have entirely unreal notions of the requirements of success under pioneer farming conditions. . . .

Most foreign-born settlers can be depended upon to endure greater hardships and more severe exertion, and to be content with a slower rate of progress than the native born. They are, therefore, more likely to stay with their undertakings under severely unfavorable conditions than either of the other two classes. They are more thrifty, more familiar with a self-sufficing way of living, and more familiar with the intensive hand type of agriculture needed in the first few years. They are more willing to leave home to work out and earn the money needed to feed and clothe their families and to make payments on their contracts. . . .¹

The amount of cutover lands in private ownership reached a peak by 1920. Reversion of land for non-payment of taxes was always a problem but frequently most of this land was quickly resold.² The agricultural

¹Black and Gray, *op. cit.*, pp. 27-28.

²Titus, *op. cit.*, p. 11. Legislation in Michigan promoted the return of tax-reverted lands to private ownership. In 1893, tax-reverted land was designated "Tax Homestead Land" and up to 160 acres could be purchased for 10 cents per acre providing the buyer resided on the property and made certain improvements. Evidently this procedure

depression starting in the early 1920's signalled the end of the boom in the cutover area. Declining farm product prices, the exhaustion of the timber and related activities, and the rise in taxes contributed to the process of abandonment and eventual reversion of the land to local or state government. In the absence of the opportunity to return the land to private ownership, local officials designed various measures to delay the return of lands to public ownership. The "moratoria" generally failed and approximately 17.5 million acres in the Lake States was tax-forfeited in the decades 1920-40.¹

The purposes of the above documentation has been to bring into focus the nature of the development, the characteristics of the area and the people and special problems during the formative period of the cutover areas of the Great Lakes States. Evidence presented was limited, unbalanced and perhaps biased in some cases. However, it is felt that certain features of this general history will be useful in a later phase of this study when the general pattern of resource adjustment in the upper half of the lower peninsula of Michigan is presented.

The Northern Lower Peninsula Cutovers of Michigan

The economic growth in the Northern Lower Peninsula of Michigan is extremely difficult to document. Certain basic economic facts are available and will be presented below. Many facts that would prove useful for this study have never been compiled and some facts that

was not sufficient and additional legislation in 1901 made it possible for the state to make outright sales. Over 1 million acres were returned to private ownership from 1901-1907. Also see Barlowe, Administration of Tax Reverted Lands . . . , op. cit., p. 13.

¹Barlowe, Public Land Ownership In The Lake States, op. cit., p. 9.

would prove extremely useful have never been recorded. The organization of the available facts will be guided by a proposition suggested by the retardation hypothesis stated in Chapter II. Essentially, the retardation hypothesis suggests that data for the area will show little change--a static situation has existed in the area for many years.

The development of farms. Economic growth in Northern Michigan was initially centered in the pine tree and later in the various species of hardwood. There is considerable doubt whether or not economic development was ever significantly dependent on the agricultural resource organization in the area. On the other hand, there is some evidence regarding the dependency of agriculture on the lumber industry--at least until the turn of the century.

North of the central hardwood belt settlers scarcely penetrated until pine lumbering commenced on a large scale, and for many years afterward agricultural settlement was exceedingly slow. Few settlers established themselves in northern lower Michigan except those who came to work in the forests. Lumbering was the primary industry, and forests were cut for their timber, not to clear the land on which they stood. Thousands of men from the farms of Southern Michigan, Ohio and Indiana went into the northwoods logging camps every winter for the sake of the wages upon which they lived until their farms began to produce returns. Logging camps and sawmill villages required large quantities of food and forage, however, and under the stimulus of ready markets and good prices for farm products considerable areas near the sawmill towns were converted into farms. . . . Except for unfavorable seasons, the farmers did fairly well as long as the towns prospered. Practically all of the settlers depended directly or indirectly upon the lumber industry for their livelihood. They worked in the woods in the winter and raised hay and food for the camps in the summer. The only towns in the region where they could purchase supplies or sell their products were the mill towns and outfitting centers for logging camps, and practically the only roads or railroads connecting with the outside were those built to exploit the forests.¹

¹William N. Sparhawk and Warren D. Brush, The Economic Aspects of Forest Destruction in Northern Michigan, U. S. Department of Agriculture Technical Bulletin 92 (Washington: U. S. Government Printing Office, January, 1929), pp. 13-14.

. . . This road, penetrating as it did one of the best farming sections of the county, gave a new impetus to the farming industry and since its coming a marked and steady growth of that industry has been noticeable. Not only did it open up a more direct and less expensive market for the shipment of farm products, but it stimulated the lumbering business to such an extent that the demand for products of the farm for the mills and camps greatly increased the home market and correspondingly the prices received for such products.¹

The dependence of agriculture on nearby timbering operations is probably a well-founded observation. However, it has never been proven using quantitative data. If the eight highest-ranking counties in terms of "value of products" (primarily lumber) in 1880 are examined it is found that these eight counties contain 49.4 percent of the farms and 54.0 of the population in the entire cutover area.² By 1900 these same counties contained 40.0 percent of the farms and 44.1 percent of the population of the cutover area. However, it should be noted that all of these counties are either on one of the Great Lakes or, if inland, were reached first by railroads having terminals in southern Michigan. If agriculture was as dependent on timbering operations as previously noted in the quote from Sparhawk and Brush, it would be expected that the number of farms would decrease substantially when these operations were curtailed. Since this did not happen, except in isolated cases, agriculture apparently adjusted to "other" marketing patterns. The other marketing patterns, of course, were based partly upon the increased population of the eight county area--over 69,000

¹Perry F. Powers, A History of Northern Michigan and Its People, (Chicago: The Lewis Publishing Co., 1912), I, p. 180.

²Data from the Census of 1880. The counties are Alpena, Iosco, Manistee, Mason, Mecosta, Newaygo, Oceana and Wexford. All of these counties, with the exception of Oceana, also ranked highest in "value of products" in the 1890 census.

between 1880 and 1900. The adjustment was also made possible by rail and barge connections with markets that were expanding both to the north and to the south. The absolute change in farm numbers for the eight county sub-area was an increase of 6,611 farms between 1880 and 1900--about 32 percent of the increase in farm numbers for the entire cutover area.

The net increase in the number of farms from 1880 to 1910 in the cutover area was 27,591, or slightly more than 900 per year. Actually the rate approached 2,000 per year between 1880 and 1900 and then decreased somewhat during 1900-1910. Even with this farm development rate, however, only 40 percent of the land area of the 31 county region was in farms by 1910.

The data do not appear to indicate any particular pattern of farm development after 1890. All counties, except one in 1900 and two in 1910, experienced increases in numbers of farms during the 1880-1910 period. Gross data recorded in terms of decades are difficult to put into perspective--a hypothetical example may help. During the period 1900-1910, approximately one-half of the counties experienced increases in the number of farms of 100-300 for the decade. Assume a typical county has an increase of 200 farms of 100 acres each or 20 farms per year. Thus 2,000 acres per year are developed as new farms in the county. If the county has 350,000 acres of land area, 2,000 acres per year is a rather slow rate of development--less than one percent per year. In fact, as noted above, the overall rate of farm development in terms of land area, in the cutover area averaged something less than one percent per year for the period to 1910.

The size of farm relationships did not exhibit evidence of important change between 1880 and 1910. In 1880, 67.1 percent of the farms contained less than 100 acres; in 1910 the percentage was 69.0. The percent of farms in the 50-99 acre group, 39.9 percent in 1880 and 37.4 in 1910, suggests that the 80 acre unit was a reasonably common occurrence. The percentage of farms in the 20-49 acre group, 25.5 percent in 1880 and 28.0 percent in 1910, suggests the 40 acre unit also was reasonably common. If this is true, nearly two-thirds of the farms in the two periods tended to be 40's and 80's.

Every county experienced a decline in the number of farms between 1910 and 1930. The overall decline was 12,168 farms and the data do not indicate any pattern with regard to areas within the cutover region. The largest absolute reduction is noted in the 1920-30 period and more particularly in the 1925-30 period. The decline was most noticeable in the under 100 acres per farm group and particularly in the 20-49 acre group in 1930 as compared to 1910. This reduction in land in farms could hypothetically represent 1,666 farms of 127 acres each--the average size in 1930 for the entire area.

The period 1930-54 saw an absolute decline of 6,097 farms in the cutover region. The "true" decline was slightly smaller due to a change in the definition of a "farm" and after adjusting the data the decline probably approximated 5,000 farms.¹ However, it should be noted that all counties in the region, except one, experienced an increase in the

¹For a detailed discussion of adjusting the number of farms among census dates see, Jackson V. McElveen, Family Farms In A Changing Economy, U. S. Department of Agriculture, Agriculture Information Bulletin No. 171 (Washington: U. S. Government Printing Office, March, 1957), pp. 80-89.

number of farms from 1930 to 1940. Thus there was a greater change in farm numbers during the 1930-54 period than is indicated by the 5,000 figure. The size composition again changed substantially. The reduction in the number of farms was reflected primarily in the 50-99 acre group with smaller reductions in the 10-49 and 100-174 acre groups. The number of farms in the size groups of 175 acres or larger increased during the period. Again, there appeared to be no particular pattern in the decrease in numbers of farms among counties.

The discussion above indicates that the cutover region has experienced important changes in the farm sector of the economy. These changes are briefly summarized in the following table:

TABLE I
NUMBER OF FARMS AND PERCENT OF FARMS BY SIZE GROUPS
NORTHERN LOWER PENINSULA CUTOVER REGION
SELECTED YEARS 1880-1954

	Year			
	1880	1910	1930	1954
Number of Farms--16,861	44,352	31,261	26,187	
Size Group (Acres)	Percent of All Farms			
Under 10	.6	.9	1.0	1.9
10 - 49	26.5	30.4	18.2	16.6
50 - 99	39.9	37.5	34.4	24.8
100 - 174	¹	22.4	30.7	30.1
175 - 499	32.5	7.7	14.3	23.4
500 and over	.5	1.1	1.1	2.2
Total	100.0	100.0	100.0	100.0

¹Combined with the 174-499 acre group.

Source: U. S. Census



The maximum amount of land in farms was recorded in 1920. Between then and 1954 the decrease in land in farms amounted to approximately 730,000 acres, or roughly 5,000 farms of 146 acres each--the average size in 1954. All counties experienced a decline in the amount of land in farms but no patterns of decrease are evident. The most precipitous decline in land in farms occurred between 1920 and 1925, and again between 1950 and 1954. The decline during these two periods amounted to more than 600,000 acres.

Population. The general nature of the increases and decreases in farm numbers and land in farms was matched by a similar change in the total population of the cutover region. The population changes are shown in the following table:

TABLE II
POPULATION IN SELECTED CENSUS YEARS
NORTHERN MICHIGAN CUTOVER REGION
1880-1956

Year	Number
1880	190,957
1890	293,732
1900	366,112
1910	399,614
1920	350,074
1930	316,468
1940	361,419
1950	394,450
1956	414,570

Source: U. S. Census and Michigan Department of Health.

Data regarding population changes are sketchy other than the overall figures. However, if an analysis is made of the numbers of people living in cities, villages, and unincorporated places relative to the numbers living in the "open country" some surprising structural characteristics are revealed.¹ The increase in population of over 106,000 from 1890 to the peak in 1910 was divided in an approximate 45:55 ratio between the cities and villages and the open country. The decrease in population of nearly 83,000 from 1910 to 1930 was divided in approximately a 13:87 ratio between the cities and villages and the open country. As noted before, there was a decline of approximately 13,000 farms during this period and this could hypothetically account for more than half of the decline in the open country population if the average farm contained between 2.5 and 3 persons. Approximately 67 percent of the population was living in the open country in 1890 and 1900. The percent living in the open country in 1910 decreased to 63 percent and by 1930 it had decreased to less than 57 percent at which level it remained through 1950. The increase in population of nearly 78,000 from 1930 to 1950 was divided in approximately a 50:50 ratio between cities and villages and the open country. However, since the total farm population decreased by 16,649, as defined by the Bureau of The Census, it is obvious that none of the net increase in open country population was farm population. The increase of approximately 20,000

¹This analysis is made by carefully delineating all population in places designated as villages and cities from the balance of the population. It is recognized the changes in village and city boundaries prevents strict comparability among census dates. However, the magnitude of the changes reported here are sufficient to suggest important characteristics of structure and changes in structure.



in population between 1950 and 1956 was probably entirely in the non-farm sector of the economy in view of the decline in the number of farms from 1950-54.

Age structure of population. The age structure of the population in the cutover region was first brought into focus by Sparhawk and Brush in their discussion cited earlier in this chapter.

. . . The task of transforming a cutover wilderness into productive farms or forests, or building towns and cities, is slow, hard work, which is not likely to be undertaken on a long-scale by children or old folks. Yet it is the people at the most active ages, those between 18 and 44, who have been leaving in the largest numbers. From 1900 to 1920 the proportion of males between those ages decreased from 21.1 percent to 17.5 percent of the population in Northern Lower Michigan. . . . Persons of this age group composed a smaller part of the total population in the cutover region than in any other part of the State, a direct contrast to the condition when lumbering was in progress. . . .¹

The observation with regard to the proportion of males 18-44 is correct and has been extended in Table III. However, these data do not indicate "it is . . . those who have been leaving in the largest numbers." These data are not evidence of migration and a different kind of analysis of migration were not available to Sparhawk and Brush and thus the question of whether or not outmigration occurred cannot be answered. All that is known is that the 18-44 year old males were not replaced in total. It is known that the total population decreased by slightly more than 16,000 from 1900 to 1920 and that the number of males in the 18-44 age group decreased by more than 15,000. Thus, the total population did not quite maintain itself--decreasing by 4.4 percent, but the number of males 18-44 years of age was 20.0 percent less in 1920

¹Sparhawk and Brush, op. cit., p. 87-88.

as compared to 1900. These data are highly suggestive of migration—possibly to the Southern Lower Peninsula as shown in Table III.

TABLE III

MALES 18-44 YEARS OF AGE AS A PERCENT OF THE TOTAL POPULATION
THE NORTHERN LOWER PENINSULA, THE SOUTHERN LOWER PENINSULA,
THE UPPER PENINSULA, AND THE STATE OF MICHIGAN
1880, 1900, 1920

<u>Males 18-44 As a Percent of the Total Population</u>				
Year	<u>Area</u>			
	Northern Lower Peninsula	Southern Lower Peninsula	Upper Peninsula	The State
1880	27.5	21.5	32.5	22.7
1900	20.9	20.5	27.8	21.3
1920	17.5	24.3	20.7	23.3

Source: U. S. Census of Population, 1880, 1900, 1910.

The observations of Sparhawk and Brush with regard to the age structure in the cutover region in addition to other observations about the nature of the age structure in agriculture generally led to a rather detailed analysis of available data on this subject. Beginning in 1930, census data was tabulated more completely and is therefore more useful for studying certain aspects of change in the cutover region. The first hypothesis tested was that the data observed by Sparhawk and Brush illustrated a peculiar phenomenon and the age structure of the cutover region since 1920 has been essentially similar to that of the balance of the State.

The age group cited by Sparhawk and Brush, 18-44, is not a convenient grouping for analyzing data from 1930 to date.¹ Analysis of the difference in age structure between 1930 and 1950 indicates that the proportion of males in the 20-44 age group relative to the total population in the cutover region has remained lower than that of the balance of the State. The proportion for the State and for the cutover region has been decreasing since 1930 and the rate of decrease appears to be greater outside the cutover region with the result that a tendency towards equality is in evidence. These data are shown in Table IV.

The state-wide and region-wide comparisons conceal the nature of changes between the rural-farm and nonfarm sectors. A more detailed analysis indicates that the proportion of males 20-44 to total population in the rural-farm sector has changed very little since 1930 in either the cutover area or in the State as a whole. However, the proportion was slightly lower in the Northern Michigan cutover area in 1930 and remained lower through 1950 as compared to the proportion for the State rural-farm sector as a whole. The results of the analysis also indicates that the proportion of males in the 20-44 age group in the nonfarm sector of Northern Michigan has changed little since 1930. The results of the analysis are not surprising in view of the very small change in the region-wide proportion but the analysis was made because of the shift in the relative proportions of rural-farm to total population during the period--rural-farm population was 46.6 percent of

¹Censuses prior to 1930 contained separate tabulation on males 18-44. More recent Censuses contained 5 year groupings, i.e., 15-19, 20-24, etc., therefore results of analyses prior to 1930 are not strictly comparable with those of 1930 and more recent.

TABLE IV

PERCENT OF MALES 20-44 YEARS OF AGE IN TOTAL POPULATIONS OF SELECTED
CLASSIFICATIONS—THE STATE OF MICHIGAN, NORTHERN LOWER
PENINSULA, SOUTHERN LOWER PENINSULA,
AND THE UPPER PENINSULA
1930, 1940, 1950

Census Classifications and Area	Percent of Males 20-44		
	Year		
	1950	1940	1930
<u>Total Population</u>			
Northern Lower Peninsula	15.4	16.7	15.6
Southern Lower Peninsula	17.4	20.4	22.0
Upper Peninsula	17.1	14.5	16.6
State	17.3	19.8	21.3
<u>Rural-Farm</u>			
Northern Lower Peninsula	14.1	16.0	14.2
Southern Lower Peninsula	15.6	16.2	---
Upper Peninsula	17.0	19.7	---
State	15.4	16.4	15.5
<u>Non-Farm¹</u>			
Upper Lower Peninsula	16.0	17.3	16.6
Southern Lower Peninsula	17.6	---	---
Upper Peninsula	17.1	---	---
State	17.5	20.4	22.4
<u>Rural Non-Farm</u>			
Northern Lower Peninsula	15.4	---	---
Southern Lower Peninsula	18.7	---	---
Upper Peninsula	16.9	---	---
State	18.1	---	---
<u>Urban</u>			
Northern Lower Peninsula	16.8	---	---
Southern Lower Peninsula	17.4	---	---
Upper Peninsula	17.1	---	---
State	17.4	---	---

¹Non-farm is defined here as an aggregation of Rural-Nonfarm and Urban.

Source: U. S. Censuses of Population 1950, 1940, 1930.

the total in 1930 and declined to 33.2 percent in 1950. The analysis was also made to determine whether or not changes in the State-wide proportion of males 20-44 were due to shifts in the proportions within the farm sector. The results indicate that the decrease in the State-wide proportion of males 20-44 years of age was due to the general decline in the proportion located in the nonfarm sector rather than farm sector.

The evidence derived from the above analysis of the age structure also suggests that the proportion of males 20-44 years of age in the urban population of the Northern Lower Peninsula is more similar to the proportions found in the urban population of the balance of the State than is the proportion of males 20-44 years of age in the rural-farm population as compared to the balance of the State. Furthermore, the data indicates the greatest differences in proportions of 20-44 year old males occurs in the rural-nonfarm segments of the population with the Northern Lower Peninsula again exhibiting the lowest proportion of all. An analysis of this type is useful only in a limited sense. It was presented here primarily as evidence suggesting that differences do exist in age structure of the populations of the different areas of Michigan and that changes have occurred in these age structures. Again it should be emphasized that these data exhibit no proof of migration but are only suggestive of that action.

The analysis of the age structure outlined above suggests the possible existence of important differences between the Northern Lower Peninsula cutover region and the balance of the State. An additional method of analysis was developed to focus more sharply on these possible

differences. In this analysis all males twenty years of age and older were grouped according to specified ages and the percent each group was of the total number of males was calculated. Basing the age structure in this manner eliminates the possible effects of differences in the numbers of children and adult females relative to the total population contained in the previous analysis. These data are shown in Table V.

The evidence developed by this analysis substantiates the conclusion that the age structure of the male population twenty and over in the Northern Lower Peninsula cutover region differs from that of the State as a whole. The proportion of young males in the male population of the cutover region is somewhat smaller and the proportion of older males is somewhat larger than that for the State as a whole. Furthermore, this difference has existed, at least, since 1930. The age structure in the cutover region has changed somewhat less than that for the State. Since 1930, the age structure for the State has become more similar to that of the cutover region but important differences still exist, particularly in the youngest and oldest age groups.

A more detailed analysis using the above approach indicates that there are only small differences between the age structure of the rural farm population of the cutover region and that of the rural farm population of the State as a whole. The similarity between the two age structures has remained constant since 1930 while both have been showing a tendency towards a lower proportion of the total in the younger age groups and a higher proportion in the older age groups.

The more detailed analysis also indicates that there is a larger difference between the age structures of the rural-farm and nonfarm

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A more detailed analysis using the above approach indicates that there are only small differences between the age structure of the rural farm population of the cutover region and that of the rural farm population of the State as a whole. The similarity between the two age structures has remained constant since 1930 while both have been showing a tendency towards a lower proportion of the total in the younger age groups and a higher proportion in the older age groups.

The more detailed analysis also indicates that there is a larger difference between the age structures of the rural-farm and nonfarm



populations in the cutover region than there is between the rural-farm population of the cutover region and the rural-farm population of the State. The age structure of the nonfarm population in the cutover region indicates a tendency towards a larger proportion of young males and smaller proportion of older males than does the structure of the rural farm population.

The large difference between the age structure of the rural farm population in the cutover region and the age structure of the nonfarm population of the State was perhaps the most interesting and suggestive finding of this analysis. The age structure of the rural farm population in the cutover region shows a decidedly smaller proportion of young males and a decidedly larger proportion of older males than does the nonfarm age structure for the State. This difference has existed since 1930, but the difference has been narrowing to some extent with the tendency of the age structure of State to contain a higher proportion of older males while the age structure for the cutover region remained relatively stable. The decrease in the difference was most noticeable in the youngest age groups as the proportion of male population in the structure for the State declined relatively more than in the cutover region.

The data developed in the above analysis also suggests, but does not prove, the occurrence of migration from the cutover region. The data also suggests that population was "backed up" on farms during the 1930-40 decade but sufficient evidence to support this often mentioned phenomenon was not developed. A different arrangement of the data and a reoriented analysis is needed to focus evidence on these suppositions.



TABLE V

PERCENT OF MALE POPULATION 20 AND OVER IN SELECTED AGE GROUPS
BY CENSUS CLASSIFICATION AND DESIGNATED GEOGRAPHIC AREA*
NORTHERN LOWER PENINSULA AND THE STATE OF MICHIGAN
1930-1950

Age Groups	Year and Area					
	1950		1940		1930	
	Northern Lower Peninsula	The State	Northern Lower Peninsula	The State	Northern Lower Peninsula	The State
Table a Rural-Farm Population						
20-24	8.5	9.3	13.0	13.0	11.1	12.2
25-34	16.5	17.6	18.7	18.7	16.7	16.5
35-44	20.3	20.1	16.7	17.0	20.2	20.5
45-54	18.9	18.5	19.2	19.7	19.8	20.4
55-64	18.4	18.0	16.4	16.7	16.7	16.1
65-74	12.1	11.6	11.1	10.6	11.2	10.4
75 and over	<u>5.3</u>	<u>4.9</u>	<u>4.9</u>	<u>4.3</u>	<u>4.3</u>	<u>3.9</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0
Table b Nonfarm Population						
20-24	9.1	11.6	12.2	12.6	11.7	13.5
25-34	21.5	25.0	24.0	24.9	18.7	28.5
35-44	21.0	21.6	19.1	23.4	19.2	25.7
45-54	16.8	18.1	17.7	19.8	18.4	16.2
55-64	14.5	13.7	13.8	11.2	15.1	9.0
65-74	11.1	7.1	9.7	5.7	11.3	5.1
75 and over	<u>6.0</u>	<u>2.9</u>	<u>3.5</u>	<u>2.4</u>	<u>5.5</u>	<u>2.0</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0
Table c All Population						
20-24	9.0	11.3	12.5	12.7	11.2	13.4
25-34	19.8	24.2	21.5	23.9	18.4	26.7
35-44	20.7	21.5	17.9	22.3	20.1	25.0
45-54	17.5	18.1	18.4	19.8	18.7	16.5
55-64	15.8	14.2	15.1	12.1	15.4	10.2
65-74	11.4	7.6	10.4	6.5	11.1	5.9
75 and over	<u>5.8</u>	<u>3.1</u>	<u>4.2</u>	<u>2.7</u>	<u>5.1</u>	<u>2.3</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0

*All pairs of distributions tested significantly different at the one percent level as determined by the chi square analysis.

Source: U. S. Census of Population, 1950, 1940, 1930.



Additional evidence regarding the age structures in agriculture can be developed from data reported in the 1950 Census of Agriculture. The guiding hypothesis in this brief analysis was: There is no difference in the age structures of the farm operator population between the cutover region and the State as a whole. The results of this analysis indicate the hypothesis can be accepted. That is to say, the age structures were nearly identical in 1950.¹

TABLE VI

PERCENT OF FARM OPERATORS BY AGE GROUP, NORTHERN LOWER PENINSULA
CUTOVER REGION AND STATE OF MICHIGAN--1950

Age Group	Northern Lower Peninsula Cutover Region	State
Under 25	1.8	1.8
25-34	13.1	13.3
35-44	23.2	22.8
45-54	23.0	23.2
55-64	22.8	22.7
65 and over	<u>16.1</u>	<u>16.2</u>
Total	100.0	100.0

Source: United States Census of Agriculture, 1950.

The overall age structures could be identical and yet important variations between areas could exist with regard to income received from farming among the various age groups. Thus, the second hypothesis of this phase was: There are no differences in the age structures of

¹The age structures were analyzed for 1950 only, the most recent available data. The data for the Northern Lower Peninsula cutover region were developed from Economic Area aggregations and it should be noted that one county was omitted--Midland.

farm operator populations within Economic Classes of farms between the cutover region and the State as a whole. The results of the analysis indicates this hypothesis must be rejected. The results are surprising in the sense that the differences are not consistent. That is to say, older operators are more predominant in the Economic Classes I, II and III, as a group, in the cutover area relative to the State as a whole. The situation is reversed with regard to Economic Classes IV, V and VI, as a group,--older operators are less predominant in the cutover area relative to the State as a whole. The age structures of the Part-time and Residential, as a group, are not consistently different between the two areas to warrant inferences. These data are shown in Table VII.

TABLE VII

PERCENT DISTRIBUTION OF FARM OPERATORS BY AGE GROUP AND ECONOMIC CLASS*
NORTHERN MICHIGAN CUTOVER AND THE STATE OF MICHIGAN--1950

Age Group	Economic Class and Area					
	I, II, III		IV, V, VI		PT, Res.	
	Cutover	State	Cutover	State	Cutover	State
Under 25	1.7	1.8	1.8	1.9	1.8	1.6
25-34	13.1	17.9	12.6	11.7	13.9	13.3
35-44	27.8	27.6	21.4	19.5	25.0	25.3
45-54	26.5	24.2	22.8	22.2	22.5	24.3
55-64	22.9	19.6	24.7	25.1	19.4	20.6
65 and over	<u>8.0</u>	<u>8.9</u>	<u>16.7</u>	<u>19.6</u>	<u>17.4</u>	<u>14.9</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0

*Distributions were significantly different at the one percent level as determined by the chi-square analysis.

Source: Census of Agriculture, 1950.

Several hypotheses could be advanced to "explain" the differences noted above. For instance, it could be argued that older operators do not relinquish control over assets on the "better" farms in the northern part of the Lower Peninsula and therefore fewer sons are counted as farm operators relative to similar situations in the southern portion of the Lower Peninsula. Or it could be argued that it takes longer to accumulate capital in the cutover region and therefore operators do not reach higher levels of output and sales until they are older relative to operators in the southern portion. Or it could be argued that a higher proportion of the younger people living in the open country in the cutover area decide to have some agricultural operations to supplement off-farm earnings as compared to the younger people in the southern portion. Sufficient data are not available to substantiate these or other hypotheses. The major reason for presenting this data is to indicate that additional evidence does exist suggesting the age structures in the farm economy are not basically different in the cutover and relative to the state. Further, these data are additional evidence suggesting that migration out of the farm sector has been experienced in both the cutover region and the state as a whole.

Migration. The number of males in an age group at one census date compared with the number in an age group representing the proper interval increase in age at a different census date was the basis for another analysis in this phase of the study. In essence this analysis asks the question: If 5,000 males 10-19 years of age were enumerated in the rural-farm classification in an area in 1940, how many males 20-29 years of age are enumerated in the same area in 1950?



Obviously this analysis yields little information regarding total migration but it does generate data for a crude net migration analysis and it can be refined to focus on particular age groups.

The population of a particular age group will be reduced to some extent by deaths, assuming no migration, before it is counted again 10 years later. Thus it was necessary to develop "crude mortality adjustment factors" for the age groups studied. Since the populations of age groups within a state are subject to change due to migration, total United States male populations in specified age groups were used to develop the adjustment factors. The adjustment factor indicates the percentage of a particular population counted at one census date that was again counted at the next census date when the population was ten years older. For purposes of simplification and comparisons with other age groups the figure for the adjusted net change will be termed the coefficient of net migration.

The analysis was designed specifically to gain insight regarding differential rates of net migration for populations of particular age groups within and between certain census classifications and areas. The first hypothesis tested was: There are different rates of net migration among age groups within the rural farm sector of the cutover region and the younger age groups will show the highest rate. The second hypothesis tested was: Given the same age group, there are different rates of net migration between the rural farm and the non-farm sectors of the cutover region and the rural farm population will have the highest rate. The third hypothesis tested was: Given the age group, there are different rates of net migration between the rural

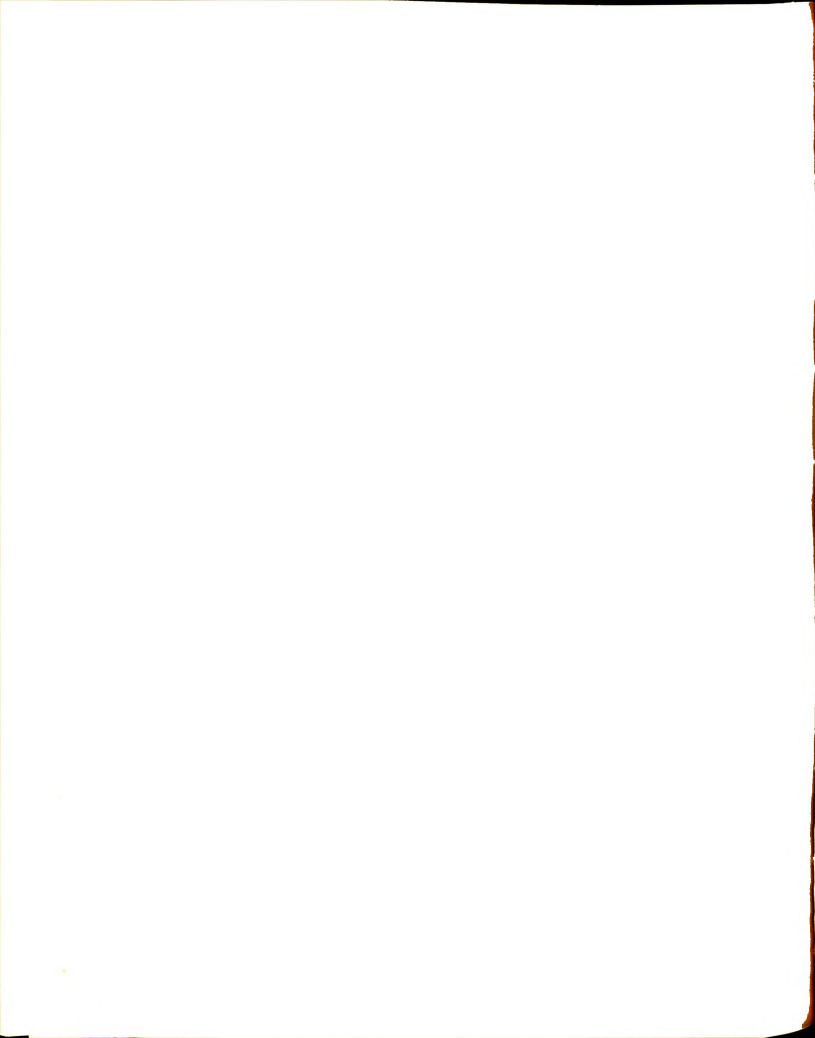


farm population in the cutover region and the rural farm population of the State as a whole and population of the cutover region will have the higher rate.

The number of rural farm males in cutover region counted in the 20-29 age group in 1940 was 28.2 percent less than the number in the 10-19 age group in 1930. The number of males in the United States counted in the 20-29 age group in 1940 was 5.8 percent less than the number in the 10-19 age group in 1930. After adjusting for mortality, the coefficient of net migration was 23.8 percent, or simply 23.8 for males of this age group in the cutover area.

An examination of several other age groups for this period indicates that each experienced a net increase in numbers. That is to say, the coefficient of net migration was negative for all age groups examined with the exception of the group reaching their 20th birthday, but not their 30th, before the census date in 1940. The coefficient of net migration was 64.2 for that rural farm population in the cutover region reaching their 20th but not their 30th birthday before the census date in 1950. Positive, but smaller, coefficients of net migration for all other age groups indicates a general outmigration from the farm classification during the 1940-1950 decade. These data are shown in Table VIII.

The positive and larger coefficients of net migration for the two youngest age group in 1950 and the youngest age group in 1940 are sufficient evidence for the acceptance of the hypothesis that there are different rates of net migration in the rural farm sector of the



cutover region and that the youngest age groups reflect the highest rates of migration.

TABLE VIII

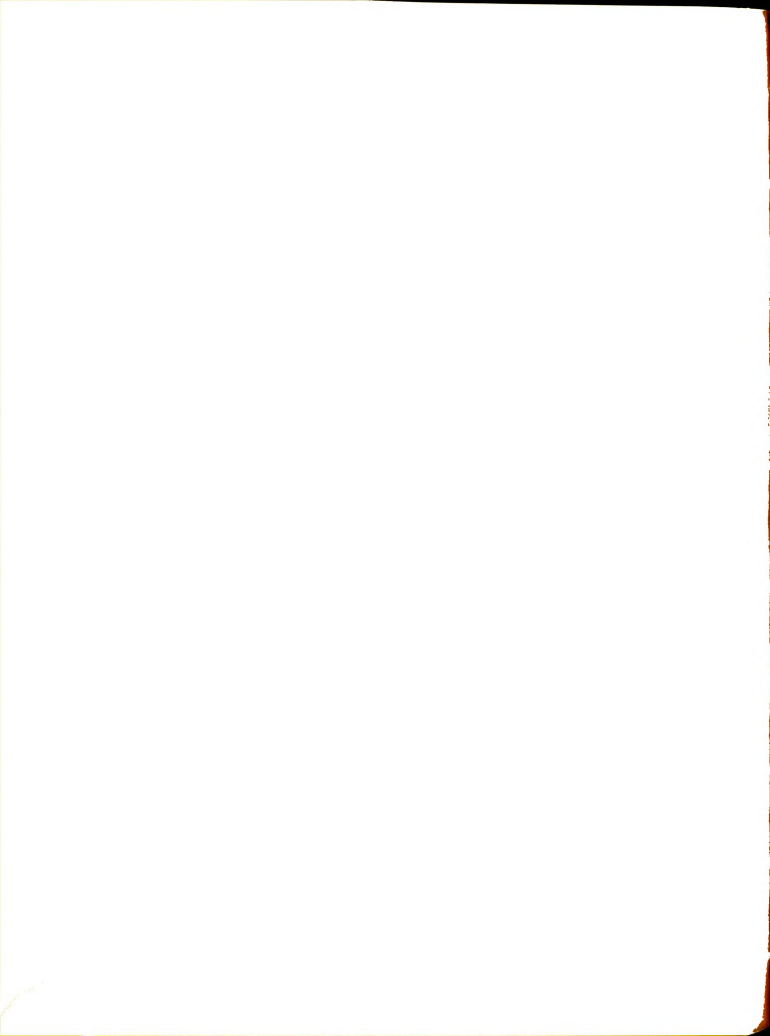
COEFFICIENTS OF NET MIGRATION FOR RURAL FARM MALES, NORTHERN LOWER
PENINSULA CUTOVER REGION OF MICHIGAN
1930-1940; 1940-1950

Age Group in 1930-1940	Age Group in 1950 or 1950	Coefficient of Net Migration	
		1930-1940	1940-1950
10 - 19	20 - 29	23.8	64.2
20 - 29	30 - 39	-14.9	38.0
25 - 34	35 - 44	-31.1	19.3
35 - 44	45 - 54	-33.7	10.3
45 - 54	55 - 64	-32.9	14.0
55 - 64	65 - 74	-16.5	26.7

Source: U. S. Census of Population 1950, 1940, 1930.

Parenthetically it can be noted the negative sign on the coefficients of net migration for the older age groups in the 1930-1940 decade is evidence that population did indeed move "back to the farm" during the depression years. This reverse migration has been discussed often but seldom documented. Furthermore, this analysis indicates the rate of net migration to the cutover region was roughly equivalent for the age groups 35-64 in 1940.

The coefficients of net migration calculated for the age groups of the nonfarm male population in the cutover region indicate a general net migration to area in terms of all ages studied with two exceptions. The two exceptions are the populations 20-29 and 65-74 in 1940. Thus, during the decade 1940-1950 all age groups studied experienced a net



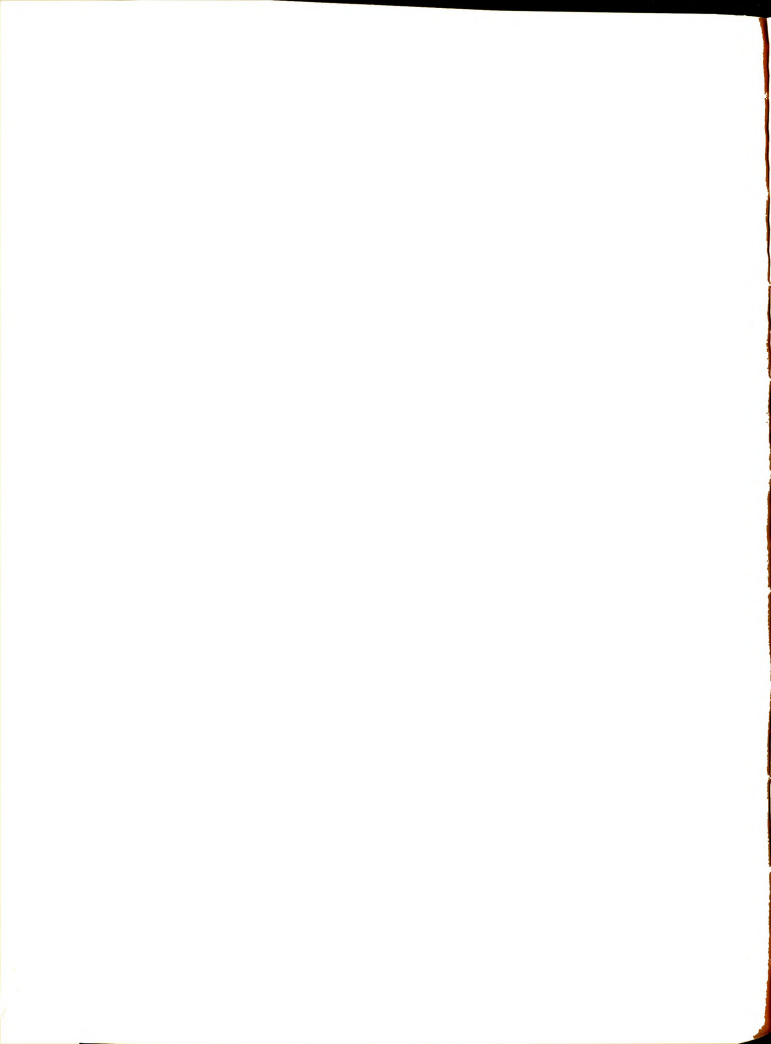
increase in numbers of persons, and during the decade 1930-1940 the age groups from 30-64 in 1940, (or 20-54 in 1930) experienced a net increase in the number of persons. These coefficients of net migration are sufficient evidence to accept the hypothesis that, given the age group, the rural farm population have the highest rates of net migration. However, these data are not free of possible misinterpretation. The analysis shows that the rate of outmigration was largest for the rural farm populations in 1940-1950. The analysis also shows that the rate of immigration among age groups in the nonfarm sector was large. Since the rates of immigration are larger than the rates of outmigration, a strict interpretation would be that the nonfarm population groups show the highest rate of net migration. These data are shown in Table IX.

TABLE IX

COEFFICIENTS OF NET MIGRATION FOR NONFARM MALES, NORTHERN LOWER
PENINSULA CUTOVER REGION OF MICHIGAN
1930-1940; 1940-1950

Age Group in 1930 or 1940	Age Group in 1940 or 1950	Coefficient of Net Migration	
		1930-1940	1940-1950
10 - 19	20 - 29	3.1	0.7
20 - 29	30 - 39	-10.3	-18.4
25 - 34	35 - 44	-11.3	-18.2
35 - 44	45 - 54	-8.9	-27.1
45 - 54	55 - 64	-0.9	-34.0
55 - 64	65 - 74	5.9	-45.1

Source: U. S. Census of Population, 1950, 1940, 1930.



A possibility exists that a part, perhaps a large amount, of the "migration" during 1940-1950 from the farm sector was merely a change in classification rather than site. That is to say, the migration indicated by the positive coefficients in the farm sector of the cutover area could have been offset by the migration indicated by the negative coefficients in the nonfarm sector without physical migration by anyone. The analysis of the combined classifications indicates that a physical migration to the cutover area did occur even if it is assumed that older age farm populations that "migrated" merely changed classifications and not site. It should be noted that migration of young males from the cutover area did occur in both decades. These data are shown in Table X.

TABLE X

COEFFICIENTS OF NET MIGRATION, FARM AND NONFARM MALES BY SELECTED AGE GROUPS, NORTHERN LOWER PENINSULA CUTOVER REGION OF MICHIGAN
1930-1940; 1940-1950

Age Group in 1930 or 1940	Age Group in 1940 or 1950	Coefficient of Net Migration	
		1930-1940	1940-1950
10 - 19	20 - 29	13.6	33.9
20 - 29	30 - 39	-8.0	7.5
25 - 34	35 - 44	-19.2	-2.7
35 - 44	45 - 54	-20.0	-10.7
45 - 54	55 - 64	-20.0	-10.2
55 - 64	65 - 74	-10.3	- 7.8

Source: U. S. Census of Population, 1950, 1940, 1930.

The coefficients of net migration calculated for the age groups of the rural farm male population of the state as a whole indicate



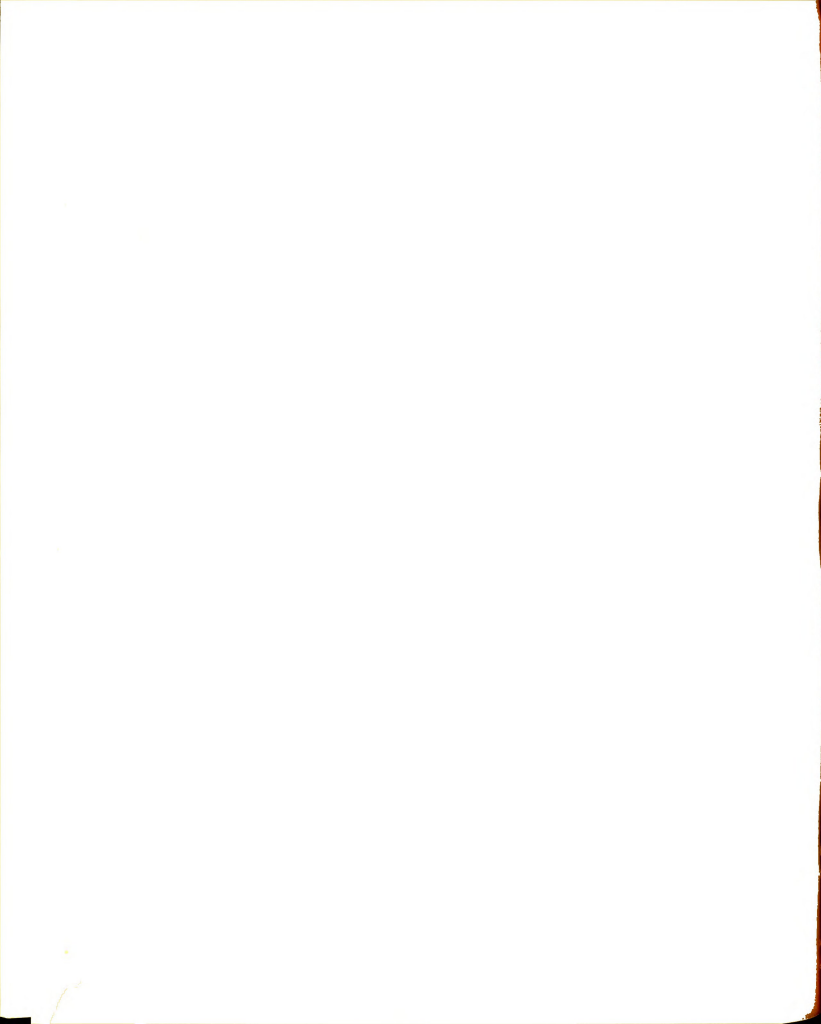
that the patterns of migration to the rural farm area during the period 1930-1940 and migration from the rural farm area in 1940-1950 were quite similar to those experienced in the cutover region. In some cases the coefficients of net migration are essentially identical. The data indicate that the hypothesis that the rural farm population of the cutover region have higher coefficients of net migration than for the rural farm populations of the state as a whole, can be accepted but the evidence is scarcely overwhelming. These data are shown in Table XI.

TABLE XI
COEFFICIENTS OF NET MIGRATION FOR RURAL FARM MALES
THE STATE OF MICHIGAN
1930-1940; 1940-1950

Age Group in 1930 or 1940	Age Group in 1940 or 1950	Coefficient of Net Migration	
		1930-1940	1940-1950
10 - 19	20 - 29	23.5	55.8
20 - 29	30 - 39	-2.7	34.6
25 - 34	35 - 44	-28.0	15.9
35 - 44	45 - 54	-28.3	9.1
45 - 54	55 - 64	-23.9	14.2
55 - 64	65 - 74	-8.9	27.6

Source: U. S. Census of Population, 1950, 1940, 1930.

Most age groups in the nonfarm population of the cutover area gained population during the 1930-40 decade although most age groups of the nonfarm population of the State as a whole lost population during the period. Since most age groups of the farm population in the cutover area also experiences increased population, it can reasonably be assumed that a physical migration to the cutover area did occur



during the 1930-40 decade. Further, this migration occurred during a period when the State as a whole was losing population from some age groups in excess of ordinary mortality. These data are shown in Tables X, XII, and XIII.

TABLE XII

COEFFICIENTS OF NET MIGRATION NONFARM MALES BY SELECTED AGE GROUPS
THE STATE OF MICHIGAN
1930-1940; 1940-1950

Age Group in 1930 or 1940	Age Group in 1940 or 1950	Coefficient of Net Migration	
		1930-1940	1940-1950
10 - 19	20 - 39	-16.1	-12.9
20 - 29	30 - 39	0.8	-16.8
25 - 34	35 - 44	6.9	-9.6
35 - 44	45 - 54	6.1	-5.6
45 - 54	55 - 64	4.1	-6.5
55 - 64	65 - 74	4.0	-8.1

Source: U. S. Census of Population, 1950, 1940, 1930.

A final observation on migration is that the older age groups in the cutover area apparently experienced a higher rate of increase during the 1940-50 decade than did the older age groups for the State as a whole. Since the older age groups in the cutover area also gained population during the 1930-40 decade while most of the groups in the State as a whole lost, it might be interpreted that there has been a twenty-year trend in the direction of a higher proportion of the aged males of the State residing in the cutover area. However, this is not true--the proportion of all males 55 and over in the State that resided in the cutover area decreased from 10.6 percent in 1930 to 7.7 percent in 1950.



TABLE XIII.

COEFFICIENTS OF NET MIGRATION, FARM AND NONFARM MALES
BY SELECTED AGE GROUPS, THE STATE OF MICHIGAN
1930-1940; 1940-1950

Age Group in 1930 or 1940	Age Group in 1940 or 1950	Coefficient of Net Migration	
		1930-1940	1940-1950
10 - 19	20 - 29	-7.4	-11.6
20 - 29	30 - 39	0.4	-10.1
25 - 34	35 - 44	6.2	-7.4
35 - 44	45 - 54	1.8	-3.7
45 - 54	55 - 64	-1.1	-3.1
55 - 64	65 - 74	0.9	0.1

Source: U. S. Census of Population, 1950, 1940, 1930.

Summary comments. The purpose of the discussion above has been to develop some of the information to provide an answer to the question of whether or not resource patterns in the cutover area have been essentially static during the past several decades.

The information indicates that resource patterns have not been static. Considerable change has characterized the area as a whole and, as will be shown later, those changes are probably continuing to take place in the economy of the cutovers.

First of all, it was noted that the magnitude of change in farm numbers and size of farm has been impressive. For instance, the number of farms in the cutover area decreased 41 percent between 1910 and 1954 while the number of farms decreased by 33 percent in the State as a whole during the same period. Changes in the size distribution of farms is shown in Table XIV.

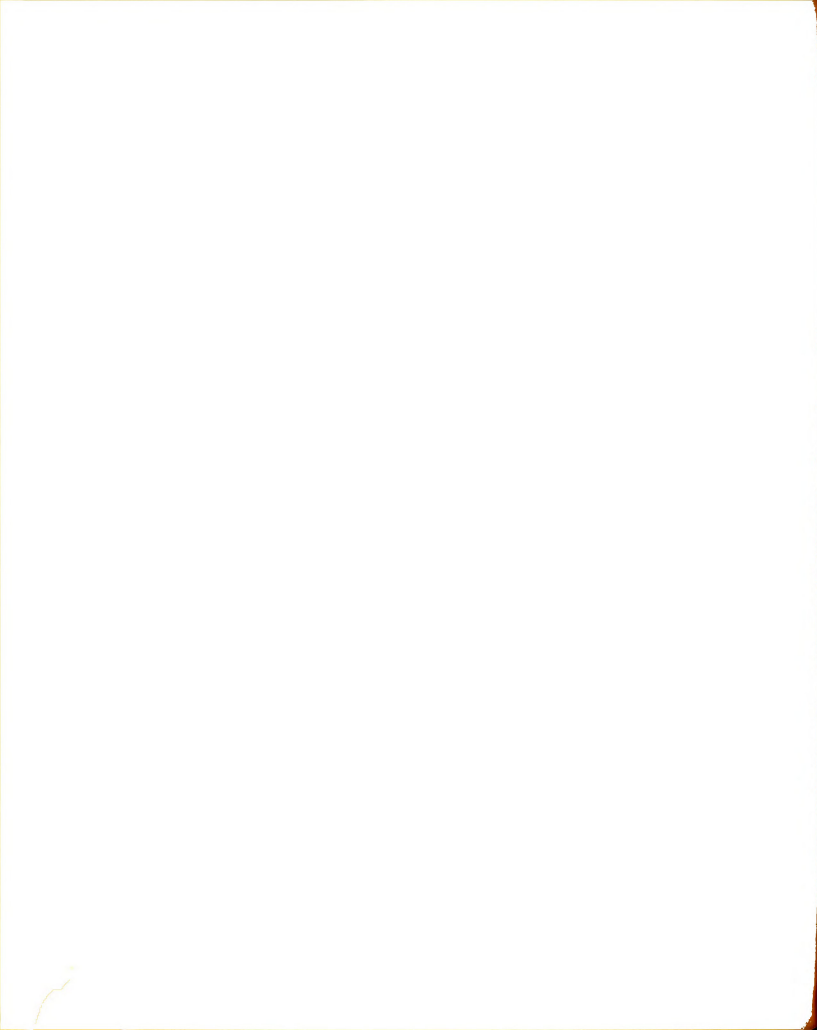


TABLE XIV

NUMBER OF FARMS AND PERCENT OF FARMS BY SIZE GROUPS,* NORTHERN
LOWER PENINSULA CUTOVER REGION AND STATE OF MICHIGAN
1910 AND 1954

	Year and Area			
	1910		1954	
	Cutover	State	Cutover	State
Number of Farms--	44,352	206,960	21,187	138,922
Size Group (acres)	Percent of All Farms			
Under 10	0.9	3.4	1.9	5.7
10 - 49	30.4	27.8	16.6	22.4
50 - 99	37.5	35.6	24.8	26.1
100 - 174	22.4	24.5	30.1	26.3
175 - 499	7.7	8.3	23.4	18.3
500 and over	<u>1.1</u>	<u>0.4</u>	<u>2.2</u>	<u>1.2</u>
Total	100.0	100.0	100.0	100.0

*The two periods are not strictly comparable because of changes in definition of a farm and a slight change in size groupings.

Source: Census of 1910 and 1954.

Secondly, changes in total population and changes in the structure of the population are quite noticeable. If population in 1880 is used as a base, it can be noted that the index was 234 in 1910, 185 in 1930, and 243 in 1956. The population structure has been shifting in the direction of urbanization and to nonfarm. The proportion of males 20-44 years of age in the total population was essentially the same in 1950 as in 1930 after increasing in 1940. However, this proportion is the lowest for any geographic segment of the State and has been lowest for at least twenty years and possibly for the past fifty years.



On the other hand, a comparison of the age structures of farm operators between the cutover area and the State as a whole indicates little, if any, difference.

Third, rates of migration out of agriculture in the cutover area were higher than for the State as a whole. However, during both decades, 1930-1940 and 1940-1950, a migration to the cutover area by older males has been experienced.

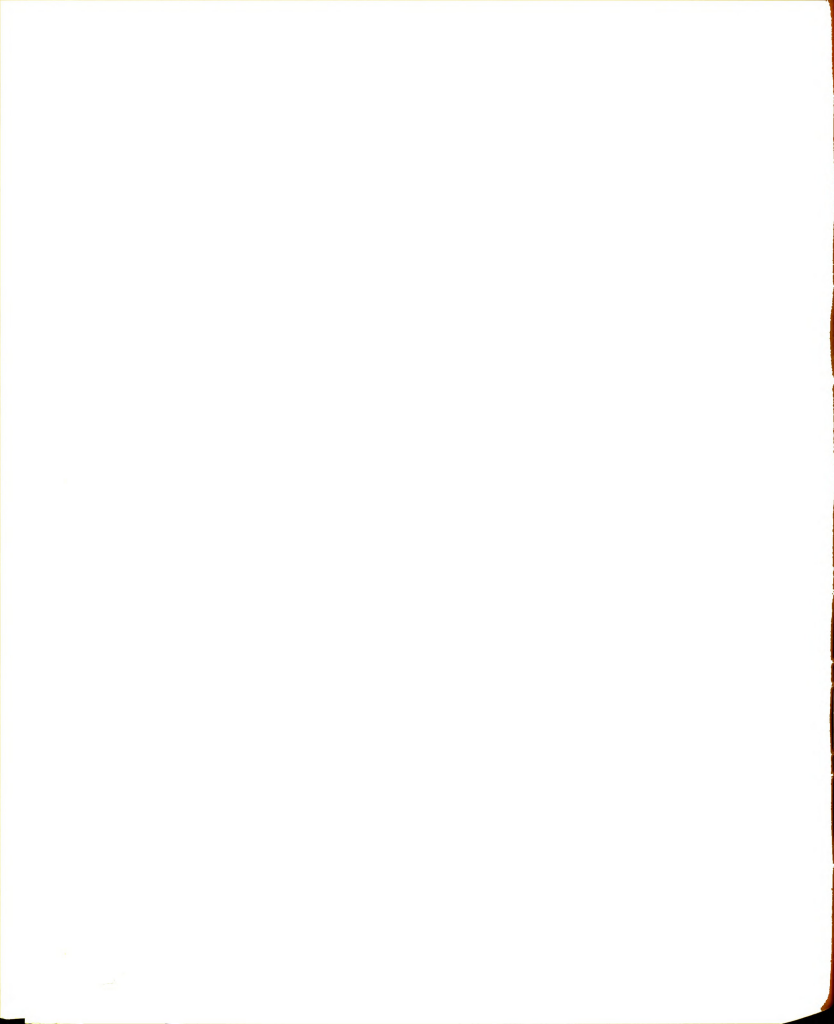
Fourth, although there have been major changes in the economy of the cutover area, a larger proportion of the farms in the cutover area have low total sales of farm products as compared to the State as a whole. These data are shown in Table XV.

TABLE XV

PERCENT OF ALL FARMS IN EACH ECONOMIC CLASS OF FARM, NORTHERN
LOWER PENINSULA CUTOVER REGION AND STATE OF MICHIGAN
1954

Economic Class of Farm	Cutover Region	State
I	0.7	1.1
II	3.0	7.8
III	9.6	16.2
IV	17.5	19.8
V	22.3	18.7
VI	11.7	7.0
Part-time	18.4	15.4
Residential	<u>16.8</u>	<u>14.0</u>
Total	100.0	100.0

Source: United States Census of Agriculture, 1954.



Fifth, although the average value of land and buildings per farm has increased at a more rapid rate in the cutover area as compared to the State, the rate of increase in the average value per acre has not kept pace with the rate for the State as a whole. These data are shown in Table XVI.

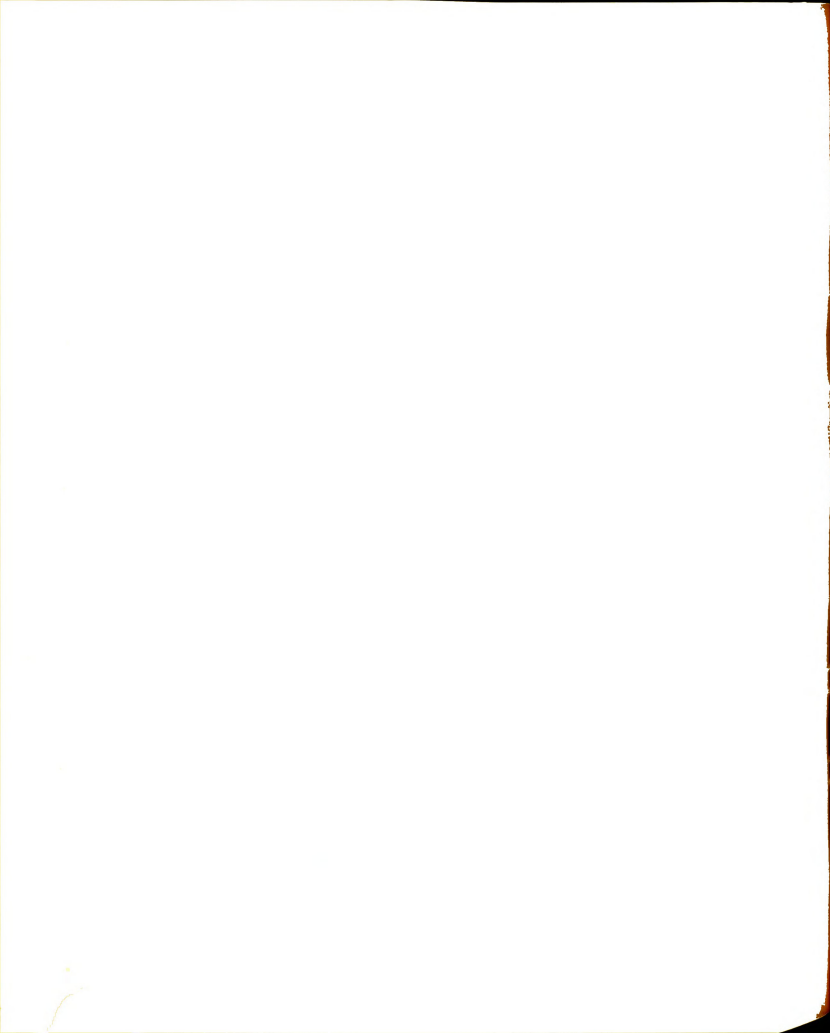
TABLE XVI

INDEXES OF AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE, NORTHERN LOWER PENINSULA CUTOVER REGION AND THE STATE
1910, 1930, 1954
(1910 = 100)

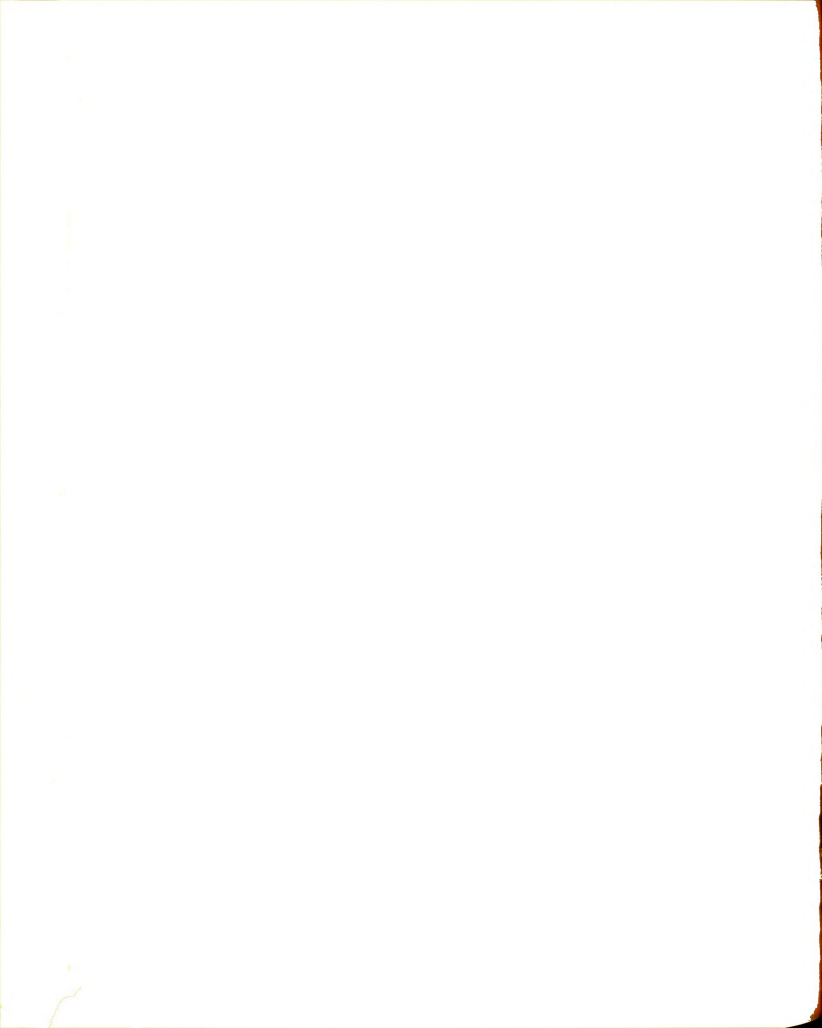
Year	Area			
	Cutover Per Farm	State	Cutover Per Acre	State
1910	100	100	100	100
1930	166	157	122	145
1954	390	333	259	277

Source: United States Censuses of Agriculture, 1910, 1930, 1954.

The analyses presented in this chapter yield only a partial advance in knowledge regarding the economic structure and changes in economic structure of Northern Michigan. Several important facets of the economy have not been investigated. A more thorough analysis would build on the information developed here as well as investigate the industrial development and the importance of the recreation "industry" of the area. However, it is suggested that the limited information developed above indicates several important dynamic forces have been effective in structuring desirable resource patterns and also suggests the possibility



that some forces have not been effective in structuring desirable resource patterns in the area.



CHAPTER IV

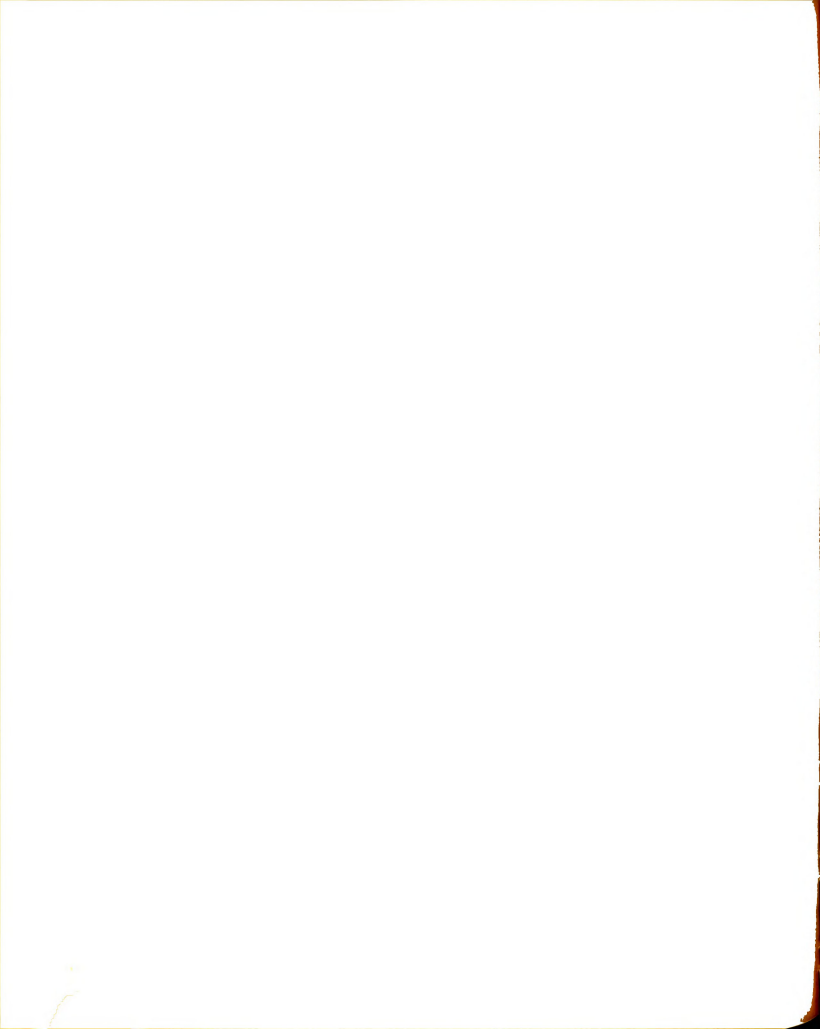
FINDINGS OF THE SIX-COUNTY STUDY

. . . When there is no statement of a hypothesis or only a vague one, irrelevant data are introduced, analyses are made that do not provide helpful evidence, and conclusions are weak, unconvincing, or useless. Where the research shows that there is an operating hypothesis, . . . the reconstruction of the hypothesis in the "if-then" form serves to clarify and thus to help appraise the validity of the conclusions, in terms of the weight and relevance of the evidence presented.¹

The Methodological Structure Used In This Analysis

The general analytical theme of this phase of the study is contained in the following hypothesis: If the six-county study area is a low income area due to the malfunctioning of the labor market, primarily, then a number of observations about the effects of this malfunctioning can be recorded and analyzed. It should be noted here that the survey of open country households from which the data for this phase of the study were derived was not primarily designated to focus on the effects of the malfunctioning of the factor and product markets. However, it is felt that the surveys do contain sufficient information to yield useful observations to perform the task stated in the above hypothesis.

¹Leonard A. Salter, Jr., A Critical Review of Research in Land Economics, (Minneapolis: The University of Minnesota Press, 1948), p. 128.

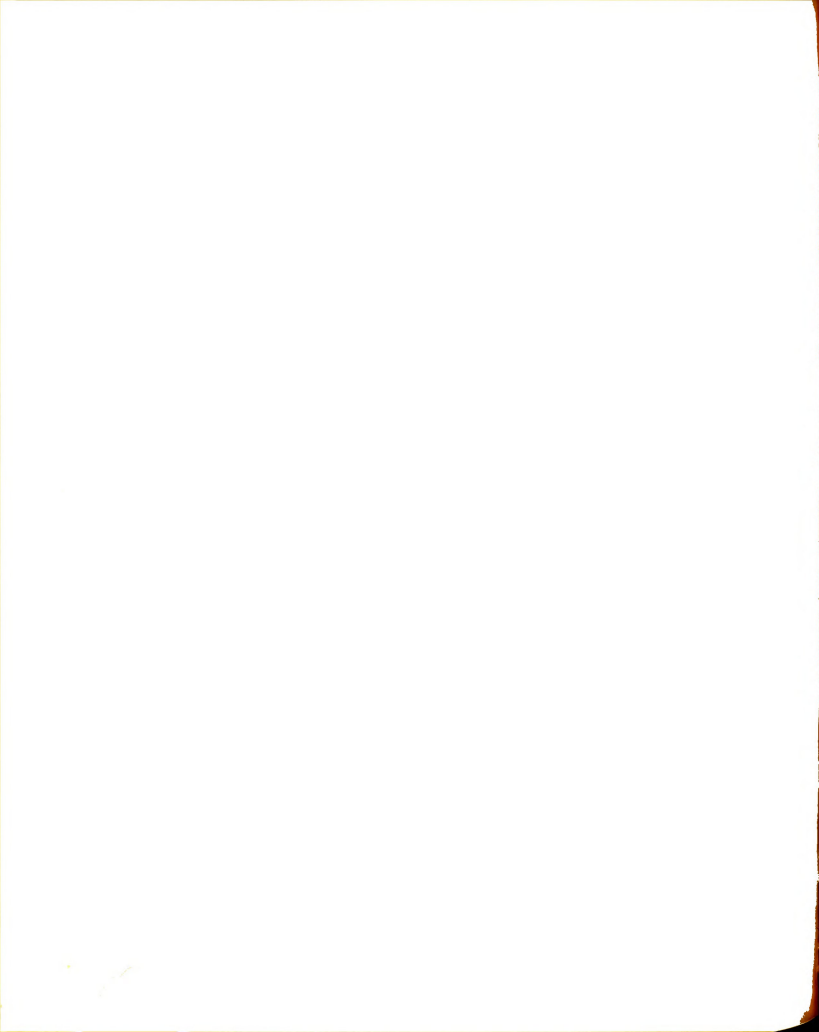


The general methodological approach of this phase of the study is contained in the following hypothesis: If each household is viewed as an individual experiment, then it will be possible to delineate evidence to substantiate some conclusions regarding the nature and causes of low incomes in study area. The concept of the household as an individual experiment, in the context of this study, refers to its adjustments, or lack of adjustments, to its environment. It's environment, in turn, refers primarily to economic environment in contrast to other concepts of environment such as social, psychological, religious, or total. Thus the household is considered as a unit of inquiry reacting to its economic environment as it proceeds through time and space. This methodological approach has not been sufficiently exploited in past research efforts.¹ Therefore, utilizing the approach in this study is in itself an experiment to determine whether or not it is more useful than other approaches in terms of the kind of research problem undertaken and if it does appear to hold promise as a more useful approach then statements can be developed regarding its improvement as a method of inquiry.

The Specific Area, Sampling and Enumeration

The specific area. Budget limitations prevented a random sampling of the entire area in the Northern Lower Peninsula cutover area designated as low-income. Because of this it was decided to limit field enumeration to one of the three Economic Areas delineated by the Census

¹For a discussion of this point see Salter, ibid., pp. 83-129.



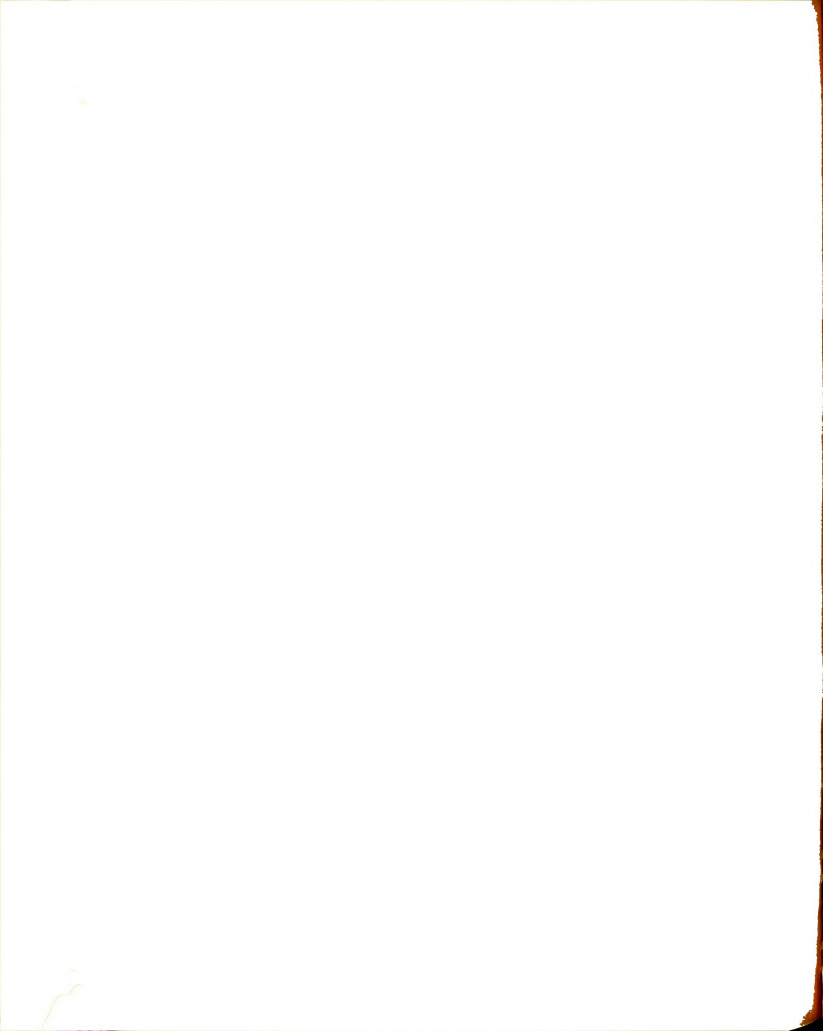
Bureau. Upon closer examination, it was decided to sample only that part of Economic Area 4a as defined by the outside boundaries of Wexford, Missaukee, Lake, Osceola, Newaygo, and Mecosta counties. This decision was based, in part, on the attempt to eliminate one major type of farming from the studied area, namely fruit farming. The decision was also based on the assumption that off-farm opportunities differed in the Northern portion of the Economic Area as compared to the southern portion due to the proximity of the southern portion to the industrial centers of Grand Rapids and Muskegon.

Economic development began in this area during the 1870-1880 decade. The total population increased until 1910 and then decreased until 1930. The population increased 17 percent from 1930 to 1950 but since 1950 the increase has been negligible. These data are shown in Table XVII.

TABLE XVII
TOTAL POPULATION IN STUDY AREA
1870-1956

Year	Population
1870	16,357
1880	51,039
1890	77,634
1900	87,335
1910	92,889
1920	82,012
1930	73,458
1940	80,305
1950	85,675
1956	85,970

Source: United States Census of Population and Michigan
Department of Health



The increases for the study area are in sharp contrast with those for the State as a whole--32 percent from 1930 to 1950 and 18 percent from 1950 to 1956. Non-open country population increased from 28.2 percent in 1900 to 40.1 percent in 1950.

The number of farms in the study area reached a peak in 1910 and has decreased since that time, except for 1930-40. The number of farms in 1954 was 50.2 percent of the number in 1910.¹ Approximately 17 percent less land was in farms in 1954 as compared to 1910 and the average size of farm increased from 100 to 150 acres during this period. In 1954, the amount of land area in farms varied among the counties from 15.8 percent to 65.2 percent, averaging 43.3 percent for the entire study area.

Sales of farm products amounted to less than \$2,500 on 65.7 percent of the farms in the six county study area in 1954. Livestock products and livestock were the most important sources of income, accounting for more than seventy percent of the value of all products sold in five of the six counties and over fifty percent in the remaining county. In 1954, 39.2 percent of the operators had other income of family exceeding value of farm products sold, and 37.3 percent of the operators worked off the farm more than 100 days. The distribution of farms by Economic Class is shown in Table XVIII.

¹The change in the definition of a farm has affected this comparison to some extent. If a comparable definition had been used in both periods, the percentage decline would have been on the order of 40-50 percent.



TABLE XVIII
NUMBER AND PERCENT OF FARMS BY ECONOMIC CLASS
NORTHERN MICHIGAN STUDY AREA
1954

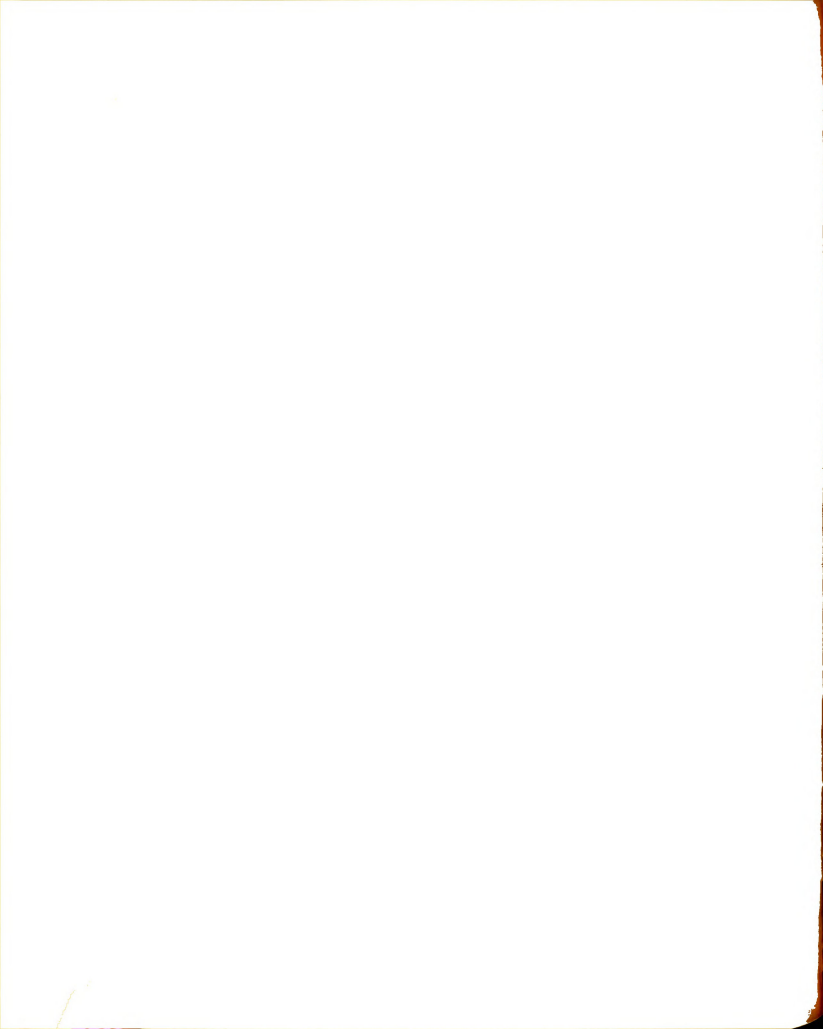
Economic Class	Number of Farms	Percent of Farms
I	28	.4
II	211	3.1
III	730	10.6
IV	1,389	20.2
V	1,627	23.7
VI	715	10.4
Part-time	1,177	17.1
Residential	<u>995</u>	<u>14.5</u>
Total	6,872	100.0

Source: United States Census of Agriculture, 1954.

The degree of industrialization in the six county study area is difficult to determine from published materials because information for one county was not disclosed. However, manufacturing payrolls in five of the six counties amounted to nearly as much as the value of farm products sold in the six counties.¹ If the payroll from the untabulated county had been included the total manufacturing payroll for the study area would have been considerably in excess of the value of farm products sold.

The schedule. The schedule used in this study was very similar to the schedules used in connection with several studies of low-income

¹As determined from data published in the Census of Agriculture and the Census of Manufacturing, both for 1954. Data for Newaygo County was not tabulated in the 1954 Census of Manufacturing. This county contains the Gerber Baby Food Products Corporation.



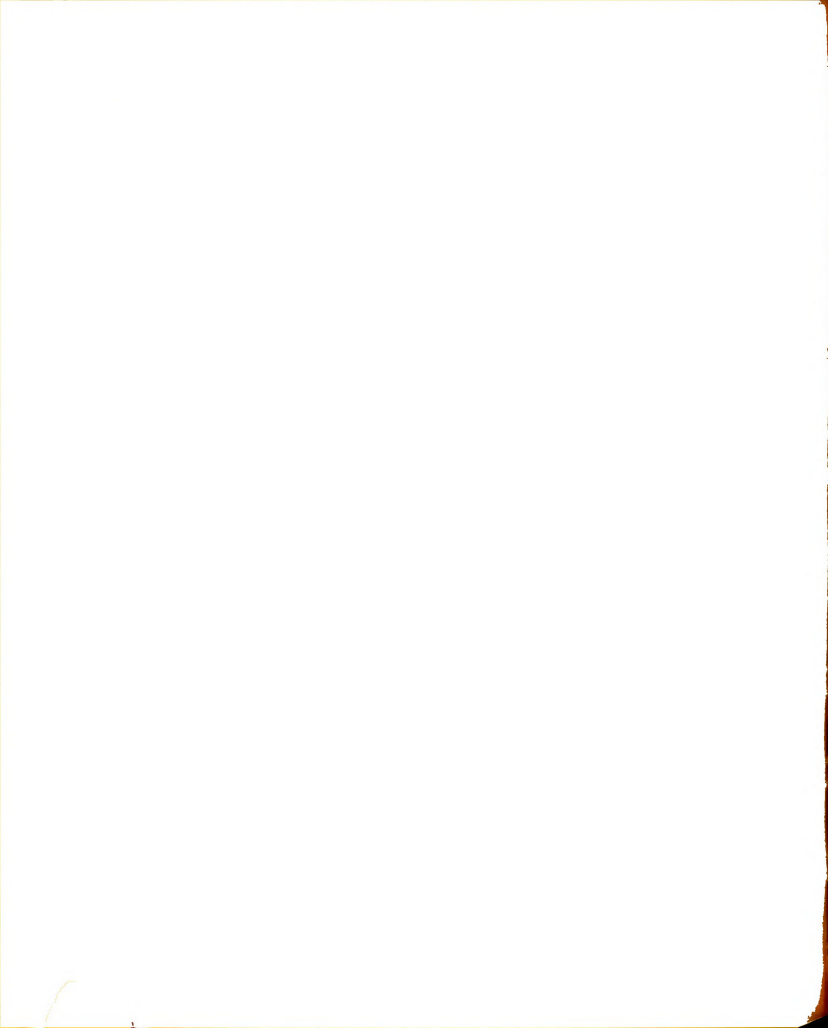
farming in various parts of the United States. Basically, this questionnaire contained questions designed to obtain the experiences of the respondent in terms of present income position, the present income generating activities and resources, and the major changes in physical location and income generating activities during the lifetime of the respondent. Questions were also designed to determine the plans of the respondent for the future in terms of major changes in location or income generating activities.

Sampling. The sampling design for selecting open country households was developed by statisticians in the Agricultural Marketing Service of the United States Department of Agriculture.¹ Basically this design delineates counties into segments with each segment containing about eight households. The sample size is determined and this in turn determines the number of segments required. The segments were selected randomly within a county--a total of fifty-two for the six county study area.

Enumeration. Interviewers were sent to the study area during June and July of 1957. A curtailment of the budget for this project prevented a complete enumeration of the original sample. At the end of the enumeration period 234 farm households and 105 nonfarm households had been contacted.

Limitations of the data. Survey data contains errors. This survey is no exception. Errors due to memory bias, lack of knowledge, or

¹Earl E. Houseman and T. S. Reed, Application of Probability Sampling to Farm Surveys, U. S. Department of Agriculture, Agricultural Marketing Service, Agricultural Handbook No. 67 (Washington: U. S. Government Printing Office, May, 1954).



willful failure to disclose the proper information are problems constantly faced by research personnel.¹ In some kinds of studies, and for some kinds of data, the errors may be randomly distributed. If this is true, the errors can be compensated by appropriate aggregation or the researcher can develop adjustments or qualifications in the form of probability statements. In other cases, a consistent bias may occur. If this is known to be true, adjustments can be made to make the data analytically useful, providing the basis for the adjustment "coefficient" is sound. In still other cases, the researcher will know, through close contact with the data, that errors exist but not know how to make the proper adjustments or compensations. This is the nature of the situation in the present study. When this situation exists the only alternative is for the researcher to state the impressions he has about the

¹Evidence to substantiate this point is contained in the following excerpt of a letter from Secretary of Agriculture, E. T. Benson, to Hon. Tom Murray, in Hearings on H. R. 3828 and S. 405, Bills to Require the Bureau of the Census to Develop Farm Income Data on Economic Class of Farm, U. S. Congress, Committee on Post Office and Civil Service, 85th Congress, 1st Session, 1957, pp. 12-13.

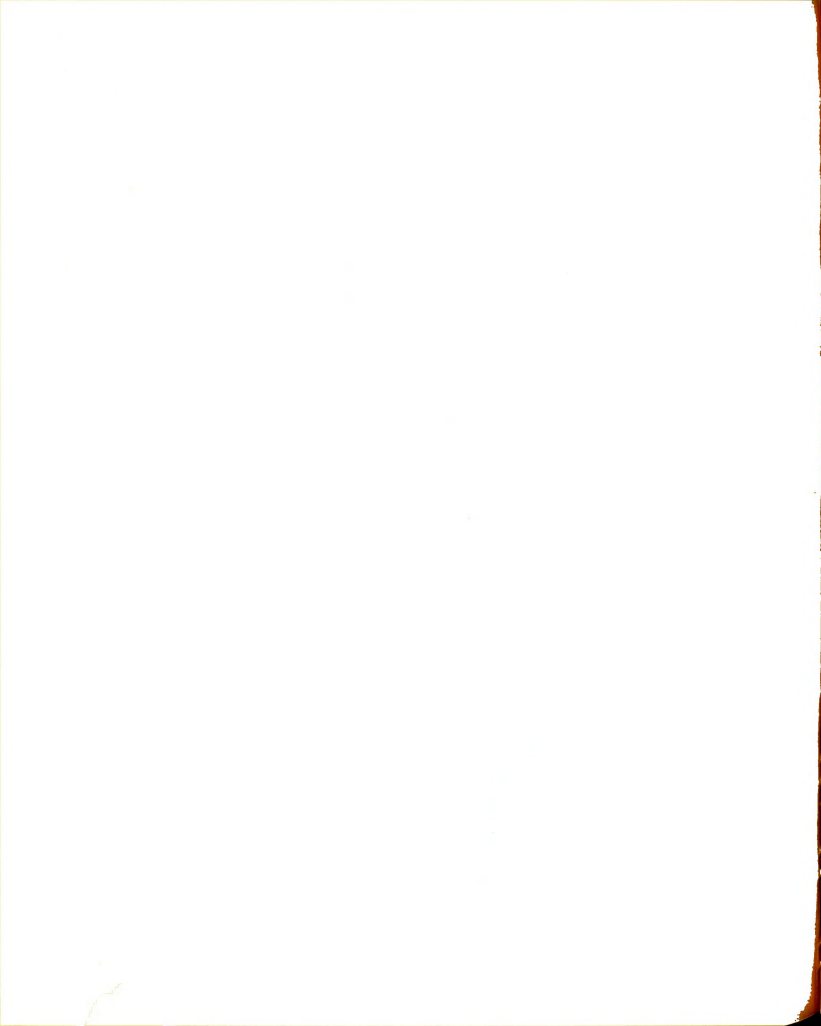
". . . This is in reply to your request of February 5, 1957, for a report of H. R. 3828, a bill to require the Bureau of Census to develop farm income data by economic class of farm. There are, of course, a number of problems in obtaining such information, and, within the limits of our resources, the Department of Agriculture would be glad to cooperate with the Bureau of the Census in developing such estimates. Some of these difficulties relate to the identification of farms in the lower economic classes, the difficulty of obtaining reliable information on non-money income, and the general understatement of money income from farming which has been characteristic of survey results in the past. Based on past experience with farm income surveys, considerable adjustment of the original findings may be required before they can be properly used in policy determination and economic analysis. . . ."

data so that persons reading the results of the study will be informed of the possibility that errors in data exist.

Information given by respondents on money income is assumed to have a downward bias of an unknown magnitude. This downward bias is due to the inability of respondents to recall sales of farm products rather than a willful distortion of sales data, although isolated incidences of the latter did occur. The problem of recall is more important for those farm operators selling products throughout the year as compared to those operators selling all, or nearly all, of their production at one time. Farm operators selling products throughout the year were predominant in the study area.

Unwillingness to disclose information about the levels of individual incomes or amounts of resources controlled was an important problem in this study. It was observed that unwillingness to disclose information appeared to be associated with age, nature of the source of income, and the general concern of people in the area with taxation problems.

A final limitation to be mentioned concerns the specificity of the timing of certain actions taken by respondents. It is to be recognized that a margin of error probably exists in establishing the date of a particular action, such as moving from one place to another or reorganization of the farm enterprises, but these will be errors of less substantive importance than if the action had not been reported at all.

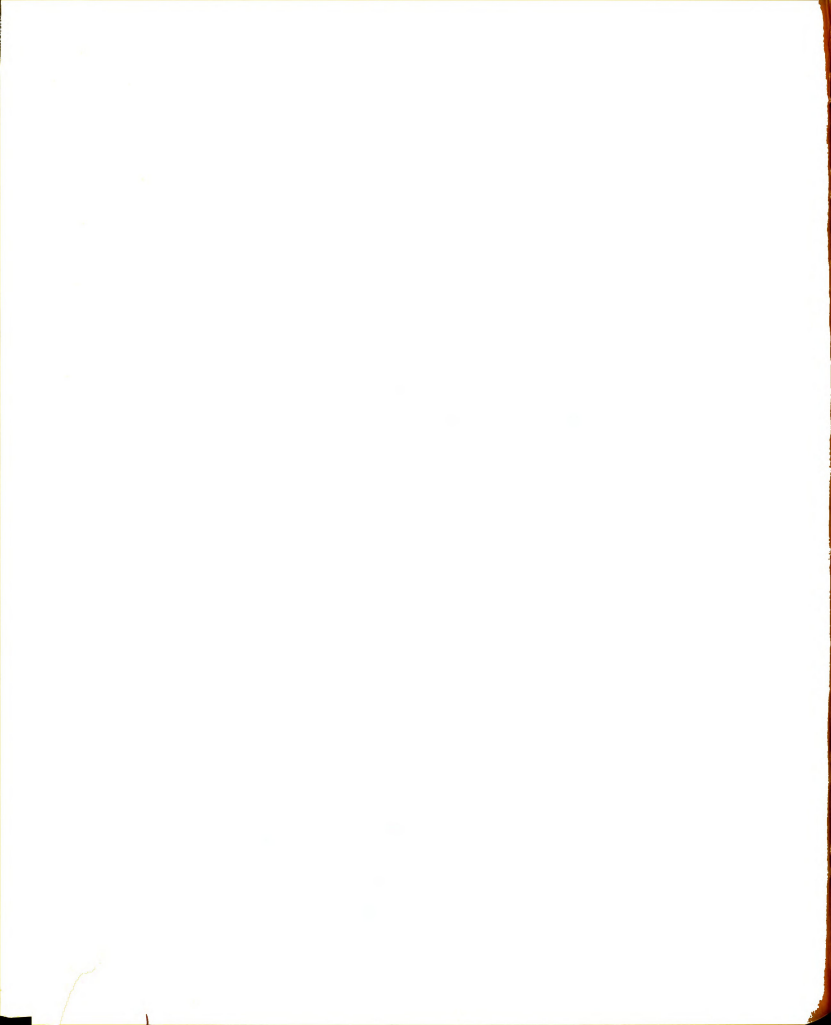


A brief cross-sectional view of the sample. Before presenting the main analysis there are several general characteristics of the sample and population of the sample that can be presented to help in obtaining perspective. First, the most important, is the distribution of households by income and age of household head. These data are presented in Table XIX. It will be noted that 44.0 percent of the 339 interviewed households have heads who are fifty-five years of age or older. These data also indicate the 38.9 percent of the households had gross incomes from all sources of less than \$4,000. It is recognized that this definition is arbitrary and is used here only as a first approximation in the analysis.

TABLE XIX
GROSS HOUSEHOLD INCOME BY AGE OF HOUSEHOLD HEAD
NORTHERN MICHIGAN STUDY AREA
1956

Gross Household Income	Age of Household Head					Total Number	Percent of Total
	20-34	35-44	45-54	55-65	65 and Over		
Under \$1,000					9	9	2.7
1,000 - 1,999			5	7	17	29	8.5
2,000 - 2,999	4	4	6	10	11	35	10.3
3,000 - 3,999	4	8	7	4	6	29	8.5
4,000 - 5,999	17	20	21	15	11	84	24.8
6,000 - 7,999	8	14	10	5	4	41	12.1
8,000 - 9,999	4	8	6	2	1	21	6.2
10,000 and over	3	7	8	5	2	25	7.4
No report ¹	4	11	11	16	24	66	19.5
Total	44	72	74	64	85	339	100.0
Percent of total	13.0	21.0	21.8	18.9	25.1	100.0	

¹It is estimated that thirty of the "no report" households received less than \$4,000 gross household income in 1956.



The distribution of households by size of family and gross household income is shown in Table XX. These data indicate that nearly forty percent of all interviewed households contained only one or two persons and that 56.1 percent contained not more than three persons. It should be recognized that size of household and size of family are not synonymous terms. The term household, as used in this study, includes all persons living with the household head or possibly living in another house but associated with the household head in a father-son arrangement.

TABLE XX
SIZE OF HOUSEHOLD BY GROSS HOUSEHOLD INCOME
NORTHERN MICHIGAN STUDY AREA
1956

Gross Household Income	Size of Household (Number of Persons)							Total
	1	2	3	4	5	6	7 or More	
Under \$1,000	7	2						9
1,000 - 1,999	2	19	4	2			2	29
2,000 - 2,999	4	17	3	3	4	3	1	35
3,000 - 3,999		15	5	2	1	2	4	29
4,000 - 5,999	3	22	19	9	10	8	13	84
6,000 - 7,999	1	4	10	12	5	6	3	41
8,000 - 9,999		2	4	6	4	3	2	21
10,000 or more		3	3	4	5	3	7	25
Not reported	8	25	8	12	7	3	3	66
Total	25	109	56	50	36	28	35	339
Percent of Total	7.4	32.2	16.5	14.7	10.6	8.3	10.3	100.0



The distribution of household heads by marital status and age indicates that approximately one household head in six was unmarried in 1956. These data are shown in Table XXI.

TABLE XXI

NUMBER AND PERCENT OF HOUSEHOLD HEADS BY MARITAL STATUS AND AGE
NORTHERN MICHIGAN STUDY AREA
1956

Marital Status and Age	Households			
	Number	Total	Percent	Total
<u>Single Men</u>				
65 and over	19		5.6	
Under 65	21	40	6.2	11.8
<u>Single Women</u>				
65 and over	11		3.2	
Under 65	4	15	1.2	4.4
<u>Married Men</u>				
65 and over	55		16.2	
Under 65	229	<u>284</u>	67.6	<u>83.8</u>
Total		339		100.0

More than one-half of the population in the sample was either less than twenty or more than sixty-four years of age. The distribution of persons by sex and age is shown in Table XXII. The relatively larger number of males in the under fourteen age group was noted but not investigated.

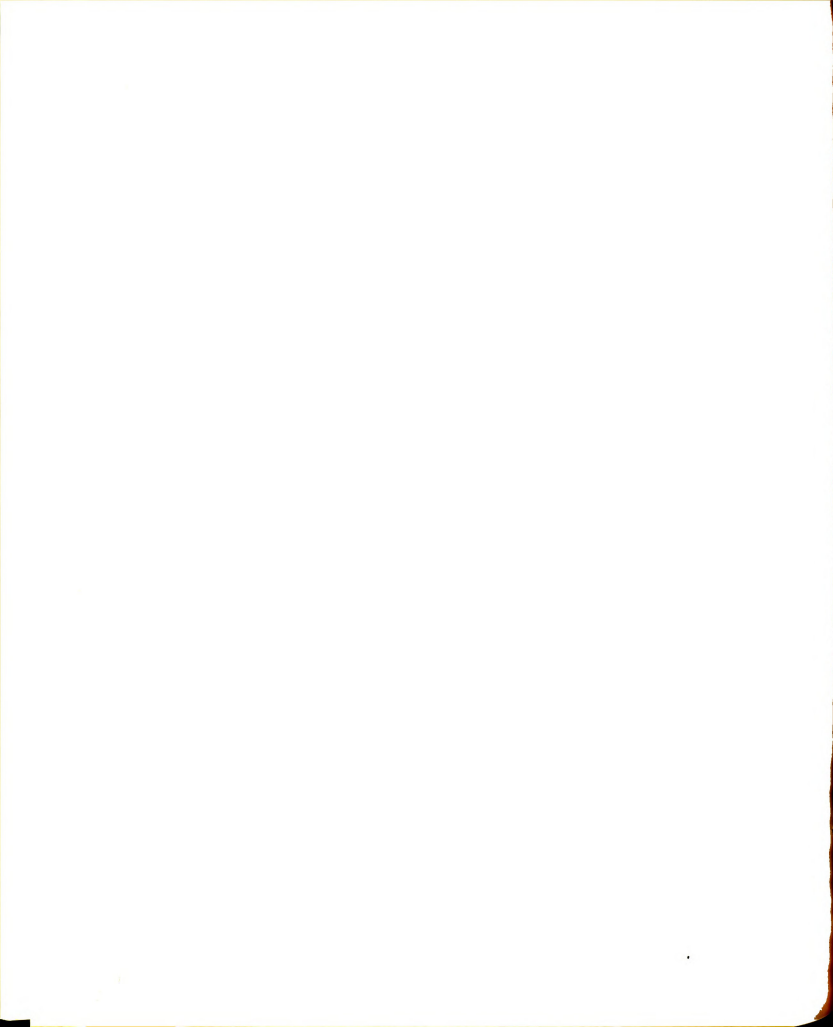


TABLE XXII
AGE DISTRIBUTION OF PERSONS IN SAMPLE
NORTHERN MICHIGAN STUDY AREA
1956

Age Group	Persons			Percent of Total
	Male	Female	Total	
Under 14	212	160	372	30.4
14 - 19	79	61	140	11.4
20 - 24	16	14	30	2.5
25 - 34	45	54	99	8.1
35 - 44	82	86	168	13.7
45 - 54	79	66	145	11.9
55 - 64	59	58	117	9.6
65 - 74	49	44	93	7.6
75 and over	<u>33</u>	<u>26</u>	<u>59</u>	<u>4.8</u>
Total	654	569	1,223	100.0

Farm products were sold by more than two-thirds of the households in the sample. However, only 15.3 percent of the households relied entirely on farm income and 31.0 percent of the households did not have income from agriculture at all in 1956. These data are shown in Table XXIII.

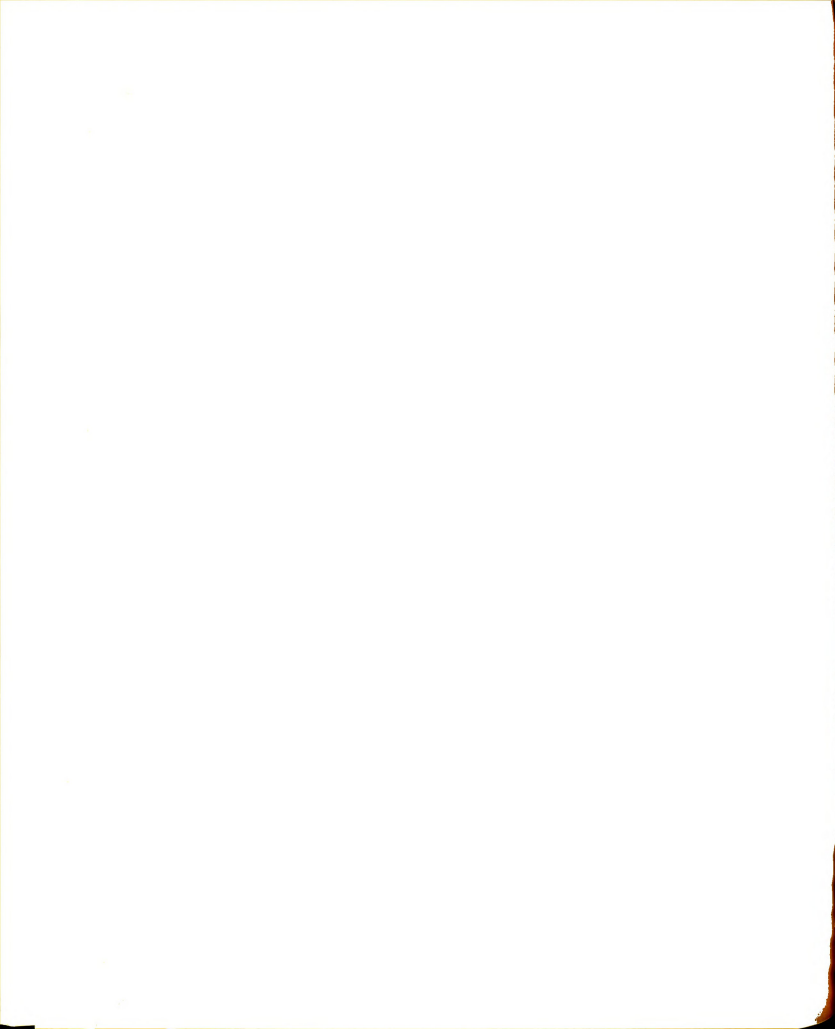


TABLE XXIII

NUMBER AND PERCENT OF HOUSEHOLDS BY AGE OF HOUSEHOLD HEAD
AND SOURCE OF INCOME, NORTHERN MICHIGAN STUDY AREA
1956

Age of Household Head	Source of Household Income				Percent of Total
	Farm Only	Farm and Nonfarm	Nonfarm Only	Total	
20 - 34	5	23	16	44	13.0
35 - 44	8	44	20	72	21.2
45 - 54	10	47	17	74	21.8
55 - 64	17	32	15	64	18.9
65 and over	<u>12</u>	<u>36</u>	<u>37</u>	<u>85</u>	<u>25.1</u>
Total	52	182	105	339	100.0

Although sales of farm products were recorded for 234 households, nearly two-thirds of the households sold less than \$2,500 worth of products in 1956. These data are shown in Table XXIV.

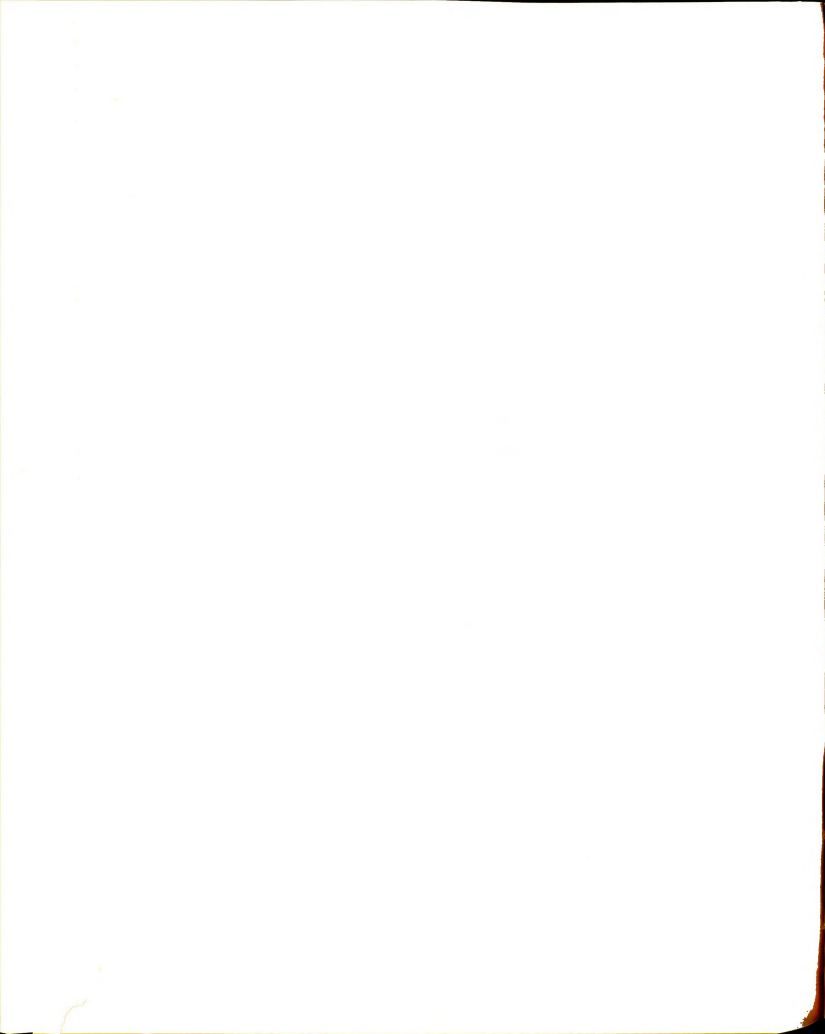


TABLE XXIV

NUMBER AND PERCENT OF FARM HOUSEHOLDS BY ECONOMIC CLASS AND
AGE OF HOUSEHOLD HEAD, NORTHERN MICHIGAN STUDY AREA
1956

Age of Household Head	Economic Class of Farm ¹				Total	Percent of Total
	I-IV	V-VI	P.T., Res.	Not Classi- fied		
20 - 34	12	4	10	2	28	12.0
35 - 44	19	12	20	1	52	22.2
45 - 54	21	17	18	1	57	24.4
55 - 64	15	20	9	5	49	20.9
65 and over	<u>12</u>	<u>19</u>	<u>13</u>	<u>4</u>	<u>48</u>	<u>20.5</u>
Total	79	72	70	13	234	100.0
Percent of total	33.8	30.8	29.9	5.5	100.0	

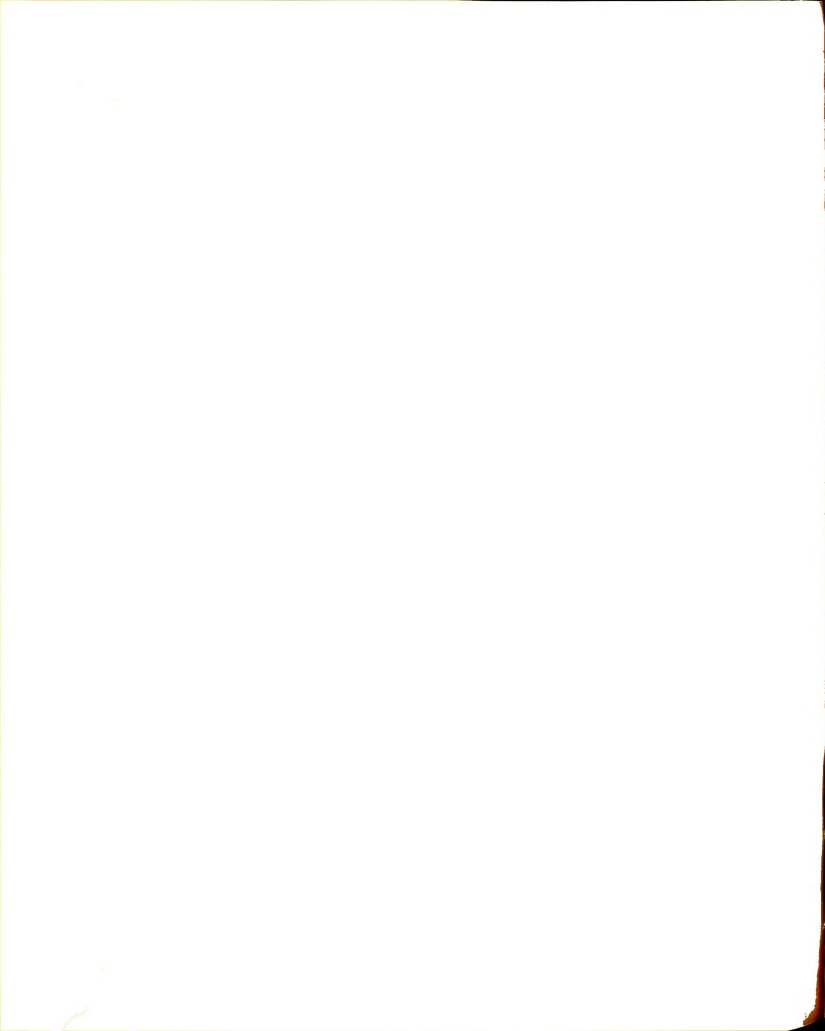
¹The definition of the various classes are as follows:

<u>Class</u>	<u>Value of Farm Products Sold</u>
I	\$25,000 or more
II	10,000 to 24,999
III	5,000 to 9,999
IV	2,500 to 4,999
V	1,200 to 2,499
VI	250 to 1,199*

*provided the farm operator worked off the farm less than 100 days and provided the income the farm operator and members of his family received from nonfarm sources was less than the value of all farm products sold.

Part-time farms are farms with a value of sales of farm products of \$250 to \$1,199 provided the farm operator reported (1) 100 or more days of work off the farm, or (2) the nonfarm income received by him and members of his family was greater than the value of farm products sold.

Residential farms are farms with a total value of sales of less than \$250.



A tabulation of farm size, in terms of total acres owned, indicates that over two-thirds of the households owned eighty or more acres. The data are shown in Table XXV. The sizes of most units tended to center around forty acre multiples with exceptions due to the development of residential or resort properties and to the development of new or re-developed highway systems.

TABLE XXV
NUMBER AND PERCENT OF FARMS BY TOTAL ACRES OWNED
NORTHERN MICHIGAN STUDY AREA
1956

Acreage Group	Households	
	Number	Percent
None	7	2.1
Under 10	20	5.9
10 - 39	15	4.4
40 - 79	67	19.8
80 - 119	74	21.8
120 - 179	87	25.7
180 or more	68	20.0
Unknown	<u>1</u>	<u>.3</u>
Total	339	100.0

For those units qualifying as farms in 1956 according to the census definitions, more than forty percent used less than fifty acres of cropland including land for hay. These data are shown in Table XXVI.

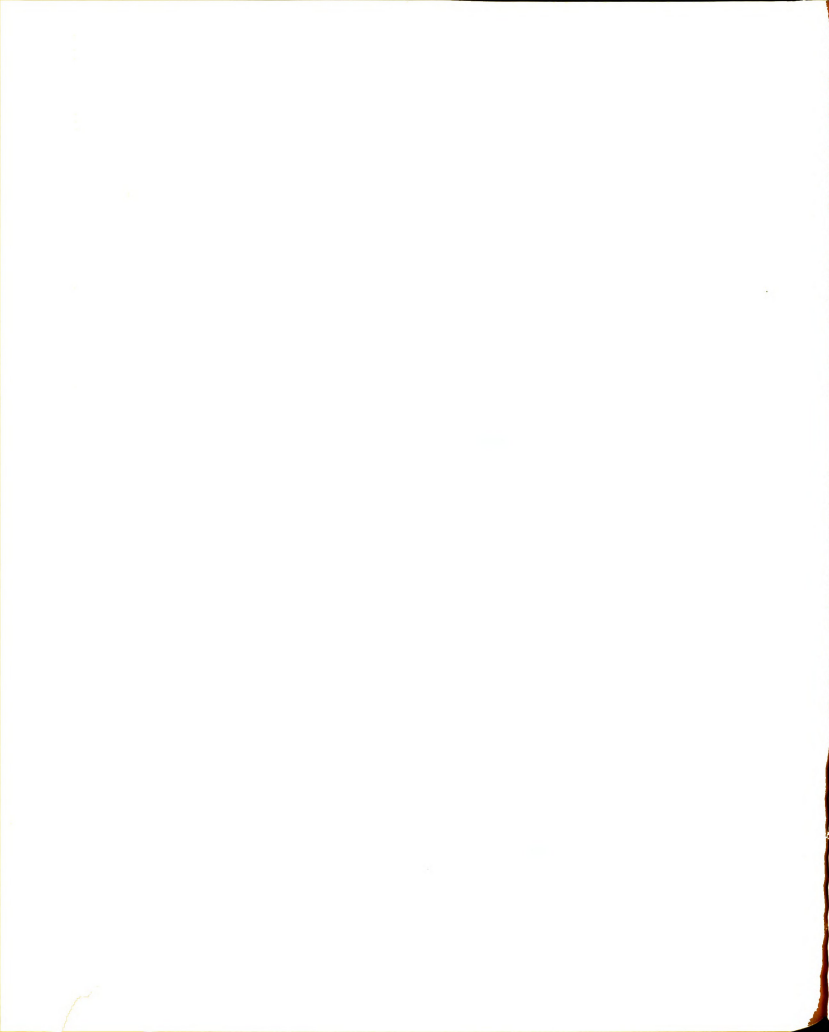
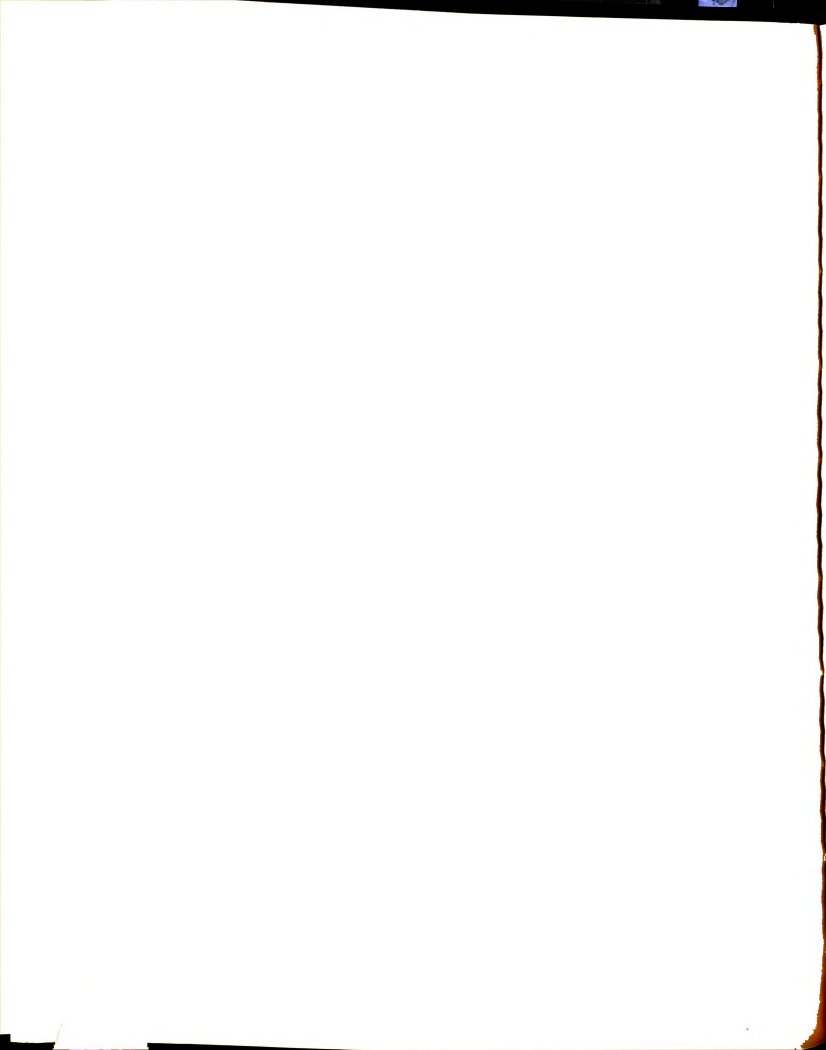


TABLE XXVI
NUMBER AND PERCENT OF FARMS BY AMOUNT OF CROPLAND USED
NORTHERN MICHIGAN STUDY AREA
1956

Cropland Used in Acres	Farms	
	Number	Percent
Under 10	41	17.5
10 - 49.9	61	26.1
50 - 99.9	71	30.3
100 - 149.9	31	13.2
150 and over	<u>30</u>	<u>12.9</u>
Total	234	100.0

Testing of Hypotheses

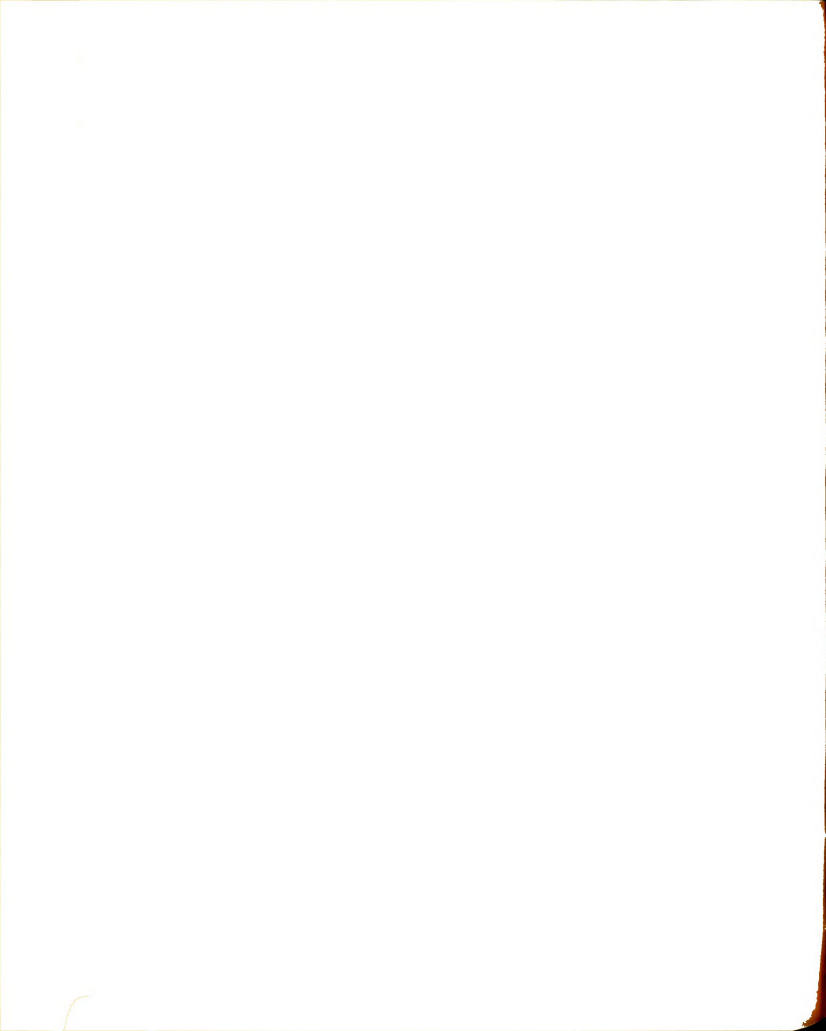
The hypotheses to be tested in this phase of the study are extensions of the retardation hypothesis discussed in Chapter II. The construction of the specific hypotheses is based on three assumptions: (1) essentially no knowledge exists with respect to distribution of income among households in the study area; (2) the study area is a "low income area," and (3) it is a low-income area primarily because the labor market has not performed its function of allocating the labor resource to more remunerative employments outside the area. This approach to the construction of hypotheses is extreme in the sense that it focuses attention on only one of many possible causes for the low-income situation in a given area.



The hypotheses were designed to be functional and not designed merely to accept or reject as an exercise of logic. It is recognized that each of the hypotheses tested could have been constructed in alternative forms. However, it was felt that certain continuities of results would be obscured if the hypotheses were constructed independently. Thus, the hypotheses were constructed in an extreme form that tended to be identical among hypotheses to bring into focus and appropriately structure certain relevant attributes and characteristics of households interviewed in the study area. An evaluation of the analytical usefulness of the hypotheses is contained in a later section of this chapter.

Hypothesis one. The first hypothesis of this phase of the study is as follows: If the six-county study area is a low-income area due to the malfunctioning of the labor market primarily, then within its boundaries will be found a large proportion of the young males, 20-34 years of age who grew up there, either in the households of their parents or in households of their own and in either case a large portion of them will have low-incomes.

The hypothesis is stated in a most extreme form. Analysis of migration in the previous chapter has indicated that a high rate of outmigration of young males in this age group from the farm sector of the northern Lower Peninsula cutover area did occur during the decade 1940-1950. Industrial growth continued, generally, in the southern portion of the Lower Peninsula during the 1950-56 period, and also in the cutover region. Thus, it would be surprising if the rate of



outmigration changed substantially since 1940-1950. But, since the young males who reached, say, twenty years of age, after 1950 were not included in the previous analysis, the hypothesis in effect attempts to bring observations on migration up-to-date. Further, available data does not indicate the household status or income situation of those young males remaining in the area.

Sufficient information for analysis was obtained on 146 males who grew up in the area and are now in the age bracket, 20-34. Results of the analysis indicates that ninety-three (63.7 percent) are now located in the area and fifty-three (36.3 percent) are now located out of the area. Although these data are not strictly comparable with the migration data developed in the previous chapter, it appears as if the rate of outmigration may be decreasing over time. The analysis of the males in the study area also indicates that twenty-one (16.5 percent) are living with parents or relatives.

The analysis of the occupational distribution of these young males yields some insight regarding the functioning of the labor market. None of the young males is engaged in farming outside the area. Full-time farming in the area is the occupation of seventeen (11.6 percent) of the total growing up in the area. An additional sixteen (11.0 percent) have incomes from both agriculture and nonfarm work. Thus, thirty-three (22.6 percent) have some association with income from agriculture and 113 (77.4 percent) have no income from agriculture.

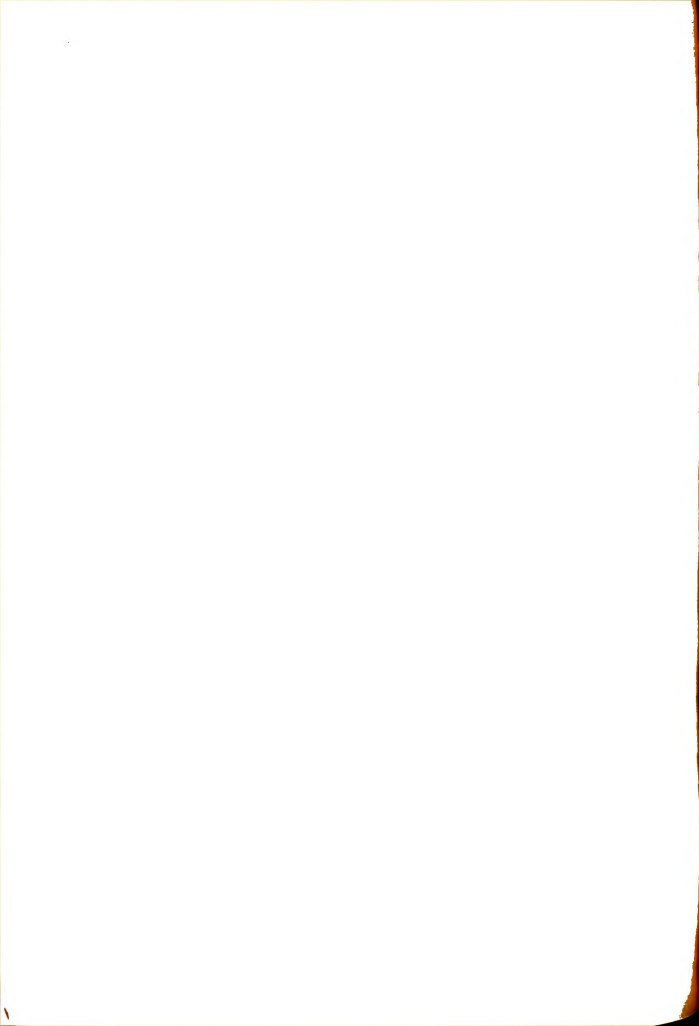
Income data was not obtained on those males living away from the interviewed household. A total of ninety-four such males were recorded.



Agriculture is the source of income of five (5.3 percent) and non-agricultural pursuits the source of income of eighty-nine (94.7 percent) of the males in this group.

Income data and other information recorded about the young males now living with parents or relatives is sufficiently complete for the construction of several generalizations. Of the twenty-one males in this group, sixteen are 20-23 years of age and only three are married. Since marital status was not recorded for those living away from the interviewed household, it is not possible to state whether or not this small number of married persons is indicative of a general characteristic of this age group. However, it does indicate, at least, that young married couples are not "doubling-up" with parents or relatives in the study area. Further, the relatively large number of the total being concentrated in the youngest possible ages indicates that some of these persons may be expected to leave the family household, and possibly the area, in the future.

Of the twenty-one males in this group, six were physically handicapped and three of them are unable to perform income generating activities. The remaining eighteen were employed either wholly in agriculture (six) or in nonagricultural pursuits (twelve). Those in agriculture represented situations where the son was working for neighbors or at a small operation at home; or where the son and father were developing a larger operation. Four of the six situations were youths 20 and 21 years of age. The total household incomes on these farms ranged from over \$4,000 to well over \$50,000. Of the twelve young males having income from nonfarm pursuits, income information was reported for seven.

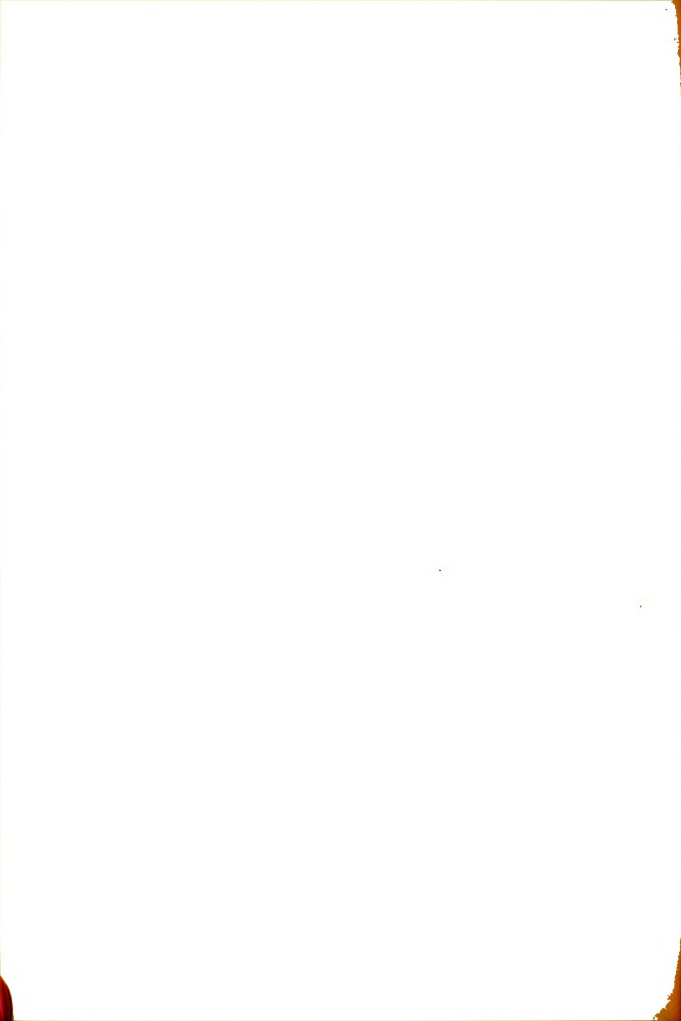


This information indicates that their yearly incomes ranged from \$2,700 to \$6,000. It should be noted that five of the seven reporting nonfarm incomes were in the age group 20-23.

Male household heads between the ages of twenty and thirty-four who grew up in the area and are now found in the area constitute the most important group for study under the hypothesis outlined above. There are thirty-one such persons in the sample. In 1956, six (19.4 percent) devoted full-time to farming; sixteen (51.6 percent) to farming plus nonfarm work; and nine (29.0 percent) were not associated with agriculture. Each of these subgroups is discussed below.

Of the six household heads devoting full-time to farming, five have either inherited all or part of their present assets or are now operating in some form of family arrangement. All operators are expanding their agricultural operations by enlarging dairy herds, installing bulk tanks and adding more acreage to the present farm unit. Experience in other kinds of income generating activities was reported by three of the operators and the wife of one had income from an off-farm job. Levels of gross household income ranged from slightly less than \$4,000 on one farm where the operator was just starting to nearly \$15,000 on a Grade A milk and egg operation. If plans discussed at the time of the interview were executed all of these operators now have gross incomes considerably higher than were recorded for 1956.

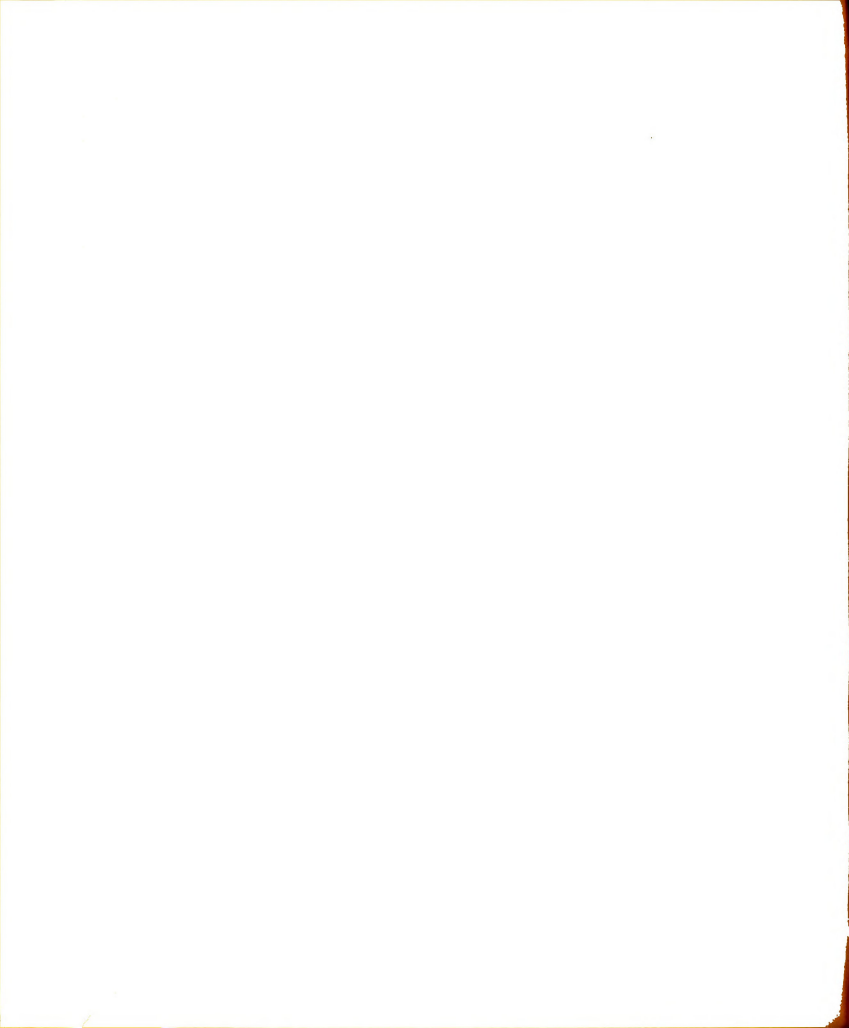
Of the sixteen operators obtaining income from both agriculture and nonfarm work, ten have obtained control over their land resources either through inheritance or some kind of family arrangement.



Off-farm income, of various magnitudes, has been earned by thirteen of the sixteen operators since they have been at their present locations or since passing their 21st birthday. Migration to the cities of Michigan for periods up to ten years was reported by seven of the sixteen operators. Indications are that six of the sixteen operators are expanding operations and that three of these operators are working off-farm temporarily due to disease loss of part of the dairy herd or not having a large enough herd to occupy him on a full-time basis at the time of the survey. Levels of gross household income ranged from slightly less than \$4,000 on one farm where the operator had been ill part of the year to nearly \$10,000 on a farm having an orchard operation. (Eight of the sixteen were in the range of \$4,000 to \$6,000.)

Of the nine household heads obtaining all of their income from nonfarm sources, eight have either inherited or are purchasing their land resources from parents or relatives. Agriculture as a source of income was never developed by seven of these residents and was eliminated during 1953-55 by the other two. Migration to the cities of Michigan for periods up to four years was reported by three of the residents. Gross household incomes ranged from slightly less than \$3,000 in two cases where the residents worked only part of the year to nearly \$7,000.

A wide variety of factors apparently influenced the location of the remaining thirteen males in this group--those not growing up in the area. In terms of previous location, three came from farms in neighboring counties, one from a farm in southern Michigan, eight from the industrial cities of southern Michigan, and one from out of state.



Agricultural operations were never developed by six of the residents in this group, and were eliminated by another resident. None of the remaining six operators were relying entirely on income from agriculture in 1956--in fact, only one had relied totally on agriculture since coming to the area. Gross household incomes ranged from slightly less than \$3,000 in two cases where residents were disabled or had not worked all year to \$10,000 for a household containing two construction workers.

The first phase of the beginning hypothesis is designed to focus attention on the location of males who grew up in the study area and are now 20-34 years of age. The analysis indicated that more than one in three migrated from the area. If the number of males who have been out of the area to work is included, it can be noted that a "gross migration" of 43.2 percent of the native population of this age group has been experienced. Further, it should be noted that the information about possible migration and return was not obtained on those household heads who were not contacted by the interviewers. It is suggested here the data do not indicate a large proportion remaining in the area. The first part of the hypothesis should not be accepted..

The second phase of the hypothesis is designed to focus on the household status of the young males growing up in the area. Since information was not obtained regarding the marital status of those males not in the contacted households, generalizations can apply only to fifty-two males. Of the fifty-two, thirty-one were household heads and twenty-one were individuals living in the households of parents



or relatives. Of the thirty-one households, four had a parent or parents of the head present. Of the twenty-one, three were married and living with parents. Further, it was noted that sixteen of the eighteen unmarried males living at home were 20-23 years of age. It is suggested that these data do not indicate that the young males growing up in the study area are "doubling up" with parents. The second part of the hypothesis should not be accepted.

The third phase of the hypothesis is designed to focus attention on the income position of the young males remaining in the study area. Income data is presented in Tables XXVII and XXVIII. The analysis indicates 81.8 percent of the established households have gross incomes of \$4,000 or more and that 45.5 percent have gross incomes of \$6,000 or more. Furthermore, all but one of the situations where reported income was below \$4,000 can be explained in terms of transitory elements. It is suggested here that the data do not indicate a large proportion receiving low incomes. The third part of the hypothesis should not be accepted.

Hypothesis two. The second hypothesis of this study is as follows: If the six-county study area is a low-income area due to the malfunctioning of the labor market, primarily, then within its boundaries will be found a large proportion of the male population that grew up in the area, are now 35-44 years of age, have remained in the area, and that a large proportion of this population will have low incomes.

The hypothesis is designed to focus specifically of those males who entered the labor force during the 1930-40 decade. This period was



TABLE XXVII

TOTAL GROSS HOUSEHOLD INCOME BY SOURCE--44 HOUSEHOLD HEADS,
20-34 YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
1956

Gross Household Income	Source of Income			
	Farm Only	Farm and Nonfarm	Nonfarm Only	All Sources
\$2,000 - 2,999			4	4
3,000 - 3,999	1	1	2	4
4,000 - 4,999		7	5	12
5,000 - 5,999	1	4		5
6,000 - 6,999		4	3	7
7,000 - 7,999		1		1
8,000 - 8,999		2		2
9,000 - 9,999		2		2
10,000 and over	2		1	3
No Report	<u>1</u>	<u>2</u>	<u>1</u>	<u>4</u>
Total	5	23	16	44

TABLE XXVIII

HOUSEHOLDS BY ECONOMIC CLASS OF FARM--44 HOUSEHOLD HEADS,
20-34 YEARS OF AGE, NORTHERN LOWER PENINSULA SAMPLE AREA
1956

Economic Class	Number
I	-
II	2
III	4
IV	6
V	4
VI	-
Part-time	8
Residential	2
Not Classified	2
Nonfarm	<u>16</u>
Total	44

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for ensuring the integrity of the financial system and for providing a clear audit trail. The document also highlights the need for transparency and accountability in all financial dealings.

In the second part, the focus shifts to the role of the regulatory body in overseeing the financial system. It outlines the various responsibilities of the regulator, including monitoring market activity, enforcing rules, and providing guidance to market participants. The document stresses the importance of a strong and independent regulatory framework to ensure the stability and confidence of the financial system.

The third part of the document addresses the challenges faced by the financial system in the current environment. It discusses the impact of global economic conditions, technological advancements, and changing market dynamics. The document identifies key areas of concern and proposes strategies to address these challenges, such as enhancing risk management practices and improving the resilience of the financial system.

Finally, the document concludes with a call to action for all stakeholders to work together to ensure the long-term success and stability of the financial system. It emphasizes the need for continued collaboration and communication between regulators, market participants, and the public to address emerging risks and opportunities.

one of general depression in the industrial and agricultural sectors of Michigan. Information was developed in the previous chapter to indicate that young males did migrate from the farm sector of the cut-over area, but the rate of migration was somewhat lower than during the 1940-50 decade. Some males in this age group probably migrated during the 1940-56 period. The hypothesis is designed to reveal the characteristics of that portion of the population that did not migrate permanently from the area.

At the outset it should be noted this hypothesis requires information that is not available in this study. Because the parents of the population in the 35-44 age group are more likely to be deceased than the parents of the younger age group studied, it is possible that information concerning a number of migrants was not obtained. Adjustments were not developed for this contingency. However, some information about migrants of this age group is available and is outlined below.

Sufficient information for analysis was obtained on seventy-nine males who grew up in the area and are now in the age bracket, 35-44. Results of the analysis indicates that sixty-nine (87.3 percent) are now located in the study area and ten (12.7 percent) are not located out of the area. Perhaps a more interesting observation at this point is that of seventy-two households interviewed, forty-seven (65.3 percent) of the heads were locally-born and twenty-five (34.7 percent) were from outside the study area. Thus, although there may not have been an important amount of outmigration of native-born males, the



immigration was relatively sizeable. The analysis of the seventy-nine locally-born males also indicates that eleven (13.9 percent) are living with parents or relatives and are not considered as heads of households.

The occupational distribution of the males in this age group indicates that of the sixty-nine now in the area, twenty-three (33.3 percent) are devoting full-time to farming and thirty-two (46.4 percent) have incomes from both agriculture and nonfarm work. Thus fifty-five (79.7 percent) have income from agriculture and fourteen (20.3 percent) have no income from agriculture. Of the ten males who migrated from the area, none are farming.

Income data recorded on the eleven males living with parents or relatives are not sufficiently detailed to warrant specific analysis. However, it was noted that total household incomes were large enough, in all cases but one, to compare quite favorably with the higher income segment of the balance of the population in this age group. Of these eleven males living in the homes of their parents or relatives only two were married. Full-time farming was the occupation of seven; two were farming and working concurrently at off-farm jobs; and two did no farming whatever.

Of the nine native-born male household heads devoting full-time to farming, six have inherited all or part of their resources, or are presently working in some form of family arrangement. Three of the household heads are not married and are living with an elderly parent or parents. The wives of two household heads worked off the farm. Levels of gross household income ranged from less than \$3,000 to more than \$75,000 on these nine farms. However, there is evidence to

The first part of the paper discusses the importance of understanding the local context in which a project is implemented. This includes a thorough understanding of the community's needs, values, and culture. It is essential to engage with the community from the very beginning, ensuring that their voices are heard and their input is valued. This process of community engagement is not a one-time event but a continuous process that evolves as the project progresses.

The second part of the paper explores the challenges that often arise in community-based projects. These challenges can range from a lack of resources and funding to a lack of community buy-in and support. It is important to anticipate these challenges and develop strategies to address them proactively. For example, building strong relationships with community leaders and stakeholders can help to secure the necessary resources and support.

The third part of the paper discusses the importance of monitoring and evaluation in community-based projects. This involves setting clear, measurable goals and objectives at the outset of the project. Regular monitoring and evaluation allow project managers to track progress, identify areas for improvement, and make adjustments as needed. This process is crucial for ensuring that the project remains on track and achieves its intended outcomes.

The final part of the paper discusses the importance of sustainability in community-based projects. A project is only truly successful if its benefits are sustained long after the project has ended. This requires a focus on building local capacity and ownership, ensuring that the community has the skills and resources to maintain the project's benefits on their own.

suggest that two of the lowest income cases represent under-reporting of total income. One of the nine operators reported living in a small city in the area for three years but returned when he inherited the farm. Apparently eight have always been full-time farm operators.

Of the thirty native-born male household heads now having income from both agriculture and nonfarm work, eleven have inherited all or part of their resources, or are presently working in some form of family arrangement. Only two of the operators are not married, and all but one have one or more children in the household. Although all thirty household heads had off-farm income in 1956, eighteen reported they had lived and worked in the cities of Michigan or nearby states for periods ranging from two to eleven years and ten of the eighteen have had off-farm jobs continuously since returning from the city. In terms of length of time the thirty operators have been working at nonfarm occupations it can be noted that sixteen were working before 1949, eight have been working since 1950-53; and six have obtained off-farm jobs in the past two years. Gross household incomes ranged from less than \$3,000 in the case of a single person working part of the year to over \$15,000 in the case of a combined business, farm operation, and off-farm work situation.

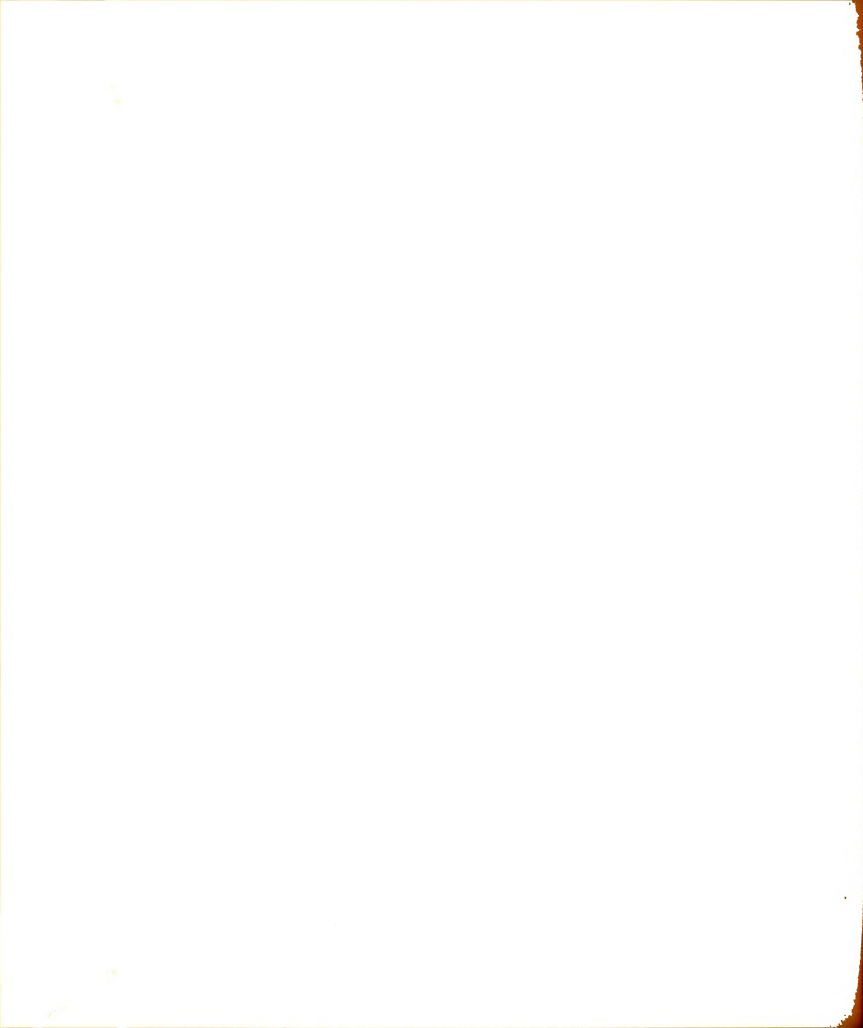
Of the eight native-born household heads receiving all of their income from non-farm sources, two have inherited all or part of their land and other resources. Five of the residents have never developed farm operations; one had a small operation for a few years while working off-farm; and the remaining two had dairy herds of 15-20 cows but



discontinued those operations in 1955. Five of the residents reported a history of work experience in the industrial areas of Southern Michigan. The gross household incomes ranged from slightly less than \$3,000 to nearly \$6,000. All but one of the residents is married and have one or more children.

In addition to the males who grew up in the area, 24 males and one unmarried woman in this age group have migrated to the area. In terms of previous location, ten came from farms in neighboring counties, eight from the industrial cities of Michigan, five from out of State, one from a farm in Southern Michigan, and one from the Upper Peninsula of Michigan. Full-time farming is the occupation of five operators, farming and nonfarm operations provide income for eight residents, and nonfarm occupations provide income for twelve. Actually only one of the twenty-five households has income solely from agriculture as the wives of four full-time farmers work off-farm. Four of the five full-time farm operators came from farms in neighboring counties and one came from a large city in the Eastern United States. Gross household incomes ranged from slightly less than \$5,000 to more than \$15,000 on these five operations.

Of the eight non-native-born operators who now have both farm and nonfarm incomes, seven have obtained nonfarm income continuously since arriving at their present locations in the study area and the other one obtained an off-farm job for the first time in 1956. All agricultural operations on farms in this group were small--the largest being a six cow factory milk organization. However, two operators did have somewhat



larger operations as recently as 1953-55. Gross household incomes ranged from less than \$3,000 on one farm operated by a disabled man to nearly \$9,000.

Of the twelve nonnative-born residents obtaining their entire income from nonagricultural sources, nine have never developed farming operations, two developed and then discontinued small operations, and one resident had a sizeable (16 cow) dairy operation as recently as 1954 when it was discontinued and the operator obtained off-farm work. Gross household incomes ranged from less than \$4,000 in the case of a man who was unemployed for part of the year to over \$9,000.

If it assumed that all households receiving incomes of less than \$4,000 are "low-income households" then twelve cases must be explained. (It is estimated that none of the "no report" cases have less than \$4,000 gross household income.) These data are presented in Tables XXIX and XXX. Permanent disability explains two cases; loss of job in city and illness of the household head explain two additional cases; and suspected failure to disclose part of income explains one case. The remaining seven cases represent situations where lower paying full-time occupations were pursued or the household head worked less than a full year at seasonal or self-employment. Extensive site and occupational mobility characterize six of these seven cases--the remaining case being an unmarried man living alone. Farming operations were conducted by seven of the "low-income" household heads but 5 had additional off-farm income. The agricultural operations were quite limited and none of the operators indicated plans for expansion although two

TABLE XXIX

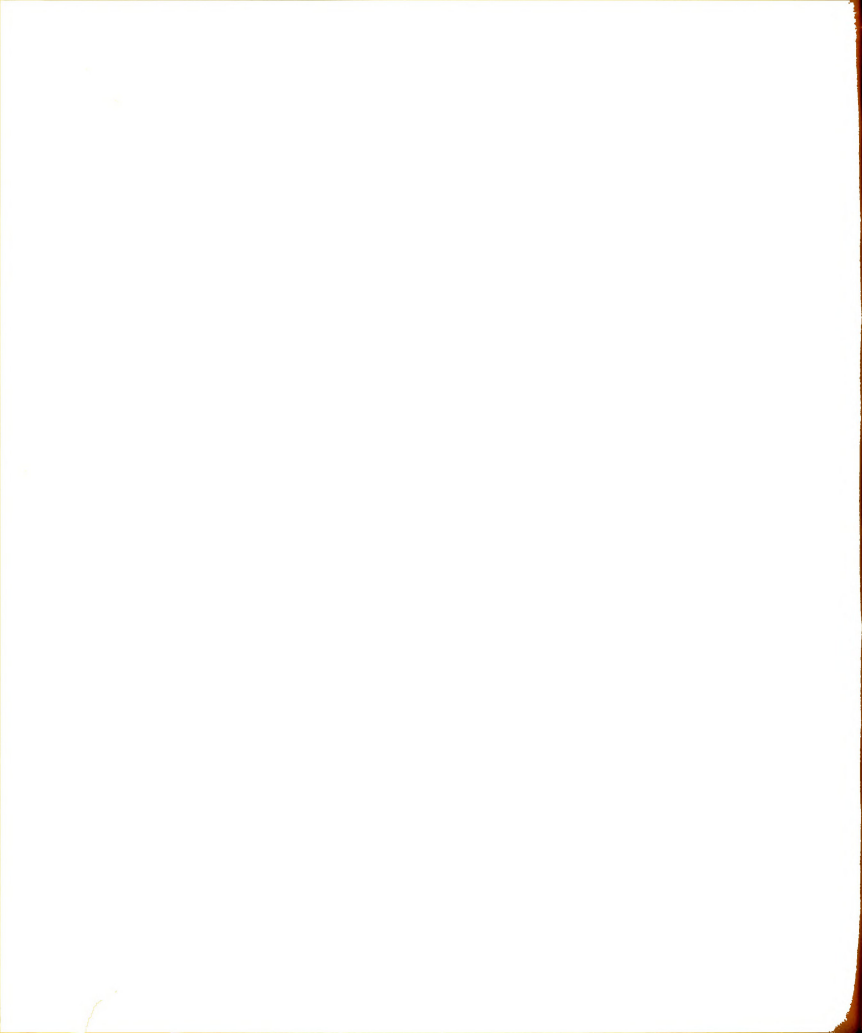
GROSS HOUSEHOLD INCOME BY SOURCE OF INCOME--72 HOUSEHOLD HEADS,
35-44 YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
1956

Gross Household Income	Source of Income			
	Farm Only	Farm and Nonfarm	Nonfarm Only	All Sources
Under \$1,000				
1,000 - 1,999				
2,000 - 2,999	1	2	1	4
3,000 - 3,999	1	3	4	8
4,000 - 4,999	2	6	3	11
5,000 - 5,999		5	4	9
6,000 - 6,999		7	2	9
7,000 - 7,999		5		5
8,000 - 8,999	1	3	1	5
9,000 - 9,999		2	1	3
10,000 and over	3	4		7
No Report	—	7	4	11
Total	8	44	20	72

TABLE XXX

HOUSEHOLDS BY ECONOMIC CLASS OF FARM--72 HOUSEHOLD HEADS
35-44 YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
1956

Economic Class	Households
I	2
II	4
III	5
IV	8
V	12
VI	—
Part-time	17
Residential	3
Unclassified	1
Nonfarm	20
Total	72



of the operators did have larger operations in recent years. Farming operations never have been developed by those residents in the "low-income" group not having farm income in 1956.

The first phase of hypothesis two is designed to focus attention on the location of males who grew up in the area and are now 35-44 years of age. This population group entered the labor force primarily during the "depression decade" of 1930-1940. The analysis indicates that about one in eight permanently migrated from the area. (However, as was noted previously, it is possible that a larger migration could have occurred without being recorded in this phase of the study.) If the number of males who have been out of the area to work is included, it can be noted that a "gross migration" of 43.0 percent of the native-born male population in this age group has been experienced. However, based on available information, it is suggested that the data indicate a large portion of the male population of this age group remain in the area. The first part of the hypothesis should be provisionally accepted. In accepting the hypothesis, though, the extent of temporary migration should be noted. Further, it should be noted that more than one-third of all household heads in this age in the study area are migrants to the area.

The second phase of hypothesis two was designed to focus attention on the income position of the population of this age group in the study area. The analysis indicates 83.3 percent of the households have gross incomes of \$4,000 or more. It is suggested that the data do not indicate a large proportion receiving low incomes. The second phase of the hypothesis should not be accepted.

The first of these is the fact that the
 government has been unable to
 maintain a stable currency. This
 has led to a loss of confidence
 in the government and a
 consequent loss of support
 from the people. The second
 is the fact that the government
 has been unable to maintain
 a stable economy. This has
 led to a loss of confidence
 in the government and a
 consequent loss of support
 from the people. The third
 is the fact that the government
 has been unable to maintain
 a stable society. This has
 led to a loss of confidence
 in the government and a
 consequent loss of support
 from the people.

The fourth is the fact that the government
 has been unable to maintain
 a stable foreign policy. This
 has led to a loss of confidence
 in the government and a
 consequent loss of support
 from the people.

Hypothesis three. The third hypothesis of this study is as follows:

If the six-county area is a low-income area due to the malfunctioning of the labor market, primarily, then within its boundaries a large proportion of the male population, 45-54 years of age, will represent situations characterized by locally-born individuals who have remained permanently in the area since entering the labor force and the gross household income will be low for a large proportion of this population.

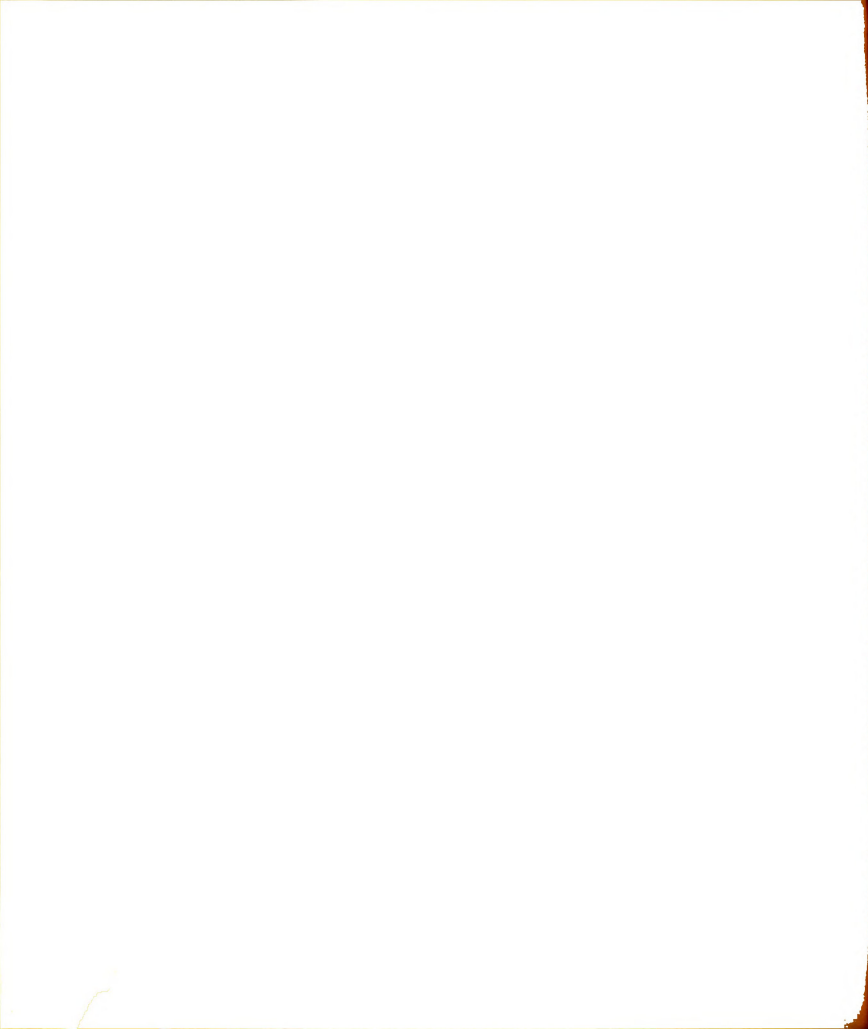
This hypothesis is slightly reoriented relative to the first two discussed above. The primary reason for this reorientation is that the study was not designed to investigate the migration of persons who have never been associated with the contacted households. The possibility exists that an important element of migration could have occurred and no record of it obtained primarily because of the age of the people in this group and the age of their parents or relatives. Thus, the hypothesis is designed to reveal the characteristics of only those males who are now found in the study area. The males of this age group entered the labor force during the decade of 1920-1930. This period was one of increasing adversity in the farm sector of the cutover area, but the industrial sector of southern Michigan was expanding. It is known that the number of farms in the study area decreased from 1920 to 1930 and that the population reached its lowest level in 1930. On the other hand, it should also be noted that a stable market for the labor of these people in southern Michigan did not exist throughout the period when most of them were probably the most mobile. That is, during the 1930's.



Sufficient information for testing the hypothesis was obtained on seventy-four households with heads in this age group. At the outset it can be noted that forty-four (59.4 percent) of the seventy-four household heads represent locally-born individuals. Thus, although the amount of outmigration is not known it is obvious that the native-born population has been supplemented by a substantial immigration of persons. These data do not indicate a large proportion of the population in this age group is native-born. The first phase of the hypothesis should not be accepted.

Additional analysis of this group of forty-four native-born male household heads indicates that twenty-two (50.0 percent) have migrated from the area to live and work at nonfarm occupations for periods ranging from a few months to twenty-one years and then returned to the study area. This information suggests that an important portion of the native-born population was responsive to alternative income possibilities. The extent of "temporary" outmigration indicates that the part of the hypothesis stating a large proportion of the native-born population remained permanently in the area cannot be accepted.

Inheritance of all or part of the assets now controlled by native-born household heads was noted in twenty of the forty-four cases. This element then might be assumed to be important in influencing those who remained permanently in the area. Although inheritance does appear to be important to the group as a whole, the information reveals that ten of those who have been out of the area did inherit and ten of those who have not been out of the area inherited resources. Thus, without



additional evidence, definite statements cannot be made with respect to the relative influence of inheritance as between the two groups of native-born household heads.

Nonfarm income is obtained by more than four in five of the households headed by locally-born individuals who have not been out of the study area. The data indicates that five have been receiving nonfarm income since 1945 or before; eleven started obtaining nonfarm income during the period 1946-1954; two have obtained nonfarm income during the last two years; and four have not received nonfarm income. Of the twenty-two household heads who left the area and returned, thirteen have been receiving nonfarm income continuously from the time of their return; eight began to receive nonfarm income sometime after their return; and one has not received nonfarm income. Thus, in 1956, five (11.4 percent) of the households headed by locally-born individuals received their entire income from farming.

In addition to the forty-four native-born household heads, thirty household heads migrated to the study area. In terms of time of arrival, one came before 1930; six during 1930-39; thirteen during 1940-49; and ten between 1950 and 1956. Thus, the migration to the area appears to be an on-going process. Of the thirty immigrants, thirteen came from out-of-state; ten from southern Michigan; and seven from nearby counties.

Although it appears that twenty-four of the immigrants came to farm or farm and concurrently pursue an off-farm occupation and six have not developed farming operations, there is no pattern with respect



to either time of arrival or origin of the migrants. Of nineteen operators receiving income from agriculture and nonfarm sources in 1956, apparently eleven have received nonfarm income since arriving at their present sites in the study area and the remaining eight have obtained off-farm work in the past two or three years.

The apparent reasons for moving to the study area included such diverse comments as "my health gave out in the city"; "just wanted to settle down and farm"; and "had a fire loss on my farm in southern Michigan and just had enough money to buy this one." However, one characteristic of the migrants as a group is noteworthy and will be discussed in greater detail at another point in the analysis. The characteristic is that fifteen (50.0 percent) of the migrants were forty years old or older when they arrived at their present location in the study area.

Farming operations were performed by sixty-eight of the seventy-four household heads in this age group at one time or another on their present sites in the study area. Adjustments in farming operations during the past ten years were mentioned by thirty-one of the seventy-four household heads. Large farm operations were decreased substantially or completely eliminated by thirteen operators; nine operators eliminated small operations; and nine operators have expanded or are in the process of expansion. The elimination of small farming operations by migrant heads is the only obvious pattern exhibited in the adjustments. That is, eight migrants eliminated small operations and only one locally-born operator executed this particular adjustment.

The first part of the paper discusses the importance of understanding the local context in which a project is implemented. This involves a thorough analysis of the social, economic, and cultural factors that may influence the success or failure of the intervention. The second part of the paper describes the methodology used in the study, including the selection of participants, the data collection methods, and the analysis techniques. The third part of the paper presents the results of the study, which show that the intervention had a positive impact on the target population. The final part of the paper discusses the implications of the findings for future research and practice.

The study was conducted in a rural area of a developing country, where the majority of the population is engaged in agriculture. The intervention was designed to improve the livelihoods of the target population by providing them with access to credit and technical assistance. The results of the study show that the intervention was successful in achieving its objectives, and that the target population was able to improve their living standards.

The findings of the study have important implications for the design and implementation of similar interventions in other rural areas. It is important to understand the local context and to involve the target population in the design and implementation of the intervention. This will ensure that the intervention is relevant and effective.

In conclusion, the study shows that the intervention had a positive impact on the target population. The findings of the study have important implications for the design and implementation of similar interventions in other rural areas.

The analysis indicates that 71.3 percent of all households with heads in this age group have gross household incomes of \$4,000 or more. These data are presented in Tables XXXI and XXXII. The low-income group appears to be unevenly divided between households headed by locally-born individuals and households headed by immigrants. That is, 20.5 percent of the households with locally-born heads have gross incomes of less than \$4,000 while 43.4 percent of the households headed by immigrants have gross incomes below this level. Physical handicaps were noted in six of the twenty-two low income households and self-employment at nonfarm occupations was noted in five cases. Relatively less well-paying off-farm jobs and small agricultural operations explain the balance of the cases.

Although a higher proportion of the households with heads in the 45-54 age group have low incomes as compared to the proportions in the younger age groups, it is suggested that a large proportion of this group do not have low incomes. The third part of the hypothesis should not be accepted. Furthermore problems of interpreting the concept of "low-income situations" become increasingly apparent in this age group.

Hypothesis four. The fourth hypothesis of this study is as follows: If the six-county area is a low income area due to the malfunctioning of the labor market, primarily, then within its boundaries a large proportion of the household heads, 55-64 years of age, will represent situations characterized by locally-born individuals who have remained permanently in the area since entering the labor force and the gross household income will be low for a large proportion of this population.



TABLE XXXI

GROSS HOUSEHOLD INCOME BY SOURCE--74 MALE HOUSEHOLD HEADS,
45-54 YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
1956

Gross Household Income	Source of Income			
	Farm Only	Farm and Nonfarm	Nonfarm Only	All Sources
Under \$1,000				
1,000 - 1,999	2	2	1	5
2,000 - 2,999		6		6
3,000 - 3,999	2	3	2	7
4,000 - 4,999		7	5	12
5,000 - 5,999		4	5	9
6,000 - 6,999	1	6		7
7,000 - 7,999		3		3
8,000 - 8,999		2	1	3
9,000 - 9,999	1	2		3
10,000 and over	2	5	1	8
No Report	<u>2</u>	<u>7</u>	<u>2</u>	<u>11</u>
Total	10	47	17	74

TABLE XXXII

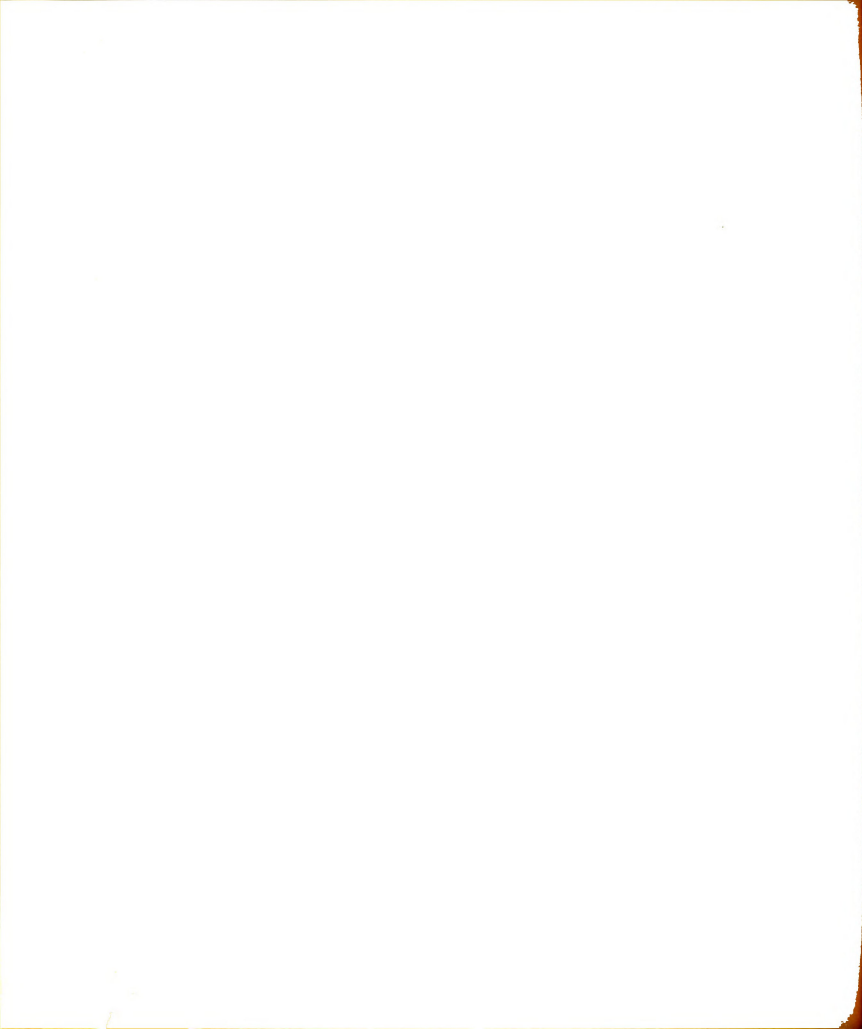
HOUSEHOLDS BY ECONOMIC CLASS OF FARM--74 MALE HOUSEHOLD HEADS,
45-54 YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
1956

Economic Class	Households
I	-
II	2
III	6
IV	13
V	15
IV	2
Part-time	13
Residential	5
Unclassified	1
Nonfarm	<u>17</u>
Total	74



This hypothesis is essentially identical to hypothesis three. The household heads in this age group entered the labor force during the 1910-1920 decade. Economic conditions in the cutover area were "reasonably good," at least relative to the two following decades, and considerable industrial expansion occurred in southern Michigan during this decade. It will be noted that some of the household heads would have been in their late twenties at the beginning of the agricultural depression of the 1920's and all of the heads would have been at least twenty-seven by 1930. Insofar as the labor market in the industrial sector of southern Michigan was selective with respect to age, many of the household heads in this age group were beyond the most desirable age at the time of the greatest economic adversity in the farm sector of the cutovers. Further, as was noted in the previous chapter, the net population movement was in the direction of the farm sector of the cutovers during the 1930's. Again, the hypothesis is extreme because a stable market did not exist throughout the time these people would have been relatively mobile.

Information for testing the hypothesis was obtained on sixty-four households with heads in this age group. At the outset it can be noted that forty-two (65.6 percent) of the household heads are locally-born individuals. It is suggested that the data do not indicate a large proportion of the population in this age group is locally-born. The first part of the hypothesis should not be accepted. Thus, although it is not known how many locally-born residents of this age group have permanently left the area, it is known that the local population has



been supplemented by immigrants to the extent that one in three of the present household heads is not a native of the area.

Of the forty-two locally-born household heads, fifteen (35.7 percent) have migrated from the area to live and work for periods ranging from a few months to fourteen years and then returned to the area. Further, four household heads indicated living and working in cities within the study area for periods ranging from a few years to twenty years. These data indicate an important element of occupational and physical mobility has characterized the locally-born household heads. It is suggested that the data do not support that part of the hypothesis stating the locally-born population remained permanently in the study area. The second part of the hypothesis should not be accepted.

An analysis of the nineteen locally-born household heads who have been out of the area or to cities in the local area to live and work and return indicates eight have received nonfarm income continuously since their return; seven began to receive nonfarm income sometime after their return; and four have not received nonfarm income since returning to their present site in the study area.

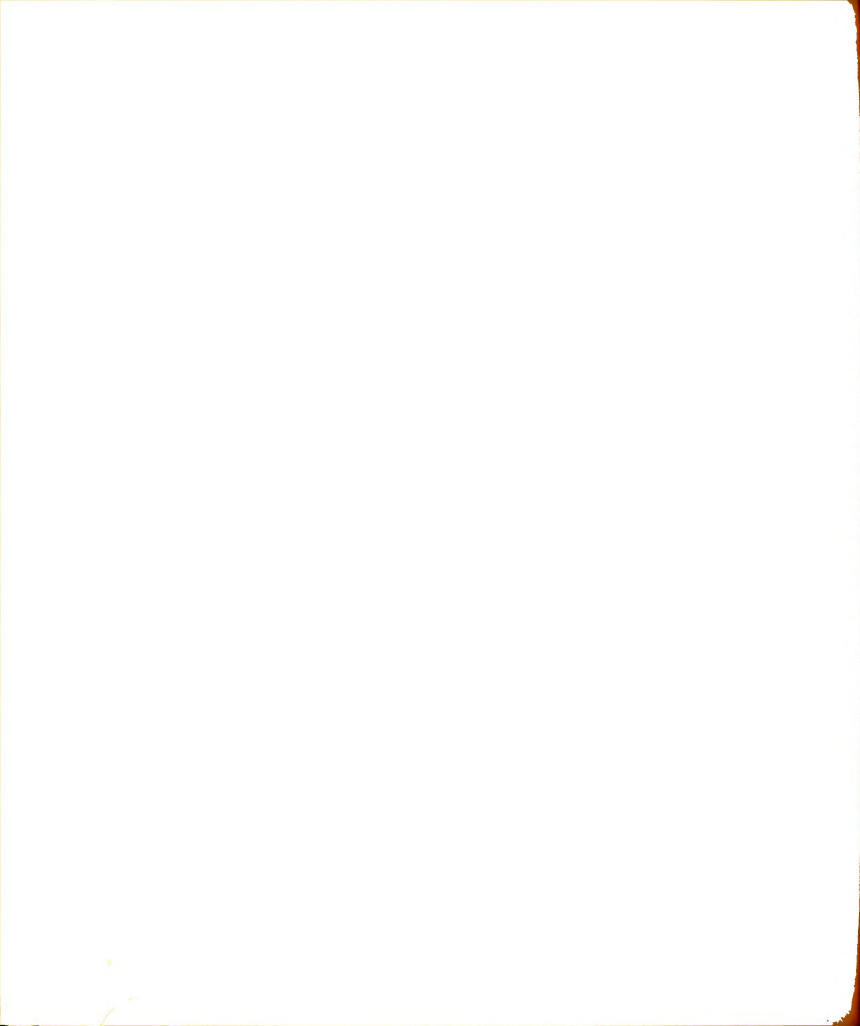
Of the twenty-three households with locally-born heads who have not been out of the area or to cities in the area, six have been receiving nonfarm income since 1945 or before; three began to receive nonfarm income between 1946 and 1954; three began to receive nonfarm income in 1955-56; one did receive it between 1918 and 1933; the date at which three began to receive it could not be determined; and seven have not received nonfarm income at any time.



Inheritance of all or part of the presently controlled resources was noted in eighteen (42.8 percent) of the households headed by locally-born individuals. Again, the cases of inheritance were distributed evenly between those who have not been out of the area. That is, nine household heads who have been out of the area or to cities in the area have inherited and nine who apparently stayed in the area all of their lives also inherited all or part of their resources.

In addition to the forty-two locally-born household heads, twenty-two heads have migrated to the study area. In terms of time of arrival at their present site, three came before 1930; four during 1930-39; eleven between 1940 and 1949; and four since 1950. Thus the migration to the area appears to be an on-going process as noted previously. Of the twenty-two migrants to the area, ten came from southern Michigan (primarily industrial cities); five came from nearby cities; three came from farms in nearby counties; and three came from out-of-state. All but two of the migrants developed farm operations on their present sites although nine have always had nonfarm income in addition to farm income and four began to obtain nonfarm income sometime after their arrival in the study area. Six of the immigrants were obtaining all of their income from agriculture in 1956. Upon arrival in the study area, five migrants were 35-39; eight were 40-44; and seven were 50-59 years old.

Adjustments in farming operations during the past ten years were recorded for twenty-nine of the sixty-four households with heads in this age group. Large operations were substantially decreased by nine



operators; small operations were decreased or eliminated by twelve operators; and eight operators have expanded or are in the process of expansion. Decreases are primarily associated with health problems or sons leaving the farm and increases are primarily due to the conversion to bulk-tank milk operations and the development of father-son arrangements.

The income analysis indicates 53.1 percent of the households with heads in this age group have gross household incomes of \$4,000 or more. These data are presented in Tables XXXIII and XXXIV. Since this is a smaller proportion than found heretofore, the low-income cases will be examined according to source of income.

Low incomes were recorded in eleven cases in which agriculture was the only source of income. Of the eleven, six represent situations that would ordinarily be considered as subsistence units. That is, the units are small (5-6 cow) cream or factory milk operations that have been at this output level for many years. The remaining five operators did have larger operations in past years, but decreased the size of business because of health or unstated reasons. However, none of these operations was ever very large--probably not exceeding ten or fifteen cows. Health impairment as a direct cause of present low incomes was noted in three of the eleven cases, two of which were considered chronic.¹

¹A detailed analysis of these low income cases in agriculture reveals an interesting observation that cannot be generalized because of the small size of the sample. It was noted that seven of the eleven operators did not have sons or sons did not accompany the operators to their present farms. This association is not advanced as an absolute explanation of low-income situations in this age group, but it was noted that of the five cases in which gross agricultural income was \$9,000 or more, four represented father-son arrangements and the remaining operator had a son who left the farm a few years ago.

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TABLE XXXIII

GROSS HOUSEHOLD INCOME BY SOURCE--64 HOUSEHOLDS, HEADS 55-64
YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
1956

Gross Household Income	Source of Income			
	Farm Only	Farm and Nonfarm	Nonfarm Only	All Sources
Under \$1,000				
1,000 - 1,999	4	3		7
2,000 - 2,999	3	5	2	10
3,000 - 3,999	2	1	1	4
4,000 - 4,999		3	1	4
5,000 - 5,999	1	7	3	11
6,000 - 6,999			2	2
7,000 - 7,999		3		3
8,000 - 8,999		1		1
9,000 - 9,999	1			1
10,000 and over	4	1		5
No Report	<u>2</u>	<u>8</u>	<u>6</u>	<u>16</u>
Total	17	32	15	64

TABLE XXXIV

HOUSEHOLDS BY ECONOMIC CLASS OF FARM--64 HOUSEHOLDS, HEADS 55-64
YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
1956

Economic Class	Households
I	1
II	4
III	2
IV	8
V	15
VI	5
Part-time	8
Residential	1
Unclassified	5
Nonfarm	<u>15</u>
Total	64

Of the thirty-two households having income from both farm and nonfarm sources, twelve received less than \$4,000 in 1956. Chronic health problems were noted in one case. Migration to the present site after forty years of age was noted in four cases and elimination of larger farming operations to take off-farm work was noted in two additional cases. The balance of the cases are explained in terms of small farm operations extending over a long period of time in addition to receiving income from pensions or off-farm work.¹

Of the fifteen households having income only from nonfarm sources, seven received less than \$4,000 in 1956. Chronic health problems were noted in two cases. Receipt of pensions, income from part-time work, and help from children characterize the balance of the cases. Agricultural operations as important income generating activities have never been developed by these residents.

Since 46.9 percent of all households with heads in this age group had gross household incomes of less than \$4,000 in 1956, it is suggested that the third phase of the hypothesis stating a large proportion of the households have low incomes, should be accepted. However, in accepting this phase of the hypothesis it should be noted that the definition of "low-income" is the same as that used for younger groups. The appropriateness of this definition is discussed in a later section of this chapter.

Hypothesis five. The fifth hypothesis of this phase of the study is as follows: If the six-county area is a low income area due to the

¹Again it was noted that sons were absent in seven of the twelve cases.



malfunctioning of the labor market, primarily, then within its boundaries a large proportion of the household heads, sixty-five years of age and older, will represent situations characterized by locally-born individuals who have remained permanently in the area, and the gross household income will be low for a large portion of this population.

Again, it is recognized that this hypothesis is extreme. The youngest persons in this age group entered the labor force about 1910-12, and older members entered before this time. Most of the persons in this age group were in their thirties when the agricultural depression of the 1920's began and were, of course, in their forties during the depression of the 1930's. It would not be surprising, then, if the analysis did reveal that a large proportion of the locally-born residents did remain permanently in the area.

Information for testing this hypothesis was obtained on eighty-five households with heads in this age group. At the outset it can be noted that fifty-five (64.7 percent) of the household heads are locally-born individuals. It is suggested that the data do not indicate a large proportion of the population in this age group is locally-born. The first part of the hypothesis should not be accepted. Again, it is not known how many locally-born residents of this age group have permanently left the area, but it is known that the local population has been supplemented by immigrants to the extent that one in three of the present household heads is not a native of the area.

Additional analysis of the group of fifty-five locally-born household heads indicated that eleven (20.0 percent) have migrated from the

area to live and work at nonfarm occupations for periods ranging from two to twenty years and then returned to the study area. Apparently, then, a high degree of physical mobility does not characterize the native-born household heads in this age group. It is suggested the data does indicate the part of the hypothesis stating a large proportion of the locally-born household heads have remained permanently in the area can be accepted.

Inheritance of all or part of the presently controlled resources was noted in twenty-seven (49.1 percent) of the fifty-five households with locally-born heads and three (10.0 percent) of the thirty households with immigrant heads. Some of these inheritances date back to the turn of the century.

Of the fifty-five households with locally-born heads, ten obtain all of their income from farming, twenty-two have farm and nonfarm income, and twenty-three obtain all of their income from nonfarm sources. Extremely good health leading to an active life was noted in ten cases where agriculture was the only source of income. However, elimination of farming operations in late 1956 and early 1957 was noted in three cases; and father-son arrangements were noted in two cases.

Sons or daughters living with an elderly parent or parents and working at off-farm jobs were noted in seven of the twenty-two cases where income was obtained from both farm and nonfarm sources. The balance of the cases represent one or two person households having a small agricultural operation, such as a flock of laying hens, a small cream operation, or a few beef cattle, and receiving additional income



in the form of transfer payments or other retirement income. In some cases, nearby sons "looked after" a parent who was living alone.

Social security payments or other forms of retirement income were obtained by fourteen of the twenty-three households not having agricultural operations. Savings, rent, and self-employment were sources of income for six households, and a source of income could not be established for three households.

An analysis of the thirty households with heads from outside the study area indicates that only two received their entire income from agriculture--both of these operators decreased their small operations in 1956 and obtained social security payments in 1957. Small agricultural operations were maintained by fourteen household heads while receiving other nonfarm income--nine received social security or military pensions and five received income from off-farm work by the head or by a younger relative living in the household. Social security payments or rental incomes were sources of income for seven of the fourteen household heads not having farming operations; sons working at nonfarm jobs or self-employment of the operator was the source of income in four households; and no source of income could be determined for three households.

Migration to the study area in the later years of life was noted in twenty-two of the thirty cases. That is, five residents were 40-49; ten were 50-59; and seven were over 60 years of age when they arrived in the area. If those locally-born heads who have been out of the area and returned are included as migrants it can be noted that



twenty-nine came to the study area when they were 40 years old or older. This is 34.1 percent of all cases in the 65 and over age group.

Income from agriculture has been received by seventy-one of the eighty-five households in this age group at some time since 1940. Incidences of reduction or complete elimination of farming operations since 1940 were recorded for fifty-five households; the farming operations of fourteen households have changed very little during the period; and increases in size of operations were recorded for two households.

The analysis indicated 72.9 percent of the households with heads in this age group have gross household incomes of less than \$4,000. These data are shown in Tables XXXV and XXXVI. Additional analysis indicates that perhaps 60.0 percent of those having less than \$4,000 actually have less than \$2,000 gross household income. Incomes of less than \$4,000 were noted in six households that relied entirely on farming for their income. All of these cases represent adjustments toward retirement--reducing or eliminating farm operations. Only one of these cases could be classified as a chronic low-income situation--a man who came to his present site when 40 years old, had no children, and farms with horses.

Of the thirty-six households obtaining income from both farm and nonfarm sources, it is estimated that twenty-five have gross incomes of less than \$4,000. Again, most of these cases represent adjustments toward retirement--twenty-one now receive social security payments, private pensions, or some form of public assistance. The remaining



TABLE XXXV

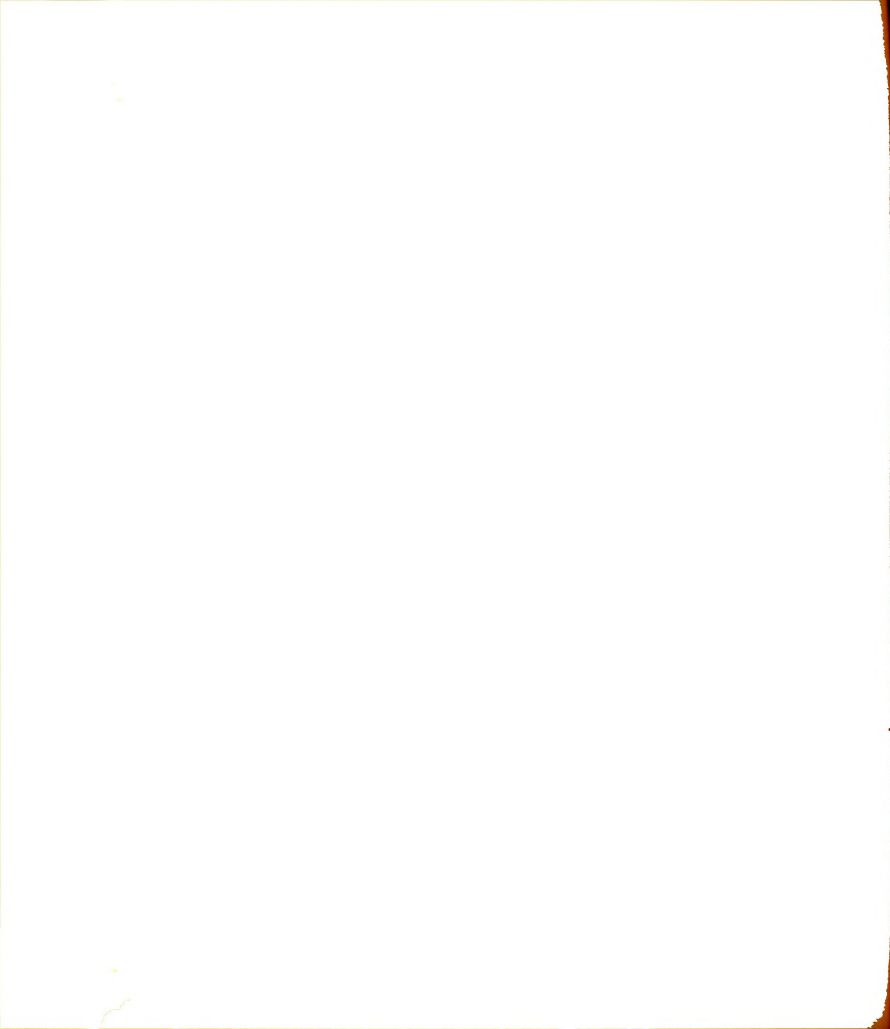
GROSS HOUSEHOLD INCOME BY SOURCE--85 HOUSEHOLDS, HEADS 65
YEARS OF AGE OR OLDER, NORTHERN MICHIGAN STUDY AREA
1956

Gross Household Income	Source of Income			Total
	Farm Only	Farm and Nonfarm	Nonfarm Only	
Under \$1,000			9	9
1,000 - 1,999	2	9	6	17
2,000 - 2,999	1	8	2	11
3,000 - 3,999	1	4	1	6
4,000 - 4,999	3	3	3	9
5,000 - 5,999	1	1		2
6,000 - 6,999		2		2
7,000 - 7,999		1	1	2
8,000 - 8,999				
9,000 - 9,999		1		1
10,000 and over	1		1	2
No report	<u>3</u>	<u>6</u>	<u>15</u>	<u>24</u>
Total	12	36	37	85

TABLE XXXVI

HOUSEHOLDS BY ECONOMIC CLASS OF FARM--85 HOUSEHOLDS, HEADS 65
YEARS OF AGE AND OLDER, NORTHERN MICHIGAN STUDY AREA
1956

Economic Class	Households
I	1
II	1
III	1
IV	9
V	13
VI	6
Part-time	10
Residential	3
Unclassified	4
Nonfarm	<u>37</u>
Total	85



four receive help from their children or work off-farm. The group of twenty-five include three widows and two widowers--two of the widows and one of the widowers are living alone.

Of the thirty-seven households obtaining all of their income from nonfarm sources, it is estimated that thirty-one have incomes of less than \$4,000. Unmarried men and widows accounted for seventeen of these cases. Twelve were unmarried men, nine of whom were living alone; and five were widows, three of whom were living alone. Farming operations during the past fifteen years were recorded for twenty-three of the thirty-one cases. Over one-half of the group received social security payments, private retirement income, or other public assistance. The remaining households received income from nonfarm work, assistance from children, or some rental income. A source of income or assistance could not be established in six cases--four of which were unmarried men living alone.

The analysis does indicate that a large proportion of the households with heads 65 years of age or older do have low incomes as defined. If the definition is not modified, the data suggests that part of the hypothesis stating a large proportion of the households with heads in this group will have low incomes should be accepted.

Summary observations. The hypotheses were designed to focus on certain characteristics of the populations in the study area that would reflect the operation of the labor market as a resource allocating mechanism. Primary attention was centered on migration out of and into the study area and on patterns and changes in patterns of income



generating activities by the people interviewed. The initial phase of this study is concerned with the migration of the household head and with the income characteristics of the household in its entirety.

For the younger age groups it was possible to develop observations on migration both into and out of the area; for age groups containing older persons it was possible only to observe migration into the area. However, it was possible to observe temporary migrations out of the area by locally-born household heads of all ages. Although most phases of the income analysis are concerned with the overall income level of the household, certain changes in the patterns of income generating activities of household heads were examined.

The first question to be answered is: What is the general nature of the results of the labor allocation process with respect to the young males who have recently entered the labor force? This answer has three main parts, (1) the location of the young male population; (2) their income generating activities; and (3) the level of household income.

It is not known whether the labor allocation process is primarily "push" or primarily "pull," but it is known that more than one in three of the young males who grew up in the study area are now located out of the area. Some of the young males who remained in the area (22.6 per-cent) are now in the households of their parents or relatives, but these are primarily unmarried men between the ages of 20 and 23.

The labor allocation process does not appear to have restricted the young native-born males primarily to agricultural pursuits. None of



the young males were engaged in agriculture outside the area. Within the area, agricultural income was obtained by 35.5 percent of the native-born young males who remained in the area although only 18.3 percent devoted full-time to agriculture. Thus, nearly two-thirds of the young males who remained in the area are not associated with agriculture. In total, 77.4 percent of the young men who were born in the study area have no income from farming. It was also noted that about one-third of the native-born household heads interviewed had been out of the study area to live and work at nonfarm occupations. In 1956, household heads who migrated to the study area accounted for 29.5 percent of all household heads in the sample but none were relying entirely on income from farming.

The labor allocation process has been such that relatively few households headed by young males have low incomes. Although the level of incomes for those young people not contacted by the interviewers is unknown, only 18.2 percent of the contacted households had gross incomes of less than \$4,000 in 1956. Further, several of the low income cases can be explained in terms of transitory elements such as beginning farming operations or loss of nonfarm jobs.

The second question to be answered is: What is the general nature of the labor allocation process with respect to the male household heads who have been in the labor force during the past fifteen to twenty-five years? Again, the answer will be divided into three parts as above.

Migration of males in this age group is difficult to determine. According to the limited information available from the sample, about



one in ten of the native-born males permanently migrated from the area. This must be considered as an absolute minimum figure. Some of the males in this age group who remained in the study area, (15.9 percent), are in the households of their parents or relatives and most of them are unmarried.

A large proportion of the native-born males in this age group are engaged in farming as compared to the younger group above. Although none of the permanent outmigrants is farming, 79.7 percent of the native-born males who stayed in the area receive some income from farming. However, only one in three of these males devote full-time to farming. In total, 30.4 percent of the native-born males for which information was available have no income from farming. Slightly more than one-half of the native-born household heads interviewed had been out of the study area to live and work at nonfarm occupations. In 1956, household heads who migrated to the study area accounted for 34.7 percent of all household heads in the sample, but only one household (4.0 percent) derived its entire income from farming.

The labor allocation process with respect to households with heads in this age group has been such that relatively few have low incomes. That is, only 16.7 percent of all households had gross incomes of less than \$4,000 in 1956. Further, it can be noted that only 5.6 percent had gross incomes of less than \$3,000 in 1956. "Chronic" low-income situations do not characterize this group.

The third question to be answered is: What is the general nature of the labor allocation process with respect to the households with

heads who have been in the labor force for the past twenty-five to thirty-five years? The answer to this question is divided into three parts, (1) the nature of the immigration and temporary outmigration; (2) the income generating activities of the residents; and (3) the level of household incomes.

Migration to the study area substantially increased the population of this age group. That is, four of every ten household heads now 45-54 years of age were not born and raised in the area. Further, it was noted that one-half of the immigrants came to the area after they had been in the labor force for at least twenty years. The native-born household heads have also exhibited an element of mobility. That is, one-half of the household heads who have been born and raised in the study area have been out of the area to live and work at nonfarm occupations.

The adjustments made by the households in the direction of obtaining nonfarm income indicate that the labor allocation process has not limited household members to agriculture as a source of income. In 1956, although 77.0 percent of the household received some income from agriculture, only 13.5 percent relied on farming for their entire income. Further, it appeared as if the proportion of households relying only on farming was roughly of the same order as between households headed by immigrants and those headed by locally-born individuals, i.e., 16.7 percent of the households headed by immigrants and 11.4 percent of the households headed by locally-born individuals relied on farming for their entire income in 1956.

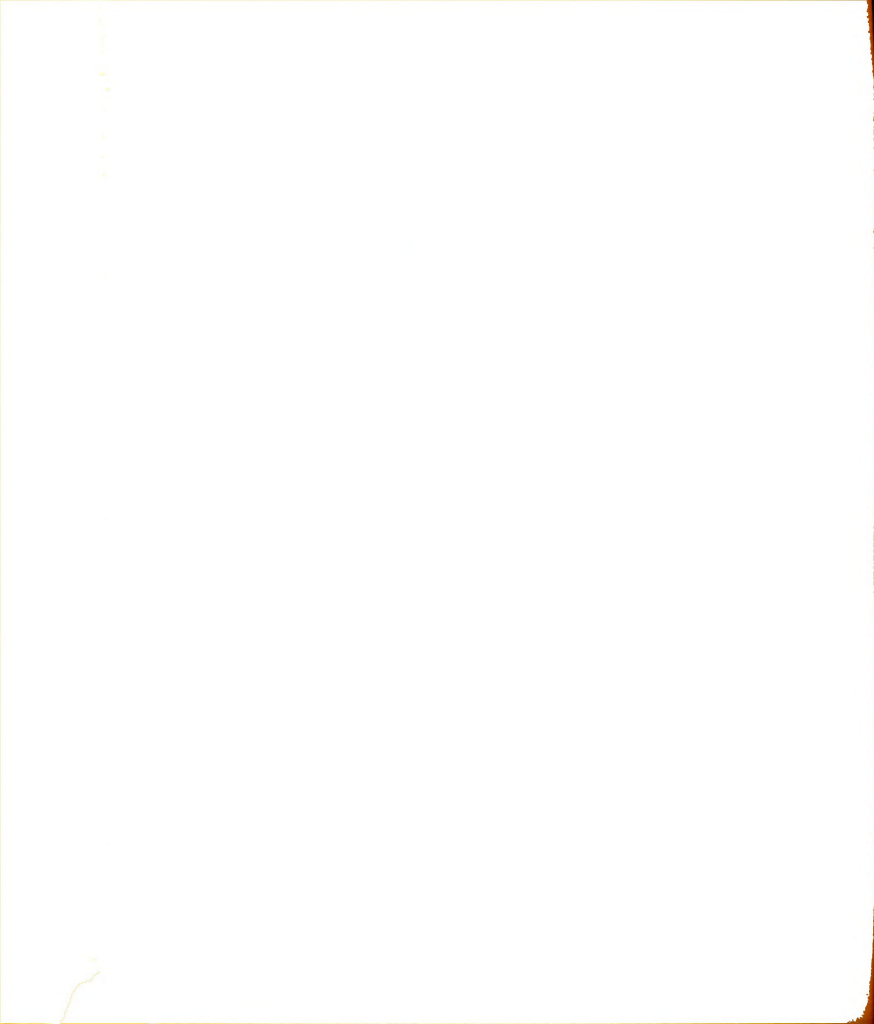


The labor allocation process has been such that 29.2 percent of the households with heads in this age group obtained gross incomes of less than \$4,000 in 1956. Although this proportion is higher than for the younger age groups it can be noted that less than one-half of the low-income cases could be considered "chronic" in the sense that they have always received a low level of earnings.

The fourth question to be answered is: What is the general nature of the labor allocation process with respect to the households with heads who have been in the labor force for the past thirty-five to forty-five years? The answer to this question is again divided into three parts as above.

Household heads who have migrated to the study area constitute an important fraction of the total household heads in this age group. That is more than one in three of the present household heads is an immigrant. Further, it was noted that more than two-thirds of the immigrants had been in the labor force for thirty years or more before coming to the area. The native-born household heads in this age group also exhibit an element of mobility. Temporary migration out of the area or to cities in the area was recorded for 45.2 percent of all household heads who had been born and raised in the study area.

The labor allocation process and other income opportunities has not limited these households to agriculture as their only source of income. Although 76.6 percent of all households received some income from agriculture, only 26.6 percent relied on farming for their entire income. Further, the proportion of households with locally-born heads



relying on farming for their entire income was essentially identical with the proportion of households headed by immigrants, i.e., 26.1 percent of the households headed by locally-born individuals and 27.3 percent of the households headed by immigrants relied on farming for their entire income.

Although the labor allocation process and other income possibilities has not limited the households headed by persons in this age group entirely to agriculture as a source of income, 46.9 percent of the households received less than \$4,000 gross income in 1956. However, perhaps one-half of these low-income cases can be explained in terms of deteriorated health, single person households, the receipt of pensions or help from children, and reduction of the size of agricultural operations.

The fifth and last question to be answered is: What is the general nature of the labor allocation process with respect to the households with heads who have been in the labor force for forty-five years or more? Again, this answer is divided into three parts as above.

Household heads who have migrated to the study area, again, constitute an important fraction of the total household heads in this age group. That is, more than one in three of the present household heads is an immigrant. Further, it was noted that nearly three-fourths of the immigrants had been in the labor force for twenty years or more before they came to the study area; more than one-half had been in the labor force for thirty years or more; and almost one-fourth had been in the labor force for forty years or more before they came to the



study area. The data indicates that the locally-born household heads in this age group had a somewhat lower element of mobility as compared to the heads in the younger age groups. That is, only one in five of the locally-born household heads had been out of the area to live and work at nonfarm occupations.

Again, the labor allocation process and other income possibilities has not limited the households with heads in this age group to agriculture as their only source of income. Although 56.4 percent of all households received some income from agriculture, only 14.1 percent relied on farming for their entire income. The data indicate a higher proportion of households with locally-born heads rely only on farming for their income as compared to households headed by immigrants, i.e., 18.2 percent of all households headed by locally-born individuals relied on farming for their entire income as compared to 6.7 percent of the households headed by immigrants to the study area.

Most of the households with heads in this age group have incomes below \$4,000. That is, 72.9 percent of the households had gross incomes of less than \$4,000 and perhaps 60.0 percent had incomes of less than \$2,000 in 1956. A large proportion of these cases represent adjustments towards retirement and one and two person households. Relatively few of them represent "chronic" low-income cases. Many of the low-income households are now receiving transfer payments of various kinds, or are being helped by children or other relatives.

the 1990s, the number of people with a mental health problem has increased by 50% (Mental Health Foundation 1999). The prevalence of mental health problems in the UK is estimated to be 10% (Mental Health Foundation 1999).

There is a growing awareness of the need to address the needs of people with mental health problems. The Department of Health (1999) has published a strategy for mental health care, which aims to improve the lives of people with mental health problems. The strategy is based on the following principles:

- People with mental health problems should be treated as individuals, with their own needs and strengths.
- People with mental health problems should be given the opportunity to participate in decisions about their care.
- People with mental health problems should be given the opportunity to live in the community.
- People with mental health problems should be given the opportunity to work and study.

The strategy also aims to improve the lives of people with mental health problems by: reducing the stigma and discrimination against people with mental health problems; improving the support and services available to people with mental health problems; and improving the training and education of health and social care professionals.

The strategy is a key document in the development of mental health care in the UK. It provides a framework for the development of policies and services for people with mental health problems. It also provides a framework for the evaluation of mental health care services.

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An Evaluation of the Use of the Hypotheses

The evidence available in advance of this study did not suggest a priority for the selection of hypotheses to test that would efficiently focus attention on the elements contributing to the low-income situation in the study area. The initial step, then, was to select an analytical framework that would give priority to certain hypotheses. The retardation hypothesis and its extensions is one analytical framework that does provide the needed system of priorities. Further, within one framework the hypotheses to test are specified and a method is available for the delineation and grouping of facts obtained in the field interviews.

The hypotheses were specifically designed in extreme form for the purpose of sharply focusing on relevant information and not for the purpose of accepting or rejecting as many of them as possible. Obviously, any of the hypotheses used in the analysis and rejected could have been reworded in a more or less reversed manner to ensure its acceptance. The particular construction of the hypotheses and the resultant acceptance or rejection is not the basic issue. Rather, the basic issue is whether or not the testing of the hypotheses reveal information that is suggestive of the structure of elements in the low-income situation in the study area. If this position is granted, then it is possible to make some evaluative comments about the retardation hypothesis and its extensions as an analytical framework.

The retardation hypothesis, with its emphasis on the functioning of the labor, capital and product markets, suggests that if initial



research effort is to be concentrated on the labor market then each distinguishable group of labor should be examined in detail. This suggestion was made operational by examining the people who had been in the labor force for varying lengths of time. Essentially this was accomplished by viewing each household of a particular age group as an individual experiment and examining its adjustments, or lack of adjustments, over time. The next step was to combine similar results into groups.

The importance of this methodology is now apparent. It is essentially a means of determining whether or not individual situations tend to remain in a static state in the area and whether or not differences exist with respect to this condition between and among age groups. The methodology, then, develops the information within a space-time matrix. This approach is superior to a cross-sectional approach at a point in time. It is superior because it tends to bring into focus important information that leads to the results usually observed in a cross-sectional analysis. In other words, the cross-sectional approach yields only observations on the results of actions that have been performed in the past. If the actions in the past have been essentially static (repetitive) then a cross-sectional analysis is sufficient but if these actions change over time or are different among groups in the population, then it is extremely important to develop this information. The methodology utilized in this study allows for either situation to come to the foreground. It is suggested that the possibility of either result being revealed by the same methodology is the major advantage of



analytical framework used in this study. Additional specific advantages are discussed below.

The methodology utilized in this study, in its attempt to focus on labor allocation, has revealed that physical migration out of the area or to nonfarm occupations in the area on the part of the young native-born males is an important element in the on-going process of change in the area. This analysis, in turn, tends to direct attention towards the income and other conditions under which some young males remain in the area and on farms. Still another facet revealed by this approach is the important amount of physical migration to the area and particularly the migration of older people. The analysis, by revealing these migration characteristics, has suggested that there is an additional dimension of the income situation in the study area--a dimension that will require serious investigation in future analyses.

The methodology utilized in this study has also revealed that an important element of occupational mobility now exists in the area. This element of occupational mobility is a significant subject for additional research because it may influence rates of migration and also because it may cause the persistence or even the development of low-production farm units. Also closely allied with this point is the reduction or elimination of farming and the obtaining of social security payments by older farmers.

A final positive point to mention in this brief evaluation centers around the use of methodology that focuses on total income from all sources rather than income only from agricultural sources.



This procedure significantly broadens the analysis and permits less qualitative statements about the income situation of households in the area. This is particularly true with respect to areas in which low-production farms, off-farm work income and other nonfarm income sources are important. Income analyses of the scope attempted here cannot be accomplished using most available data and particularly cannot be accomplished by using data contained in the Census of Agriculture.

Although the use of the retardation hypothesis and its extensions has revealed several elements in the income situation of the study area, the study has serious limitations. The most obvious limitation, of course, is due to the almost exclusive concentration on labor allocation. This limitation is not serious from an analytical standpoint--studies must be limited in scope. A more serious limitation centers around the fact that sufficient information was not obtained from respondents with respect to the elements causing the execution of certain strategic labor allocation decisions. In other words, although it was possible to ground the data in actual experiences of the people interviewed, the experiences in turn were not grounded sufficiently in their decision-making matrices. Thus, the analysis tended to cross-sectional in a sense but not to the extent of a census or similar recording of results at a given point in time.

The effect of these limitations is to prevent the establishment of fully verifiable conclusions where they are wanted and needed and thus a part of the information obtained only provides the basis for the development of additional hypotheses. For instance, although the

the same time, the *Journal of the American Medical Association* (JAMA) published a letter to the editor from a physician in the same hospital, who stated that the patient had been treated with a "new" drug.

The letter stated that the patient had been treated with a "new" drug, and that the drug was "new" because it was "new" to the hospital.

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use of the retardation hypothesis and its extensions revealed that migration into the area, migration out of the area, and migration out of the area and return were significant on-going processes; little information was obtained with respect to the elements that caused these migrations. The data suggests that one of the most appropriate hypotheses to test is: If people move to the open country in the study area from another area or city, or if they move back after living and working in the city, or if they stay in the study area all of their lives, then they are actually receiving a higher net real income at their present sites as compared to the net real income at their former sites or an alternative site.¹ In other words, the data indicates that a relevant hypothesis to test is that the labor market does work extremely well in allocating labor to its most remunerative employment. This is almost a complete reversal of the retardation hypothesis.

However, the general analytical procedure would not be different. That is, if the analytical framework is grounded in the assumption that the labor allocation process does operate efficiently, then a series of hypotheses can be developed, the data can be collected, the hypotheses can be tested, and inferences drawn in the same manner as in the present study using the retardation hypothesis. The point is that by grounding the analytical framework in an alternative general assumption

¹This point may not be sufficiently clear. What is meant is a detailed research inquiry should be built around the proposition that the labor resource allocation process is operating effectively. One group of hypotheses might be constructed on the assumption that all groups in the population of the study area are constantly evaluating labor allocation decisions. A more sophisticated approach would be to introduce lags and differentials into the hypotheses.



a different emphasis is given to the nature of the data to be collected and hypotheses are focused in a different manner, but the general analytical scheme is the same.

The comments above should not be interpreted as indicating the use of the retardation hypothesis in this study resulted in a waste of time and money. Obviously, research effort must begin somewhere when the topic area is almost completely devoid of appropriate information. The retardation hypothesis was thought to be a priori, a useful framework around which to organize initial research efforts. At least it appeared to offer considerably more in terms of structuring the data to gain insight than merely counting the cases and counting certain attributes about these cases. The argument here is now that the information has been developed and some insight has been obtained, the second phase of the research inquiry should be organized in a manner that follows from the suggestions briefly discussed above in this section. The argument assumes, of course, that interest exists in further clarification of the original doubts and confusion regarding low-income and low-production situations in the study area and in Northern Michigan.



CHAPTER V

IMPLICATIONS OF FINDINGS FOR PUBLIC POLICY

. . . The aim of research is not just to affirm or deny a hypothesis, but to expand and modify it until it represents warranted assertions, grounded in experience, as to what actions will result in a satisfactory pattern of major land uses, will create desirable landed property relations, will overcome the problems engendered by changing attributes of space. . . .¹

The delineation of different patterns of experience and different income generating activities was the basic objective of the analysis in the previous chapter. The grouping of different patterns of experience and different income generating activities provides some of the evidence needed for making generalizations about public policy proposals designed to solve "the low-income problem in low-income areas." It is recognized that the information collected and analyzed in this study does not provide direct evidence with respect to the success or failure of public policy measures. The reason for this is, of course, that most of the public policy measures advocated by various individuals and organizations have not been enacted or developed and thus very little direct experimental evidence is in existence. However, it is felt that some of the information developed in this study is relevant with respect to the possible or probable success of certain public policy measures if they were to be enacted in the future. Furthermore,

¹Salter, op. cit., pp. 252-253.

arranging the data to provide generalizations about the probable success of public policy measures also arranges the data for a more definitive understanding of the changes that have been and are now taking place in the area and provide a partial basis for predicting the future course of the agricultural economy of the area.

The first phase of this chapter will be concerned with the applications of the findings in this study with each of several public policy proposals that have been advocated for solving low-income problems in agriculture. It is recognized that treating each proposal separately entails risks of "quoting out of context." On the other hand, it is felt that too little attention has been devoted to the attempt to develop relative magnitudes of "problems" so that a more concise statement of proposals can be made for smaller areas.

Examination of Public Policy Proposals

Aid to facilitate migration. This proposal has been advanced with varying degrees of emphasis and purpose for several years. It was presented to a Congressional Committee by D. G. Johnson in 1949, and has reappeared from time to time--most recently in the form of the "Homesteads in Reverse" proposal of T. W. Schultz in 1956.¹

¹In 1949, Johnson said, ". . . and it might actually be necessary in some of lowest income areas to give financial aids to migration either in terms of loans, or grants, because a farm family that has been living on incomes at present prices, at less than a thousand dollars, is not likely to have any large reserve of assets to make a move possible. . . ." See the discussion by D. Gale Johnson in Hearings, Low-Income Families, U. S. Congress, Joint Committee on the Economic Report, Sub-committee on Low-Income Families, 81st Congress, 1st



A necessary condition for the advocacy of a program of this type is the existence of a large number of households that have not been able to gain control over sufficient resources to develop farm income producing activities above the "low-income" level; have not been able to obtain income from nonfarm sources sufficient to increase total income above the "low-income" level; and have not been able to migrate

Session, 1949, p. 314.

In 1955, ". . . a second step would be to provide positive aids to migration through loans and grants, assistance in the location of jobs and, in the case of families, help in obtaining adequate housing. On the basis of our present knowledge of migration, it cannot be said with certainty that positive aids to migration would be required if farm people had more knowledge of alternative employment opportunities. . . ." See statement by W. E. Hendrix, D. G. Johnson, and T. W. Schultz in a letter to the Secretary of Agriculture reprinted in Hearing, January 1955 Economic Report of the President, U. S. Congress, Joint Committee on the Economic Report, 84th Congress, 1st Session, 1955, p. 657.

Later in 1955, ". . . many farm families who would migrate to industry do not migrate because of lack of information as to employment opportunities and lack of capital with which to finance migration. If principal concern is to increase the productivity of people on low-production farms, providing payments for migration would facilitated the transfer to nonfarm employment. . . ." See C. E. Bishop, "The Origins and Policy Implications of Low Incomes among American Farm Families," Hearings, Low-Income Families, U. S. Congress, Joint Committee on the Economic Report, Sub-committee on Low-Income Families, 84th Congress, 1st Session, 1955, p. 394.

Also in 1955, ". . . coupled with this whole matter of assisting people to find nonfarm employment, it is suggested that grants or loans might be provided to assist farm families to move. Many farm families are unable to accumulate enough reserves to finance movement to another place. . . ." See Wayland J. Hayes, "Rehabilitation of Depressed Rural Areas," ibid., p. 460.

In 1956, Schultz wrote, ". . . a strong case can be made for subsidizing the outmigration of people who want to leave farming. . . . There are several ways in which this can be done. . . . One important way would be to offer, say, \$5,000 to any farm family now operating a farm, giving all its time to farming, and producing not less than \$2,500 of products--to help the family acquire a home in some other sector of the economy where the family wants to live and work, provided the family stays at the new location not less than five years. . . ." See T. W. Schultz, "Homesteads in Reverse," Farm Policy Forum, (Ames: The Iowa State College Press, 1956) Vol. 8, No. 5, pp. 12-15. It should



to other areas. Inability to gain control over resources may be due to simply an absence of available land, land prices being "too high," lack of credit, or lack of suitable tenure arrangements. Inability to obtain income from nonfarm sources may be due, simply to an absence of off-farm employment opportunities consistent with the abilities and qualifications of the low-income population. Nonmigration may be due to an absence of information about income producing opportunities in other areas, to the possibility that the abilities and qualifications of the low-income people are not consistent with the abilities and qualifications needed in other areas, or it may be due to the lack of funds to finance migration.

Another necessary condition for the advocacy of a program of this type is that a net gain to society will result from the migration of low-income people. A net gain to society could result from the "more efficient" combination of resources remaining in the area, or a larger contribution by the out-migrants at their new site or some combination of both results.

The two necessary conditions, when combined, provide a sufficient condition for the advocacy of programs to facilitate migration. That is to say, at the extreme, those who advocate the policy must assume that population relative to resources is so great that only outmigration will tend to equalize the imbalance and the only strategic element preventing outmigration is lack of funds. It is suggested here that this

be clearly noted that this proposal was not advanced as a remedy for the low-income problem, per se, but rather it was advanced as an output reducing measure which indirectly improves the income position of those who remain in agriculture.

assumption is too "heroic" and more detailed delineation must be made of the nature of the present low-income situation before this policy can be advocated for relatively small areas. Only after sufficient evidence is presented to support the following hypothesis can a policy of aid to migration be advocated unequivocally. The causes of low-income situations in the area are of such nature that only aid to facilitate migration will ameliorate the conditions and that migration will result in a net benefit of society.

At the outset it should be noted that all of the evidence required to accept or reject the hypothesis is not available. However, it is felt that sufficient evidence is available to provisionally accept or reject it as a major hypothesis for further study.

Differences in ages of household heads is assumed to be of some (unspecified) importance in the determination of the appropriateness of a policy to encourage migration. Thus, for analytical purposes it is assumed that all household heads under 45 years of age are "potential candidates" for migration. The question arises, what is the magnitude of the number of cases that appear to be faced with only one course of action--migration? In order to answer this question, it is further assumed that the household heads most likely faced with this alternative are in households that had total gross incomes of less than \$4,000 in 1956. Thus, there are twenty households to examine in detail. It can be noted that this group represents 17.2 percent of all household heads 20-44 years of age.

A detailed examination of the twenty "low-income" households reveals that ten can be considered transitional, four have heads who are



severely disabled, four heads have relatively low-paying off-farm jobs, and two heads worked only part of the year by choice. The ten are transitional in the sense that farm operations were becoming larger (three); permanent nonfarm jobs were lost due to lay-offs (five); self-employment income happened to be low in 1956 (one); and under-reporting of farm income (one). It is estimated that none of these would be classified as "low-income" in 1957 if off-farm employment was regained by those who were laid off during part of 1956 or if agricultural operations were expanded as planned.

The four household heads working at relatively low-paying off-farm jobs are men who have worked at many jobs in many locations and have decided to live in the study area for reasons not determined. Of the two who worked only part of the year by choice, one is unmarried and the other, although married, has no children. Of the four heads who are severely disabled, three are living on places they inherited or on places owned by their parents.

The above data suggests that the magnitude of "chronic" low-income problem situations is, indeed, small for the 20-44 age group. Migration as a solution to the existing low-income situation does not appear to hold much promise.

An examination of the low-income situations in age group 45-54, also reveals a very small number of "potential migrants." As noted in the previous chapter, eleven of the 22 cases of low-income can be explained by disability or self-employment and the balance of the cases by small agricultural operations and/or relatively less well paying



off-farm jobs. Only four of these cases represent "chronic low-income farm situations."

Encouragement of industrialization in rural areas. This program also has been advocated from time to time but usually not as forcefully as some of the more farm-oriented policies discussed later in this section.¹ Industrialization will have a desirable effect on incomes of the people in an area primarily through the labor market, through the markets for goods and services produced in the area, or a combination of both. Necessary conditions for the advocacy of this program must, then, center around the probable effects via these markets.

¹In 1955, ". . . The promotion of local industry in small towns and at the mouths of mines is a worthy goal and may eventually have more results than can now be produced. It doesn't seem possible, however, that the local industries can become so widespread as to relieve the present congestion of areas where low-income families have concentrated." See Frank J. Welch, "The Problems of Low-Income Families," Hearings, January 1955 Economic Report of the President, op. cit., p. 650. Also in the same hearings Nicholls said, ". . . To a major extent, the flow of industrial capital is a matter for private enterprise rather than public policy. However, Federal policies toward the location of defense plants and toward public and private power have thus far failed to take adequately into account the crucial importance of additional industrialization to much of the low income rural South. . . ." Ibid., pp. 690-691.

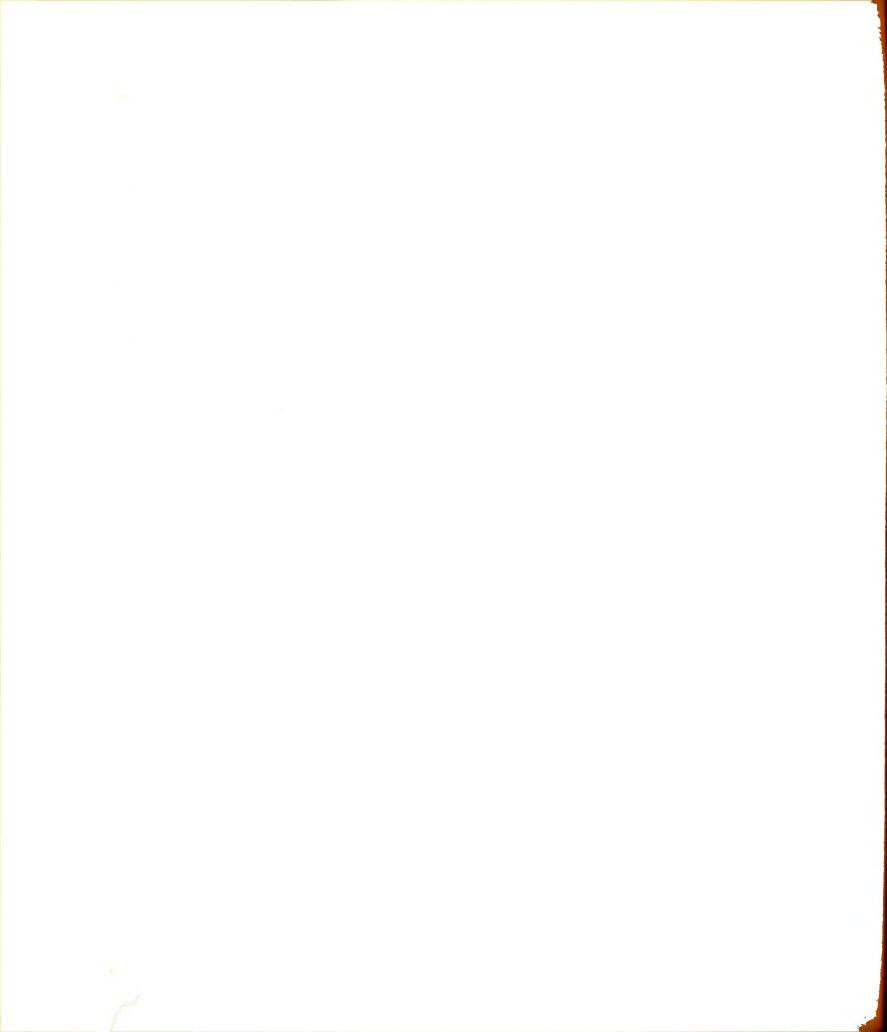
Also in 1955, ". . . Some measures may be considered as representing an indirect approach as far as the individual family or area is concerned. These are among the most important measures for the evidence clearly shows the favorable response of a great part of the low-income group to such steps. "Infer to action" to assure high level nonfarm employment, to encourage the location of industries in labor-surplus areas, . . ." See Olaf F. Larson, "Sociological Aspects of the Rehabilitation of Depressed Rural Areas," Hearings, Low-Income Families, 1955. op. cit., p. 425.

In 1957, see Rufus B. Hughes, Jr. "Solution to the Problem of Low Income in the South: "Industrialization" and "Discussion" by W. E. Hendrix, Journal of Farm Economics, XXXIX, No. 5, (December, 1957), pp. 1455-1461.



The most direct effect of industrialization on incomes of low-income households would be through the labor market. That is, people in low-income households would obtain employment in industrial plants. Thus, a necessary condition must be the existence of a supply of labor that is now employed at low rates of remuneration in agriculture, in other kinds of employment, or not employed at all. Further, this supply of labor must represent, at the extreme, a surplus of labor in a sense that the only alternative to industrialization is migration. In other words, the supply of labor relative to nonhuman resources must be such that changes in tenure arrangements, greater availability of credit, additional farm management advice, the development of new technologies which would either lower costs or change output, or increases in prices of output would not create conditions for effectively utilizing this surplus of labor at higher rates of remuneration. The supply of labor also must contain the abilities and qualifications required by those industries encouraged to locate in the area or by those local industries directly experiencing expansion due to industrialization.

The effects of industrialization on incomes of low-income households via the goods and services markets are less direct and certain rather stringent conditions have to be met if these effects are to be felt. That is, the low-income population must be in a position to benefit from the increase in demand and/or price (if any) for such locally-produced (or potentially locally-produced) items as food, other raw materials, semi-finished or finished goods, and services.



If local resources are not adaptable to changes in demand exerted by industrialization, the low-income population may not be benefited at all through the product market. Further, it can be noted that insofar as low-income households do not have important amounts of resources and therefore do not have important amounts of production, quantity and/or price effects (if experienced) will have only marginal effects on income. (This argument is essentially identical to that of criticizing price support programs as a policy to benefit the income position of low-income farmers.) The remaining condition is that the low-income population, if unable to participate in the industrial expansion directly through the labor market, or is unable to participate indirectly through the product markets, must be able to participate through the services markets. This latter process may be rather slow and perhaps quite selective with respect to kinds of services.

The obvious first question to be asked is: Does a supply of labor exist in the sense that it is now employed at low rates of remuneration in agriculture, other part-time employment, or not employed at all? The second question is: What is the nature of the supply of this labor in terms of its age and in terms of its qualifications and abilities? It is suggested the study reported here yields partial answers to these questions.

The analysis in the previous section that delineated the magnitude of the low-income situations to which a policy of migration might apply is applicable here in an evaluation of a policy of encouraging industrialization. It has been determined that a relatively small proportion of



the total households with heads in 20-44 age group are low-income in the sense of being chronically low-income. A larger proportion of the households with heads in the 45-54 age group are low-income situations but, again, few of these can be considered chronic.

Omitting the chronic disability situations plus those who would have substantially higher incomes if they were rehired or if farming operations were expanded as projected, leaves a group of twenty-two households in the low-income group (heads 20-54) that might conceivably benefit directly from increased industrial activity in the area. This assumes, of course, that opportunities would be more remunerative, the household heads would qualify for the jobs, and that they would take the jobs. Thus in terms of solving the low-income situation, increased off-farm opportunities would, hypothetically, benefit about fifty-eight percent of the low-income cases, most of whom are 45-54 years of age. The number of low-income cases that would be benefited is about twelve percent of all household heads in the 20-54 age group.

Credit amounts and arrangements. This policy has been advocated so often and by so many authorities that further documentation is not needed at this point.¹ The advocacy of a credit program requires evidence to indicate that low-income situations are caused, primarily, by lack of credit--credit is the strategic element. To date, little research has been designed to focus on a determination of the magnitude to which lack of credit, per se, has caused situations of low-income

¹As examples, see all discussions previously cited in this chapter and also, John D. Black, "The Habilitation of Low-Income Rural Areas," 1955 Hearings, Low-Income Families, op. cit., pp. 405-414.

farming. One of the reasons for this lack is that research in the aspects of farm credit is an extremely complex undertaking. Thus a retreat is made to the reasoning that since low income farmers have a paucity of resources, they would have more income if they had more resources and the method for obtaining resources is through more credit--- ipso facto, more credit means more income. Obviously it is a truism to hypothesize if farmers had access to and used credit to expand farm operations, they would have more farm income. It is suggested here that conclusions of this kind, or conclusions based on aggregate analysis of credit structure, involves a degree of circular (or elliptical) reasoning so as to preclude the possibility of developing a meaningful generalization with respect to the lack of credit being a basic cause of low-income farming. The point of this discussion is that if evidence cannot be developed to provide the basis for an unequivocal acceptance of the hypothesis that lack of credit causes low income situations, then advocacy of a credit program may misdirect attention from the strategic elements in these situations.

The delicate nature of the subject of credit at the individual unit level plus the ramifications of both internal and external capital rationing eliminates the possibility of making valid inferences about the lack of credit as a strategic element in explaining low-income situations unless a detailed and comprehensive study is made that concentrates primarily on farm credit in the area and on the individual units. This study was not designed to probe sufficiently the relationship of credit to success or lack of success in farming or to the level



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the 1990s, the number of people in the world who are undernourished has increased from 600 million to 800 million (FAO 1996). The number of people who are malnourished has increased from 1.2 billion to 1.6 billion (FAO 1996).

There is a growing awareness of the need to improve the nutritional status of the world's population. The United Nations World Food Conference (1979) and the World Summit for Children (1990) have both emphasized the need to improve the nutritional status of the world's population. The United Nations World Food Conference (1979) has set a goal of reducing the number of undernourished people in the world by 50% by the year 2000.

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of farming operations. However, it is suggested that the study does provide evidence for an indirect approach to the question of whether or not credit is a relevant variable in explaining low-income situations.

A credit program is assumed to be most applicable in those cases where the operator was 54 years of age or younger. A total of twenty-four cases can be delineated in which the household receives all or part of its less than \$4,000 gross household income from agricultural sources in 1956. Lack of adequate or suitable credit was admitted by only one of these heads and his situation was further complicated by illness. Of the twenty-four heads in this group, three are rapidly building their operations to a larger size and four are disabled. Of the seventeen remaining heads, several appear to have agricultural operations in a nominal sense and only four rely entirely on farm income. In view of the decisions that several of these operators have made in recent years, and in view of the actions some of them have taken since they have been on their farms, it is extremely doubtful if a credit program would be of importance to the majority of the group. It is recognized that sufficient information is not available to fully substantiate the statement.

However, assuming that all seventeen could and would use credit to raise themselves out of the low-income group, it would follow that a credit program would benefit about 71 percent of the low-income households in this group. This represents about 12 percent of all households in the age group 20-54 receiving all or part of their income from agriculture in 1956. Most of the household heads are 45-54 years of age.



General education, vocational training and farm management education. These programs are advocated in almost every discussion of causes of and remedies for low-income situations in agriculture.¹

A necessary condition for the advocacy of programs of this type would be evidence that the educational system of a low-income area does not invest sufficiently and/or properly in the human agent and that this is a strategic element in the level of success obtained by migrants or nonmigrants. A formidable research project would have to be developed to obtain this evidence. Information is needed about the educational and income levels of the residents of an area, the migrants from the area, the residents of a "control" area, and the migrants from the "control" area. In addition, sufficient information would have to be obtained that would focus on the extremely crucial question of whether or not the differences in education, training or farm management education are basically strategic elements explaining differences in income if such differences prove to exist. In contrast to other advocated programs discussed above, the kind of experimental evidence needed is available—"the laboratory experiments have been performed." However, this kind of information was not obtained in the present study. A few bits of evidence bearing on the question of education were obtained and are briefly outlined in the following paragraphs.

The effect of educational level on earning ability is not possible to determine in this study. Difficulties presented by age, inheritance,

¹Again see all of the previous citations and especially Erven J. Long, "Rehabilitation of Depressed Rural Areas," 1955 Hearings, Low-Income Families, ibid., pp. 428-435.



disability, lay-offs, and other transitional elements preclude standardization of the data into groups containing many cases. A general observation, offered without proof, is that higher levels of money incomes tend to be associated with higher levels of education. This statement is not to be interpreted as indicating that less formal education makes it impossible for people in the area to obtain higher levels of remuneration.

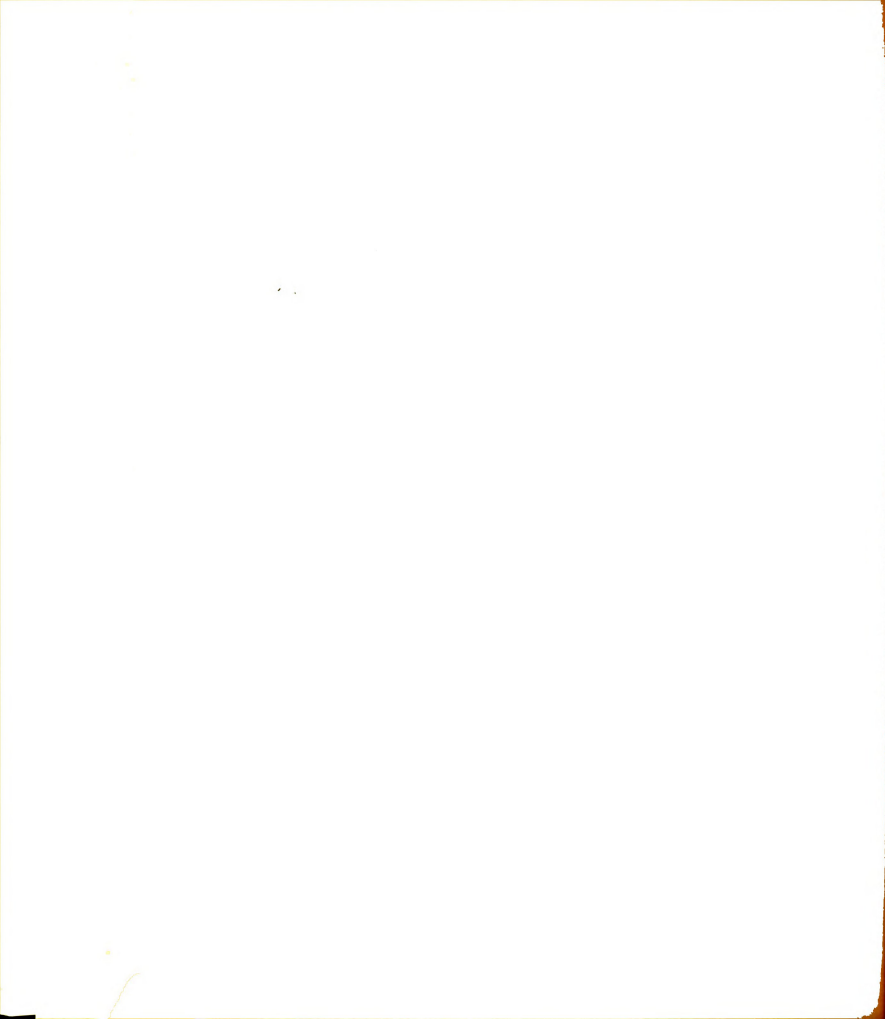
Higher levels of education appear to have been obtained by migrants relative to those who stayed in the area. Further, immigrants appear to have obtained higher levels of education than the original residents of the area. The migration of those having more than a high school education is the largest single element influencing the generalizations. These data are presented in Table XXXVII.

TABLE XXXVII

PERCENT OF OUTMIGRANTS, IMMIGRANTS AND RESIDENTS BY EDUCATIONAL LEVEL*
 MALES 20-44 YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
 1956

Educational Level Attained	Outmigrants	Immigrants	Residents
Number of Cases—	77	36	156
8th Grade	23.4	16.7	30.1
9-11th Grade	13.0	36.1	20.5
12th Grade	44.1	36.1	45.5
13th or higher	<u>19.5</u>	<u>11.1</u>	<u>3.9</u>
Total	100.0	100.0	100.0

*A chi square test of the distributions indicated a significant difference between outmigrants and residents at the 0.1 percent level; a significant difference between immigrants and residents at the 2 percent level; and a significant difference between outmigrants and immigrants at the 5 percent level.



Out-migration and the level of formal education attained appear to be associated. But, the advocacy of a program to make it possible for people to attain higher levels of education and thus "correct" the low-income situation in an area by migration requires an alignment with at least two other bits of evidence. First, it has to be proved that migration will solve the problem of low-incomes and that failure to migrate is caused by not attaining higher levels of formal education. Second, it has to be proved that those not pursuing higher levels of education were prevented from doing so because of unavailability of facilities or because of the need to start earning income. If this cannot be proven then the problem becomes vastly more complex and is perhaps out of the field of economic analysis.

A high school education was not obtained by 46 percent of the males who grew up in the study area and are now 20-44 years of age. This figure cannot be compared with data from other areas because that data is not available. A general observation is that the proportion finishing high school is smaller than would ordinarily be expected.

The observations on levels of education obtained by persons in the sample suggests the presence of several important issues. Some of these issues are only recognized here and not investigated. The migration of people having higher levels of formal education suggests that local capital invested in the human agent is being "exported" on a non- quid pro quo basis. This is not quite true because of the immigration. However, on balance, it appears to be a net loss because the level of capital invested in the immigrants (as measured by levels

the 1990s, the number of people with a mental health problem has increased by 50% (Mental Health Foundation 1999). The prevalence of mental health problems has increased in the general population, and the incidence of mental health problems has increased in the prison population.

There is a growing awareness of the need to address the mental health needs of prisoners. The Department of Health (2000) has published a strategy for mental health services, which includes a commitment to improve the mental health of prisoners. The Department of Health (2000) has also published a strategy for mental health services, which includes a commitment to improve the mental health of prisoners.

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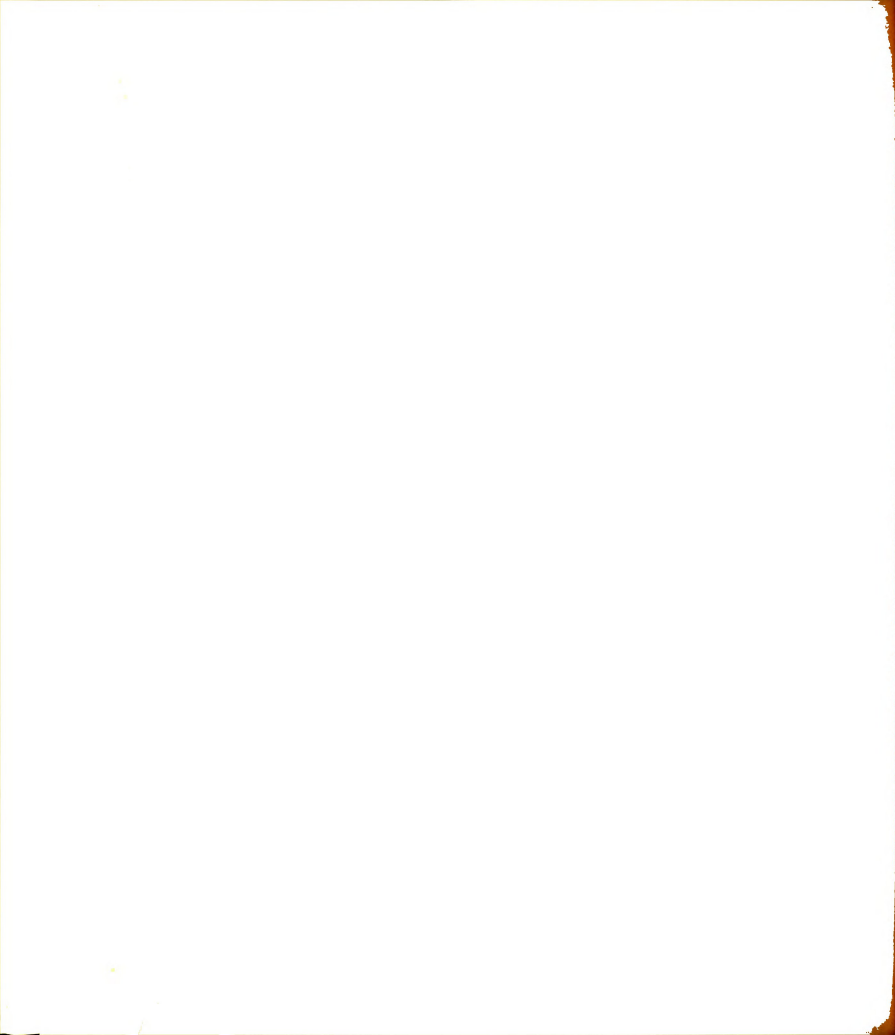
of formal education) does not appear to be as great and the number of immigrants is less than the number of outmigrants.

In addition to the points mentioned above there are several indirect issues involved in this problem area. For instance, even though local capital is lost in a direct sense, by outmigration, it is possible that the total effect may not be serious if some of the increase in productivity of the migrants elsewhere is reflected in the area in the form of increased demands for products of the area or if the productivity of those who remain is enhanced by the outmigration. Also, another indirect issue centers around the relative contribution of the people of the area to the higher education of non-residents of the area. Considerable research is needed before concrete statements can be made about the direct and indirect effects briefly mentioned above.

General Observations On Public Policy Programs

The population. The advocacy of public policy programs to ameliorate the low-income situation in an area is based on the assumption that an important number of low-income situations exist and that the low-income cases will be responsive to the advocated policies. The advocacy of public policy programs, then, is predicated upon obtaining an affirmative answer to two crucial questions.

First, is there an important number of low income cases in the sample? An affirmative answer can be given this question. There are 132 cases of low-income if all households receiving less than \$4,000 gross income from all sources are defined arbitrarily as low-income. This number represents 38.9 percent of all households in the sample.



Second, are these low-income situations likely to be responsive to public policy programs? The answer to this question is not known. However, some of the general characteristics of this population may help evaluate the possibility of response to programs. Of the 132 cases, ninety-two (69.7 percent) have household heads fifty-five years of age or older. (A more detailed analysis indicated that 102 (77.3 percent) are fifty years of age or older.) These data are shown in Table XXXVIII. Thus if it assumed that most public policies are designed primarily for those household heads under fifty-five years of age, about thirty percent of the low-income population, or 11.8 percent of the total sample population would be "potentials" for programs.

However, closer examination indicates that eighteen of the 40 low-income cases represent transitional situations or situations of chronic disability. The balance, twenty-two cases, might be termed the "hard core" of the low-income situation of the household heads under fifty-five years of age. If the twenty-two cases are examined more closely, it is revealed that ten are past fifty years of age. Another observation is that eleven of the twenty-two have gross household incomes or more than \$3,000. Thus the "hard core" is narrowed to eleven cases. Of these eleven cases, seven heads are 50-54 years of age. The four remaining cases are characterized by full-time farming on a small scale (one), some farming and off-farm work (two), and full-time off-farm work only (one).

The delineation outlined above was extreme. However, if twenty-two (instead of four) low-income households appears to be the magnitude

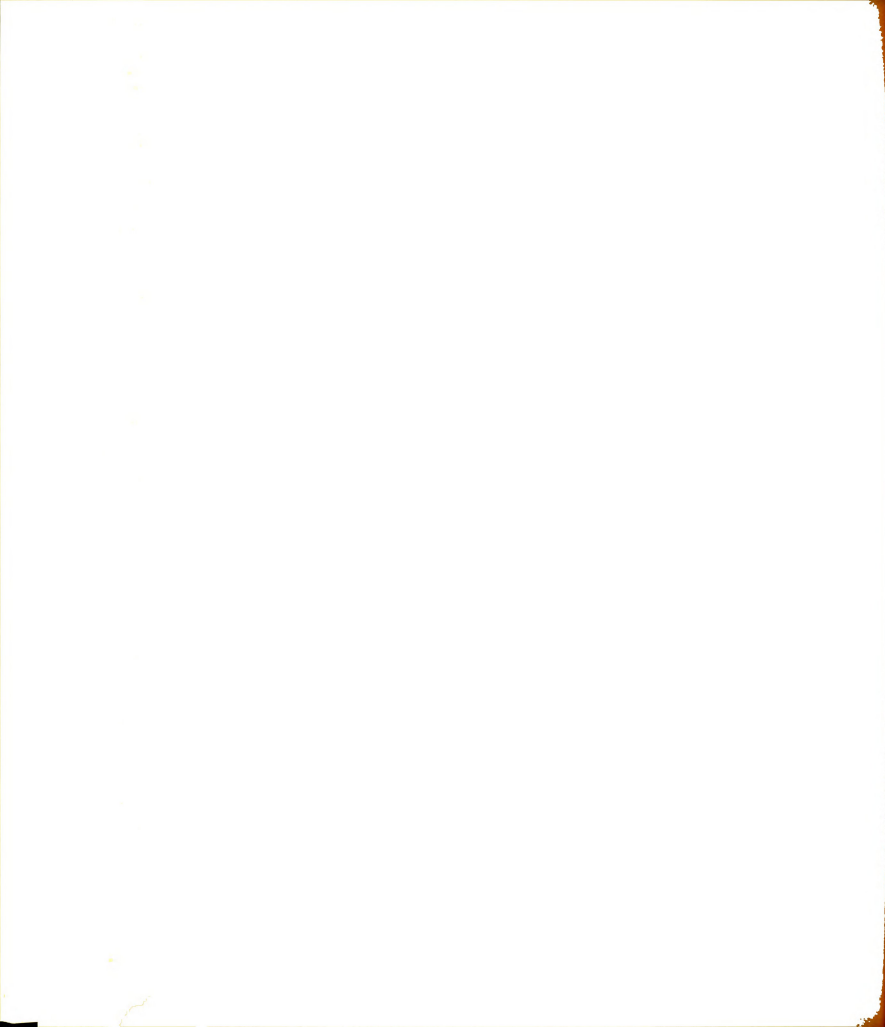


TABLE XXXVIII
 SELECTED CHARACTERISTICS OF 132 LOW-INCOME HOUSEHOLD HEADS*
 NORTHERN MICHIGAN STUDY AREA
 1956

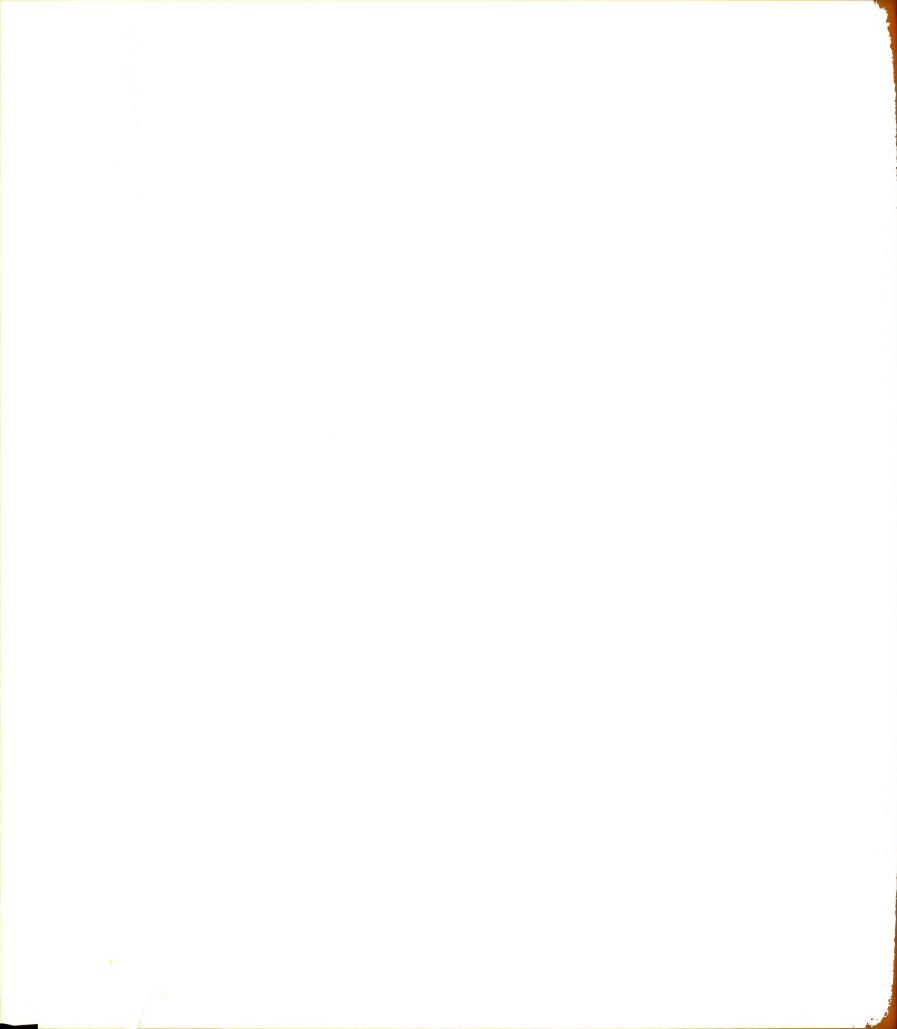
Item	Household Heads	
	Number	Percent of Total
Heads 55 years of age and older	92	69.7
Heads under 55		
Transitional**	10	7.6
Disabled	8	6.0
Other	22	16.7
	<u>40</u>	<u>30.3</u>
Total	132	100.0

*Low-income defined as total gross household income of less than \$4,000 in 1956.

**Expanding farm operations or changing farm organization to result in considerably higher gross income; or loss of off-farm work for part of 1956.

of the potential beneficiaries of policies designed to alleviate low-income situations, it is suggested that the study area does not contain enough cases to warrant advocacy of the kinds of programs discussed earlier in the chapter. A more detailed examination of the twenty-two cases indicates that seventeen of the household heads have made moderate to extensive site and/or occupational adjustments during their lifetimes. This suggests, but does not prove, that it may be misleading to consider most of this group as potential beneficiaries of public policy programs.

Additional perspective can be obtained about the potentialities of public policy programs if a somewhat broader delineation of



low-income situations is developed. There are ninety-three households in this study that had incomes of less than \$5,000 and the household head was less than fifty-five years of age. Further, these household heads were not disabled or transitional in the sense that they would have more than \$6,000 income in the near future. The households are distributed among sources of income in Table XXXIX.

The seven full-time farming situations are represented by five native-born household heads and two non-native heads. Three of the native heads have inherited part or all of their land resources are not married and are taking care of elderly parents. One of the native-born heads has been out of the area to work. The arrival of non-native heads is separated in time by more than twenty years.

TABLE XXXIX

NUMBER AND PERCENT OF 93 HOUSEHOLDS WITH LESS THAN \$6,000 GROSS
HOUSEHOLD INCOME AND WITH HOUSEHOLD HEADS LESS THAN
55 YEARS OF AGE, NORTHERN MICHIGAN STUDY AREA
1956

Source of Income	Households	
	Number	Percent
Agriculture only	7	7.6
Agriculture and other	51	54.8
Other Income only	<u>35</u>	<u>37.6</u>
Total	93	100.0

- The fifty-one cases of households obtaining income from agriculture plus other sources are represented by thirty-five native-born heads and sixteen non-native heads. Working and living outside of the



area was reported by eighteen of the native-born heads. Inheritance of part or all of their resources was reported by seven of these heads. Off-farm income has been obtained continuously since their return by ten heads and eight heads did full-time farm after returning but later obtained off-farm income. The pattern of return has been a continuous process from 1927-1953.

Inheritance was noted in eight of the seventeen cases in which the native-born head had not been out of the area to live and work. Off-farm income has been received by fifteen of the households for several years--one as early as 1940.

Of the sixteen non-natives, ten have obtained off-farm income continuously since locating in the area and six have farmed full-time but are now obtaining off-farm income. Migration to the area has been an on-going process--from 1934-1955.

The thirty-five cases of households receiving all of their income from nonfarm sources are represented by seventeen native-born heads and eighteen non-native heads. Of the seventeen native born heads, ten have been out of the area to live and work. Full-time farming was performed by four heads upon their return and six did not farm at all since returning. Of the seven heads who have never been away from the area to work, two have never farmed and five have farmed full-time but have discontinued operations. Of the seventeen native-born heads, ten have inherited part or all of their land resources. Of the eighteen non-native heads, eleven have never farmed, four have had only nominal operations and three have discontinued medium size operations and

the 1990s, the number of people in the UK who are aged 65 and over has increased from 10.5 million to 12.5 million, and the number of people aged 75 and over has increased from 4.5 million to 6.5 million (Office of National Statistics 2000).

There is a growing awareness of the need to address the needs of older people in the community. The Department of Health (1999) has published a strategy for older people, which sets out a vision for the future of older people's health and social care. The strategy is based on the following principles: older people should be able to live independently in their own homes; older people should be able to access the services they need; and older people should be able to participate in the decisions that affect their lives.

The strategy also sets out a number of key objectives for the future of older people's health and social care. These include: to improve the quality of life of older people; to reduce the inequalities in health and social care; to ensure that older people are able to access the services they need; and to ensure that older people are able to participate in the decisions that affect their lives.

The strategy is a key document for the future of older people's health and social care in the UK. It sets out a vision for the future of older people's health and social care, and sets out a number of key objectives for the future of older people's health and social care. The strategy is a key document for the future of older people's health and social care in the UK.

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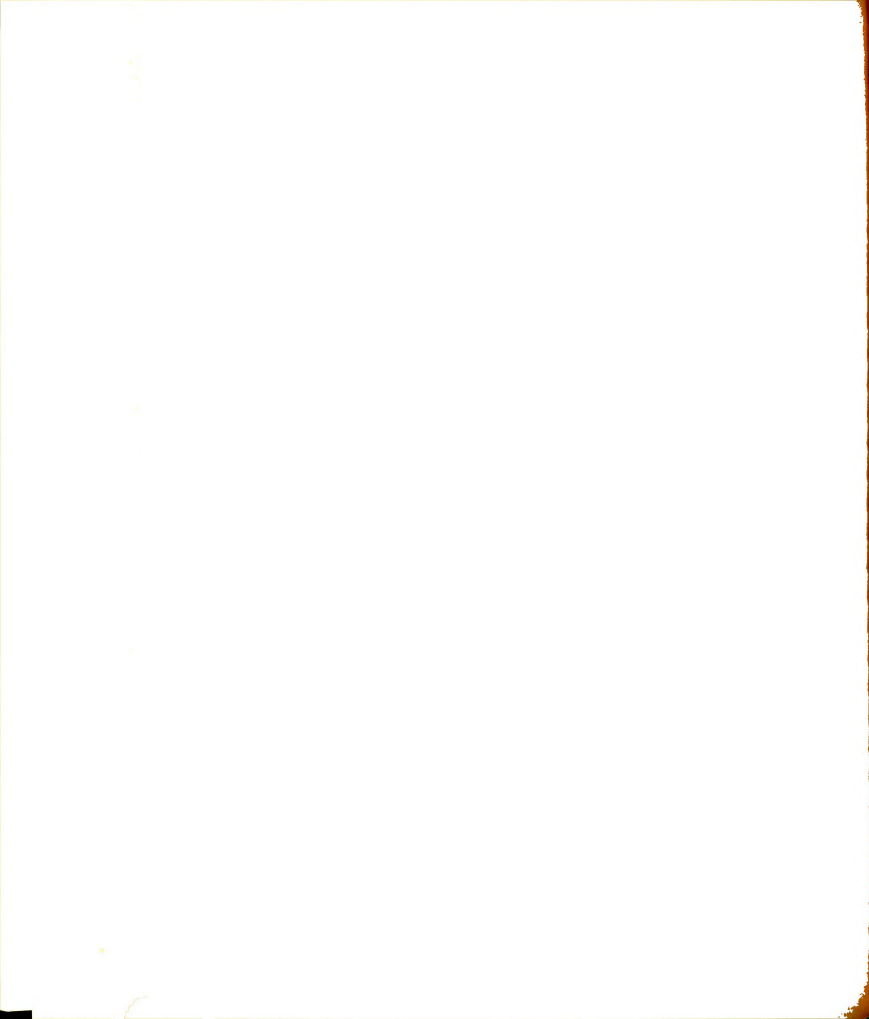
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obtained off-farm income. The pattern of return and of migration to the area has been continuous since 1932.

Nativity, inheritance, and the obtaining of off-farm income are the important features of the above discussion. The data indicates that approximately sixty-one percent of the group is composed of native-born household heads. Or stated in another manner, approximately four out of ten household heads did not grow up in the study area. The data also indicates that more than fifty percent of the native-born heads have been out of the area to live and work. Thus, nearly seventy percent of all household heads exhibit some measure of inter-area migration.

Inheritance of part or all of their land resources was reported by more than fifty percent of the native-born heads. About one-half of those who inherited had been out of the area to live and work. Of those receiving part or all of their income from off-farm sources, most of them have been receiving it for several years, since their return to the area, or since moving to the area.

Public policies reconsidered. Although the position has been advanced that, individually, the various public policy programs will be of little benefit to the low-income population of the study area, it does not follow that these programs would not benefit anyone. Migration, insofar as it takes place, may "release" agricultural resources and these resources will then be "available" for those remaining in agriculture. Perhaps some households will be in a position to benefit from the release of resources. However, even if migration took place on a large scale, considerable detailed research is required before an answer



can be given to the crucial question of whether or not the release of resources would promote a general betterment of the income position of those remaining in agriculture. That is to say, an extremely important transaction must take place before released resources are combined in another operation and the execution of this transaction depends, at least in part, on the selling (or leasing) price of the resources and the marginal value productivity of the resources in the new combination. On the other hand, if the low-income households migrate out of the area, the "average" level of income of those remaining will increase due simply to the mechanics of the calculation. The increase in the average level of income will be more apparent than real, however, and the actual income of those remaining may not change at all.

Industrialization may encourage those people now working off-farm on a part-time basis to work full-time off-farm. That is, people who drive school busses, work seasonally at tree nurseries, and similar occupations may decide to work throughout the year. Also, industrialization may cause a reduction in the outmigration of young people which in turn would provide the basis for an expanded service sector in the local economy. Industrialization may cause an increase in the general level of wages in an area and thus benefit all those persons working off-farm. On the other hand, this may result in a decrease in some occupations if it causes some businesses to leave the area or to discontinue operations. The present state of knowledge with respect to the effects of industrialization on local economies is not sufficient to

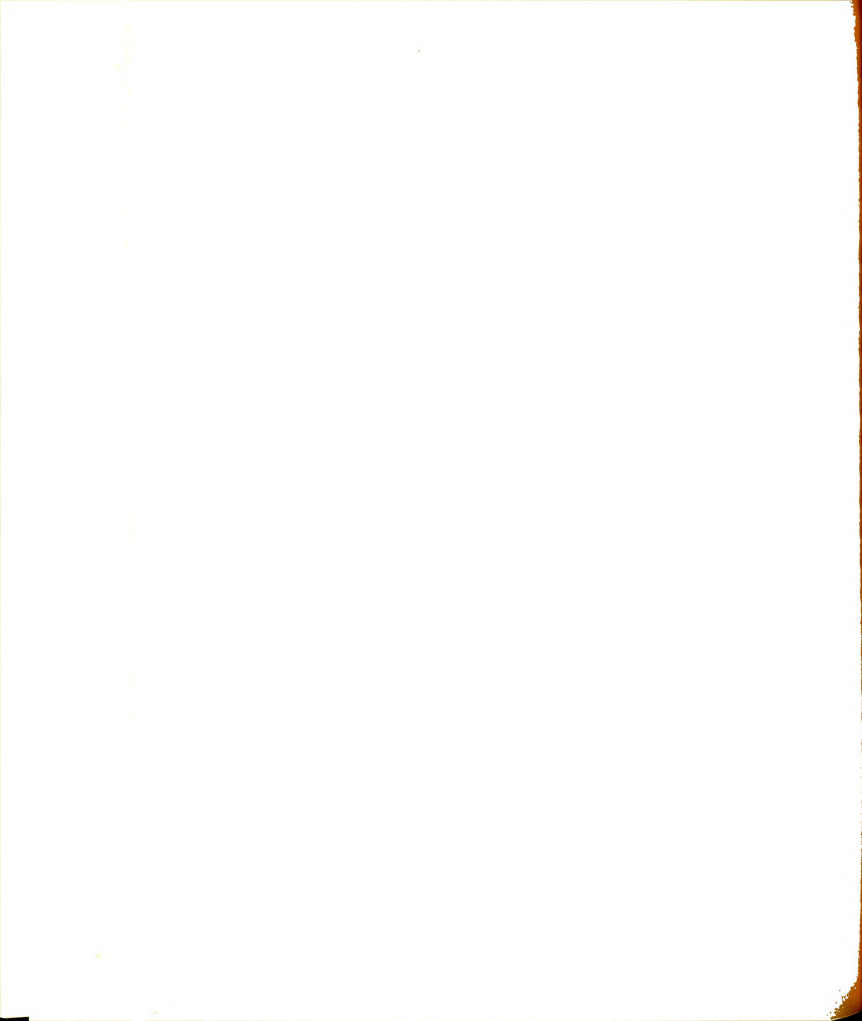


predict the future course of events with any degree of accuracy if such a public policy program was, in fact, to be executed.¹

Agriculturally oriented programs would probably have an influence on improving the income position of some farmers in the area. The programs may actually have rather profound effects on income in some cases. On the whole, however, the programs would most likely have only marginal effects on income unless the operations were substantially increased on most of the farms in the study area. Further, merely increasing the income generating capacity, as such, may not be the proper goal in a long-run context. For instance, if the programs made it possible for a farm operator to expand from a twenty cow Grade A operation to a sixty cow Grade A operation, the effect on income probably would be substantial. On the other hand, if the programs made it possible for a farm operator to expand from a five cow cream operation to a fifteen cow Grade A operation the effect on income would also be substantial but the new level of operations is not consistent with the trend in technology and in a very few years this operation is likely to be quite inadequate.

Expanded research in new product development and different resource organizations probably would tend to benefit farm operators in the area. This kind of research in the past has tended to benefit certain groups of farmers rather than all farmers at the same point in time. For instance, Witt has observed,

¹It is recognized here that the present level of industrialization and/or nonfarm income producing opportunities does affect the level of income, allocation of labor between farm and nonfarm activities, and also migration into and out of the area. The point is that the extent to which the present level of industrialization has affected these elements is unknown and thus a basis is not available for predicting what would happen in the future.



. . . The fact that nearly 80 percent of low income farmers made no direct use of the county agent means that the Iowa Extension Service is providing much more service for the top-income farmers, and further, that practices advocated by the Extension Service came second or third hand if adopted all, a lag which may have very important income effects with a changing agriculture and a dynamic price structure. . . .¹

It is not inconceivable, however, that specialized research programs could be developed for "low-production" farms. That is, research programs to develop more efficient resource organizations or marketing patterns within the framework of presently controlled resources. Again, benefits resulting from the expanded research program are likely to result in small magnitudes of income change rather than substantial changes even though the increases may be large relative to the original position. The qualification here is that no profound "technological break-throughs" are experienced.

The value of expanded or reoriented educational programs to the population of the area is a topic beyond the scope of this study. As mentioned previously, the general level of education attained by the younger male population appears, without further investigation, to be lower than would be expected. The nature of the educational program in the area, in terms of quality or vocational emphasis, is not known. The results of this study indicate that the level of education attained, or not attained, appears to be an important element associated with migration, but associations between education and levels of earnings are not conclusive. Any expanded or reoriented educational program

¹Lawrence W. Witt, Economic Problems of Low-Income Farmers in Iowa, Iowa State College Agricultural Experiment Station Research Bulletin 307 (Ames: October, 1942) p. 245.



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will have its primary impact on the younger population and probably have little or no effect on the older population. Moreover, the effects of educational programs will be difficult to measure because of the time element involved in their realization and their wide diffusion over space.

In general, a comprehensive approach utilizing several programs may be beneficial in ameliorating low-income conditions and promoting a more efficient use of resources in the area. The primary question is then raised: What is the benefit-cost situation likely to be given the nature of the conditions in the study area? Obviously this question cannot be answered in the present study. It is mentioned here only as an indication that this aspect of the advocacy of public policy programs has been recognized. Perhaps some of the research currently underway by Drs. Nielson and Wheeler in the Department of Agricultural Economics at Michigan State University will be of help in establishing some insight on benefit-cost relationships. Dr. Nielson is evaluating the "township agricultural agent" program and Dr. Wheeler is working in the area of the "unit approach" to farm organization and development. Again, a plea can be made for additional research and experimentation to establish more conclusive evidence with respect to the probable gains and costs before programs are advocated and certainly before they are put into operation.



CHAPTER VI

SUMMARY AND CONCLUSIONS

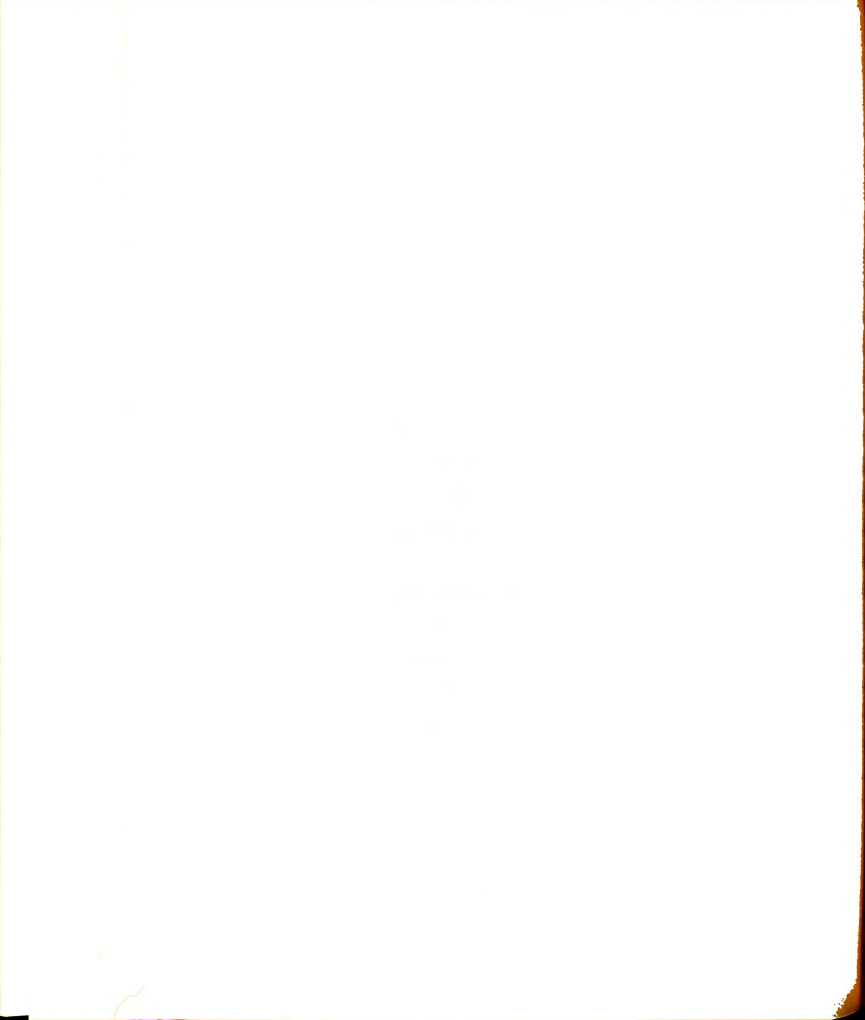
Methodological Aspects

The basic proposition of this study is that low-income areas differ with respect to the causes of their existence and the elements in their structure. Differences must be revealed if appropriate public policies are to be developed for application in Northern Michigan.

The study reported here is also based on the proposition that economic theory can be used as an economizing device with respect to directing research inquiry. This study is an attempt to utilize a theoretical model as a framework for research inquiry. The theoretical model, termed the retardation hypothesis, is an explanation of the causes for the existence of and the economic nature of low-income areas.

The retardation hypothesis and its relation to the resource allocation aspects of the perfect competition model were outlined^d in Chapter II. Extensions of the retardation hypothesis were then developed for guiding certain investigations in this study.

A portion of the study reported here is based on the proposition that households in the process of moving through time and space are the most important primary units of inquiry rather than individuals or farms in cross-section for this type of study. Each household, then,



is viewed as an individual experiment and research inquiry proceeds by grouping relevant experiment and observing results.

The investigations conducted in this study proceeded on two levels of generality. The analytical procedures of the first phase of the study were organized around an attempt to determine whether or not the Northern Lower Peninsula Cutover Region has experienced change during the past several decades. The analytical procedure of the second phase of the study was organized around an attempt to determine whether or not individual household units have been primarily in a static condition in the region.

The retardation hypothesis as developed from the perfect competition model is useful in directing research efforts in the area of resource allocation in general and specifically in the area of low-income farming. Lack of sufficiently detailed information in most previous studies has prevented the appropriate use of this analytical framework. It is suggested here that this study developed more meaningful generalizations about the low-income situation of the study area because it was possible to align applicable data with a theoretical framework.

The Northern Lower Peninsula Cutover Region

The retardation hypothesis suggests that there should be little evidence of change in the cutover area. Since the mainstream of economic development has largely by-passed the area, according to the retardation hypothesis, it should be possible to document and to

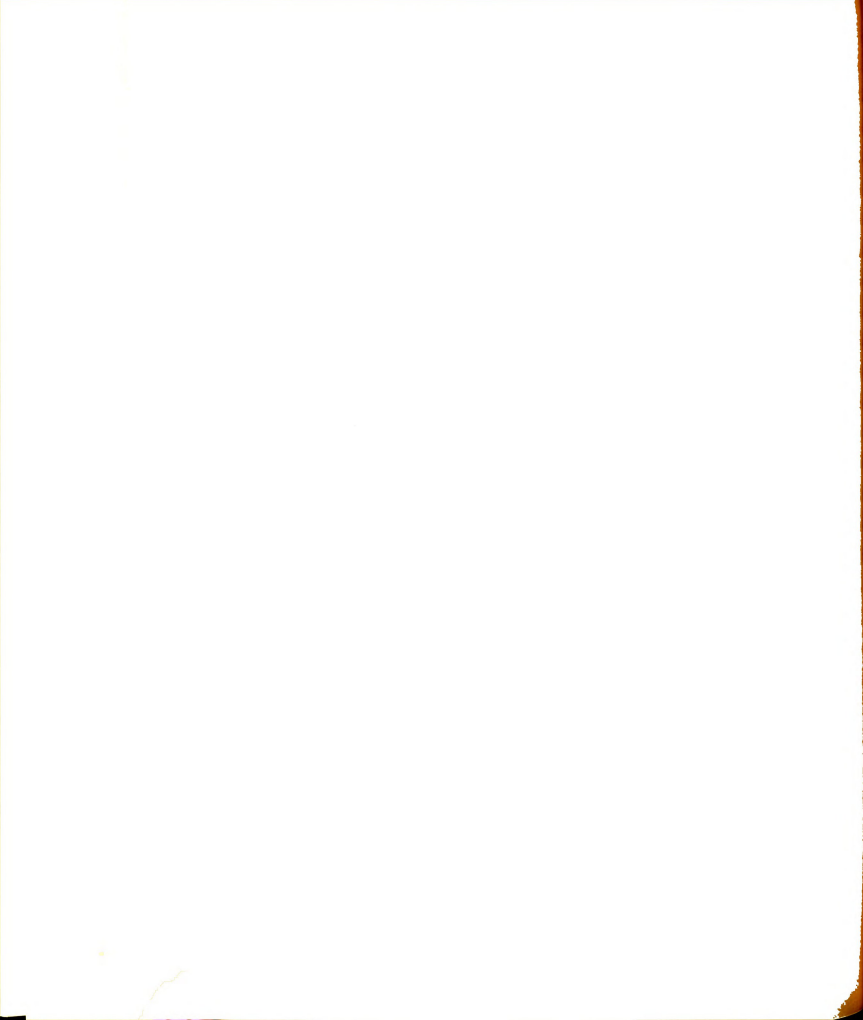


illustrate the static nature of the structure of the economy of the region.

The cutover region has experienced substantial change rather than being essentially static over time. The analysis and discussion presented in Chapter III documents some of these changes. Additional research, primarily on the subject area of industrial development, is needed before a complete analysis of the dynamic features of the economy can be brought into focus.

The total number of individual farm family changes that have taken place in the area since 1880 is not known. That is, it is not known how many families or individuals moved into the farm sector of the area and stayed; how many moved in and then moved out; how many moved in and later died; how many were natives of the area and stayed; how many were natives and moved out; or how many were natives and have stayed and died in the area. However, it is known that the gross change in numbers of farms (increases plus decreases, signs neglected) during the period 1880-1954 was on the order of 50,000. In addition, it is known that the net change in the number of farms from the peak date in 1910 to 1954 was on the order of 17,000 to 18,000--a decrease of about forty percent.

The initial pattern of land settlement apparently was characterized by 40 and 80 acre farm units. However, the relative numbers of farms in the various size groups has changed markedly since the peak year of 1910. The relative number of farms in the 10-49 acre group and the 50-99 acre groups, most of which are probably 40 and 80 acre units,



decreased from 67.9 percent of all farms in 1910 to 41.4 percent in 1954.

The total population in the cutover area has fluctuated substantially since the early years of development. Population increased steadily from 1880 to 1910 at an average rate of approximately 4.5 percent per year. Decreases in population were noted in the two decades of 1910 to 1920 and 1920 to 1930. The overall decrease from 1910 to 1930 was nearly 21 percent. Since 1930 the population has increased at an average rate of approximately one percent per year. These data compare with a 2.4 percent per year increase for the state between 1880 and 1910; an increase of 72 percent between 1910 and 1930; and an increase of 2 percent per year from 1930 to 1956.

Changes in the location of population also have been noted in the cutover area. The population increases during the early years of development were divided in approximately equal proportions between cities and villages and the open country. The decrease in population during 1910-1930 was concentrated primarily in the open country sector and presumably in the farm sector in view of the decline in the number of farms during the same period. Since 1930, the increase in population has been distributed equally between cities and villages and the open country, but apparently all of the increase in the open country population was in the nonfarm sector, except for the 1930-40 decade.

The changes briefly outlined above are highly suggestive of important mobility characteristics of the population in the area. However, available data, for periods prior to 1930, simply is not



suitable for detailed analyses of migration. The population data, beginning with the Census of 1930, is more suitable for analyses and several features of the migration patterns in Michigan are developed in Chapter III. Primarily, the analyses indicate that migration of young males from the cutover area has been experienced since, at least, 1930. The rate of outmigration of young males from the farm sector was largest during the decade 1940-1950, but was also important during the decade 1930-1940. Perhaps the most important feature of the outmigration of young males from the farm sector in the decade 1930-1940 is that it took place in the face of a net immigration of males in the older age groups. A portion of this phenomenon might be explained by two hypothesis that cannot be tested fully: (1) that the young males migrated before they acquired family responsibilities, and (2) that part of the "migration" to the farm sector was not a migration at all but merely the development of agricultural operations by some open country households not having such operations in 1930. The latter hypothesis can be rejected, in part, by noting that there was an immigration of older males to the cutover area as a whole--that is, the combined farm and nonfarm sectors. In a similar vein, it could be hypothesized that the "outmigration" of males from the farm sector during the period 1940-50 could be merely a change of classification without any physical migration whatever from the area. The hypothesis can be accepted, in the sense of being true numerically for some age groups, because the data indicate a net migration to the area as a whole for certain age groups. The actual amount of physical migration from the farm sector cannot be deduced from the available data.

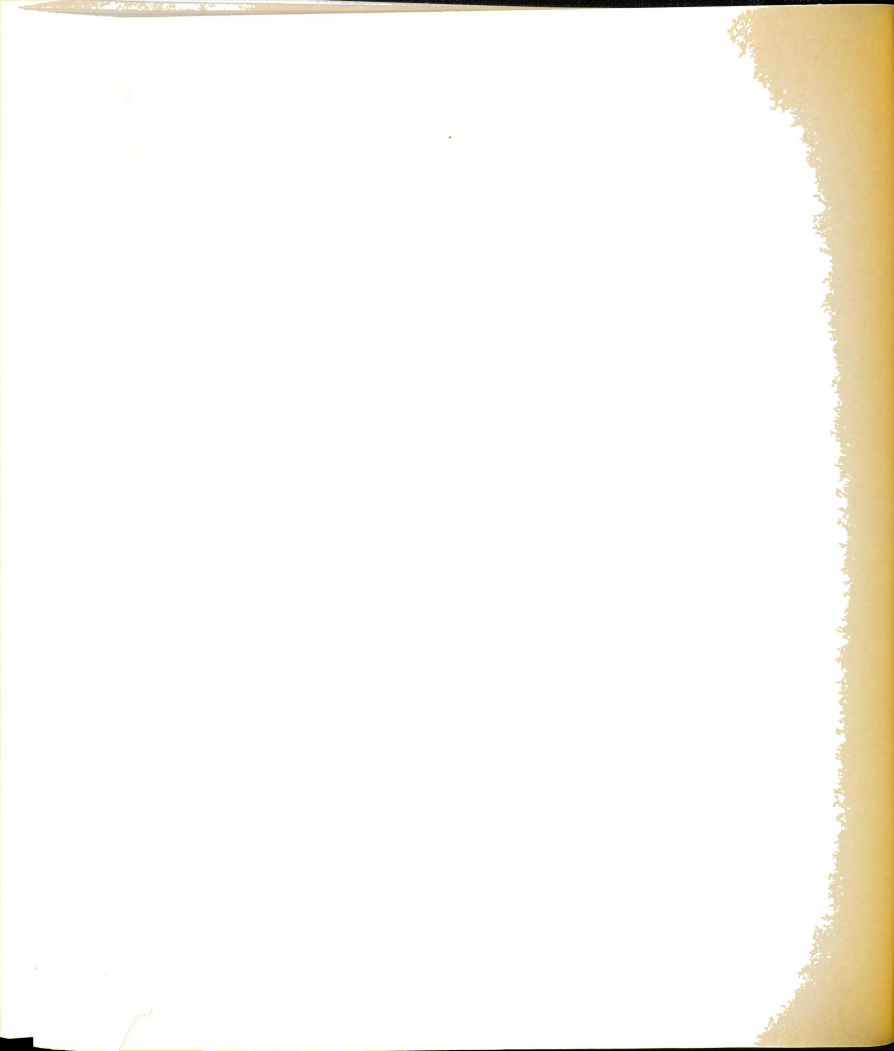


The outmigration of young males from the cutover area apparently has resulted in a smaller percentage of males 20-44 years of age in the farm sector as compared to the nonfarm sector of the area or to the farm and nonfarm sectors of the state as a whole. This structural characteristic has been obvious since 1930 and some evidence exists to suggest it has prevailed for several decades.

The Study Area

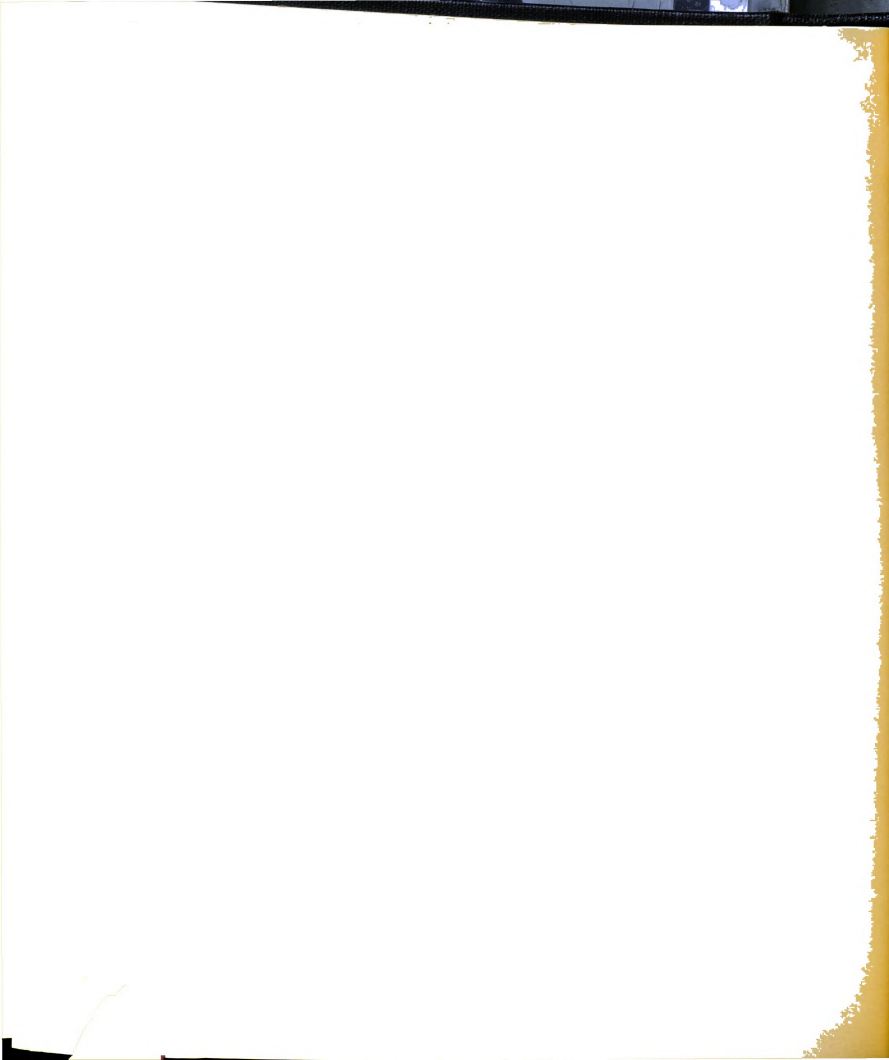
The retardation hypothesis provided the conceptual background for the development of hypotheses to test with data obtained from residents in the study area. The hypotheses were formulated on the basis of what information would be expected if the area was a low-income area. As mentioned previously, the original study was not designed to focus on processes. However, certain bits of information were available for use in testing a number of hypotheses that yield some evidence for exploring the validity of the retardation hypothesis as an explanation of the occurrence of low-income areas.

The retardation hypothesis suggested the proposition that if the study area is a low-income area then it should be possible to document many disadvantaged situations in the young male population of the area. That is, the young people have not migrated and are earning low incomes in their home area. The analysis of the male population now aged 20-34 indicates the young people in the study area do not appear to be disadvantaged in terms of migrating or in terms of being able to develop income generating activities. More than thirty-six percent of the



males who grew up in the area and are now 20-34 years of age have migrated from the area. In addition, it is known that several more have been out of the area to live and work but have returned. Most of the young males remaining in the area and establishing households have inherited part or all of their resources or are now working in a family arrangement of some type. Of the young males remaining in the area and establishing households plus those migrating to the area, more than eighty percent have gross household incomes in excess of \$4,000. Agriculture is the only source of income in eleven percent of the households.

The retardation hypothesis suggested that the male population between the ages of 35 and 54 should exhibit characteristics of maladjustment in terms of failure to migrate and inability to develop income generating activities. Although the amount of physical migration by the native-born population of this age group is unknown, it is recorded that fifty percent have been out of the area to live and work and have returned to the area. Inheritance of all or part of their resources or presently working in a family arrangement was noted in 43 percent of the situations in which the household head was native-born. In the study area, agriculture was the only source of income in twelve percent of all households interviewed. Gross household incomes of less than \$4,000 were recorded in twenty-three percent of all households. In view of the circumstances surrounding the "low-income cases," it is suggested that the analysis does not indicate the male population of this age group exhibit serious maladjustments due to failure to migrate or inability to develop income generating activities.



The retardation hypothesis suggested that the household heads 55 years of age or older should exhibit characteristics of maladjustment in terms of failure to migrate or inability to develop income generating activities. The degree of migration was not determinable for this age group. However, it was noted that thirty-five percent of all household heads interviewed were not native-born and twenty-seven percent of the native-born heads had been out of the area to live and work. Agriculture was the only source of income in nineteen percent of the households in the study area. Gross household incomes of less than \$4,000 were noted in sixty-two percent of the households. However, many households in this age group indicated a reduction in the size or a complete elimination of agricultural operations during the past fifteen years. If the arbitrary level of \$4,000 gross household income is maintained as the criterion for defining a low-income situations, it is suggested that a relatively large proportion of the cases in this age group are low-income situations. Serious questions arise, however, with respect to whether or not this situation reflects maladjustments caused by the elements alluded to in the retardation hypothesis.

Public Policy Proposals

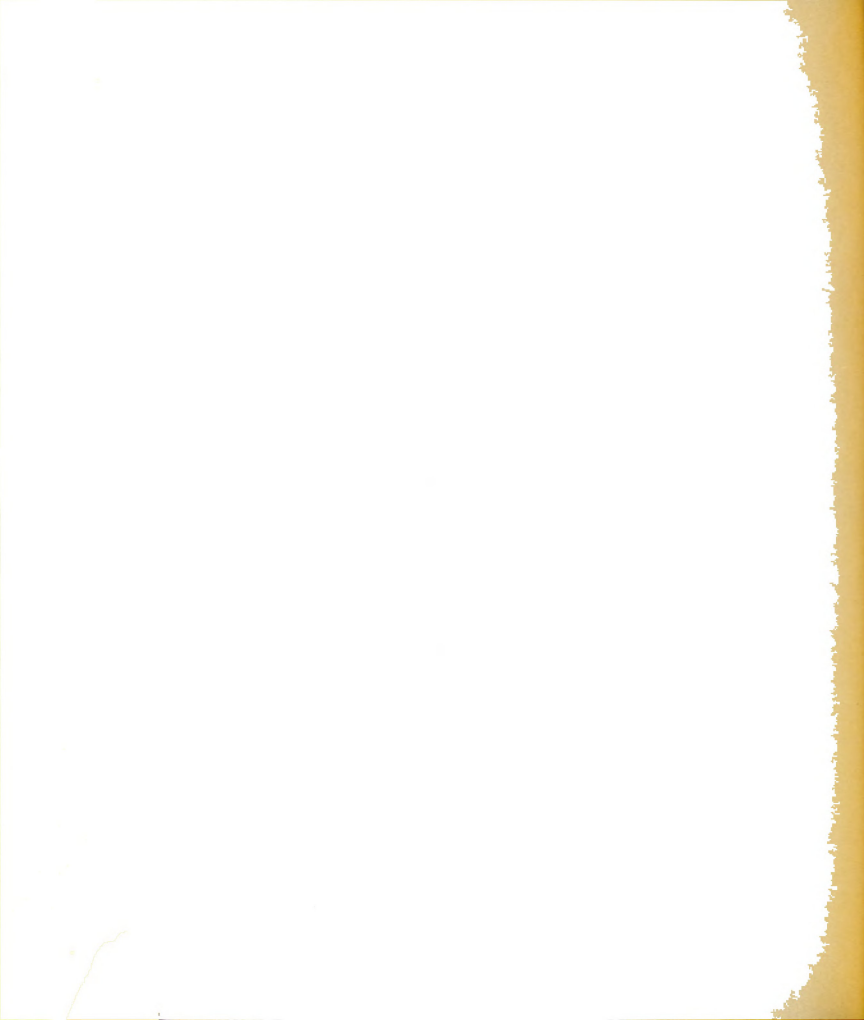
The delineation of magnitudes of low-income situations that might be subject to appropriate public policy programs was one of the basic objectives for making a study of the type reported in this paper. That is, if public policy is to be used to improve the income position of low-income households, then definitive statements about these families



must be outlined. The delineation of magnitudes of low-income situations and definitive statements about the households were presented in Chapters IV and V.

A public policy program to facilitate the migration of low-income households was examined and found to be of limited applicability in terms of the current situation in the study area. The primary reason for its limited applicability is that relatively few of the households are headed by persons of the appropriate ages to be considered as potential migrants. Further, it was noted that an important number of the cases that would be classified as potential migrants in terms of age, are not actually potential migrants because there are transitional elements in some of the individual situations and because other cases are characterized by disability of the household head.

A public policy program to encourage industrialization as a means of improving the income position of low-income households was examined and found to be of limited applicability in terms of the current situation in the study area. Industrialization is of limited applicability for essentially the same reasons given for the limited applicability of migration policy. That is, since both policies are interpreted primarily as having a direct income effect through the labor market, the basic difference between the two is one of site, i.e., the location of the household. A household that cannot benefit through the labor market at a different location probably cannot benefit through the labor market at its present location. The possible indirect income effect of industrialization may enable some low-income households to benefit from



this program. However, sufficient theoretical and case study research analyses have not been accomplished and it is quite hazardous to predict the probably indirect effects of industrialization on the income position of low-income households.

A public policy program to encourage the expansion of agriculturally oriented programs as a means of ameliorating low-income conditions was examined and found to be a relatively more applicable policy than either migration or industrialization. However, the concentrations of the aged and those nearing retirement age in the low-income group suggests that the programs will have to be rather specifically designed if they are to be of benefit to the low-income group. The unequivocal advocacy of these kinds of programs must await the results of comprehensive research analyses with respect to income expansion given the current situation in the study area.

The concluding point to be made with respect to public policy programs is that, singly, the programs can be beneficial for only a portion of the low-income population. However, if the several individual programs are combined into a comprehensive approach the theoretical possibility exists that considerable benefit to low-income households would result. A comprehensive approach, in turn, raises serious questions in terms of benefit-cost relationships. Additional research and experimentation are needed before the details of a comprehensive program can be developed and put into operation.



A Final Comment

The results of this study indicate that the retardation hypothesis may not be a satisfactory explanation of the occurrence of low-income situations in the study area and thus may not be an appropriate explanation of why the study area is a low-income area. On the other hand, the results of the study indicate the market process of allocating labor to remunerative employments (or people to low-cost sites) may be operating quite efficiently. The results of the study do indicate, however, that the retardation hypothesis provides a useful research framework given an initial situation about which almost nothing is known.

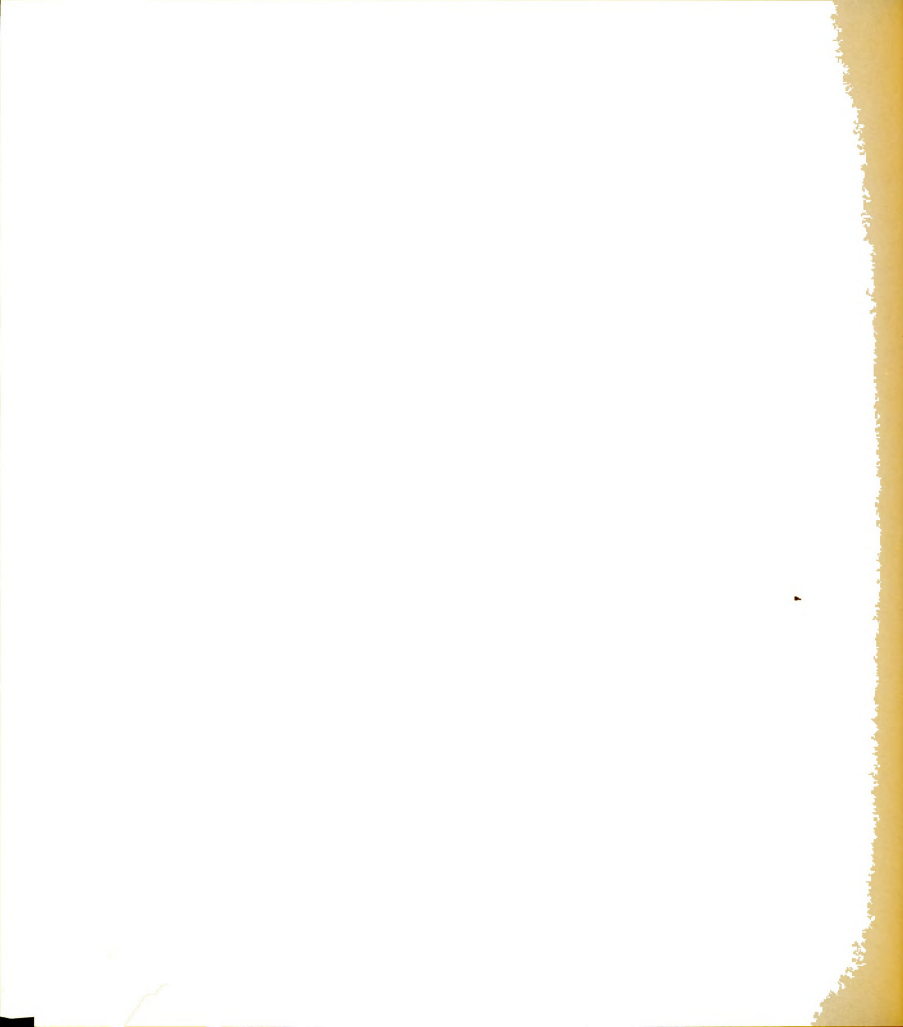
The results of this study brought into focus the serious need for appropriate criteria to define low-income situations and low-income areas. The evaluation of the methodology used in this study indicates that the experimental approach may be quite helpful in the development of the needed criteria. That is, if the reactions of people to their environment are observed, interpreted, and grouped into meaningful categories several additional dimensions of the income situation of an area are brought into focus. The additional dimensions are vitally needed in a comprehensive interpretation of the income situation.

Essentially these criteria should take cognizance of the decisions that people have made or have not made with respect to the kind and level of income generating activity they now have developed. Further, if the experimental approach is properly structured, a delineation of those decisions or actions due to elements within the control of



individual households and those actions not within the control of the individual households can be accomplished. The results of the study reported here indicate that an important measure of individual household control over some elements does exist and that this control has been expanding in the study area.

The comments contained in this report should not be interpreted as indicating research on income levels and income distribution are useless endeavors. Further, the comments should not be interpreted as indicating that increasing incomes of households is an undesirable goal of public policy programs. Obviously research in this problem area is worth-while because one of man's highest ambitions is the elimination of doubts and confusion about his surroundings. In addition, as evidenced by man's position with respect to humanitarianism and the efficient use of resources, public policy programs have been, are, and will be used to increase the income of persons. The problem involved is one of determining the extent of the need for increasing incomes and then determining the appropriate means to accomplish the goal. This study contributed some information that is helpful in solving the problem. The final solution must await more complete information with respect to the real income position of households and the need for increasing levels of income and also await a comprehensive benefit-cost analysis with respect to the appropriate public policy measures that can accomplish the desired goal.



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