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MICHIGAN'S CHANGING POPULATION



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AGRICULTURAL EXPERIMENT STATION — EAST LANSING

The major sources upon which this publication is based are: (1) *United States Census of Population*, Washington: Bureau of the Census, U. S. Department of Commerce; (2) *United States Census of Agriculture*, Washington: Bureau of the Census, U. S. Department of Commerce; and (3) *United States Census of Housing*, Washington: Bureau of the Census, U. S. Department of Commerce.

In order to save space, detailed citations are omitted from the Tables and Figures except where sources are different from those given above.

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MICHIGAN'S CHANGING POPULATION¹

By J. ALLAN BEEGLE and DONALD HALSTED

INTRODUCTION

UNDERSTANDING THE SOCIAL and institutional life of a people requires an analysis of population composition and change. Information on population numbers, residence, race and nativity, age and sex composition, as well as vital process and migration, is essential to anyone who desires to start or carry out programs. It is also important to understanding basic trends in human groups.

This report summarizes the important characteristics and changes in Michigan population. The basic source of data for this analysis is the 1950 United States Census of Population.

Five earlier bulletins published by the Michigan Agricultural Experiment Station have focused upon various aspects of Michigan's population. The first of these considered Michigan population changes up to 1930 (Thaden, 1933). The second study (Beegle, 1947) examined the composition and characteristics of Michigan's population in 1940. It compared these characteristics with the East North Central Division,² of which Michigan is a part, and with the United States as a whole.

The third publication (Beegle, 1948) attempted to assess the role of differential birthrates in population growth. The fourth (Houser and Beegle, 1951) was concerned with mortality conditions in various segments of the State's population. Finally, Michigan's population growth from 1940 to 1950 was analyzed with special reference to net migration (Beegle and Thaden, 1953).

The aims of this study are similar to those of the first two population bulletins listed above. It is designed to show the influence of the vital processes and migration upon characteristics of Michigan's

¹This bulletin is a contribution from the Michigan Agricultural Experiment Station as part of North Central Regional Project NC-18, "Population dynamics in the North Central Region and related rural social and economic problems."

²Michigan is one of five states comprising the East North Central Division. The other states in the Division are Ohio, Indiana, Illinois, and Wisconsin.

population; to compare these characteristics with the East North Central States and the United States; and to emphasize major recent trends.

Since both the rural and urban population segments are inter-related and interdependent, analysis of both of them brings out essential similarities and contrasts between the two groups.

In the discussion of residence, the reader is reminded that the definition of urban population used in 1950 differed from that used in 1940 and earlier censuses. Unfortunately, this change in definition is likely to produce some confusion. Where change data are cited, the 1940 or "old" definition must be used. In instances where the 1950 or "new" definition applies, mention will be made of the fact.

Briefly, the Bureau of the Census defined "urban" in 1950 to include all persons living in: (a) places of 2,500 or more incorporated as cities, towns, villages, and boroughs; (b) densely settled urban fringe, including incorporated and unincorporated areas around cities of 50,000 or more; and (c) unincorporated places of 2,500 inhabitants or more outside any urban fringe. The rest of the population is classified as "rural." The "rural-nonfarm" population includes all persons living outside urban areas who do not live on farms. "Rural-farm" population includes all persons living on farms, regardless of occupation.

For many years, only part (a) was included in the urban population. The change of definition in 1950, therefore, had the greatest effect upon the urban and rural-nonfarm populations. Michigan's urban population, for example, was larger by nearly one-half million (404,077) as a result of this change in definition.

CHANGES IN NUMBER AND DISTRIBUTION OF MICHIGAN'S POPULATION

GROWTH EXTREMELY RAPID

Rapid growth and the accompanying urbanization and industrialization are among the most striking features of Michigan's population. One hundred years ago, the total population numbered less than one-half million; today, the total population is 7½ million. A century ago, only 30,000 (7 percent of the total) resided in urban places; today, well over 4 million (64 percent of the total) reside in the cities.

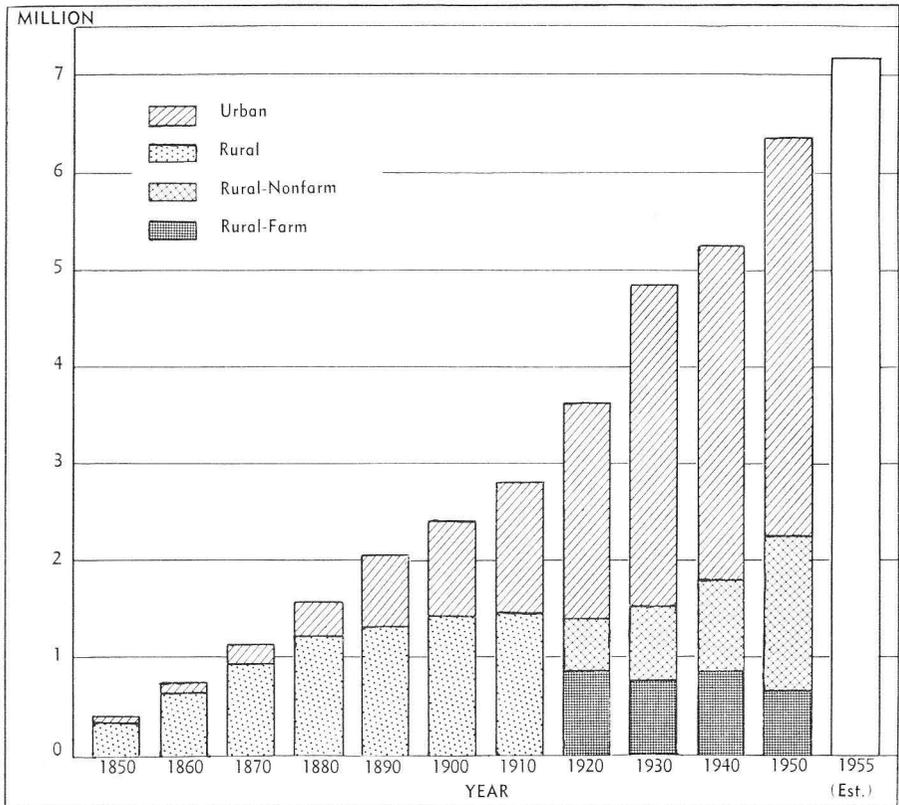


Fig. 1. Growth of Michigan's population, by residence, 1850-1955.

Fig. 1 shows the rapid growth of Michigan's population, particularly between 1920 and 1930 as well as during the period following 1940. Fig. 1 also shows the rapid increase in urban population. Likewise, the rural-nonfarm population has grown rapidly since 1920.

GAIN FASTER THAN DIVISION OR NATION

Since 1900, the population rate of gain between censuses has been more rapid for Michigan than the gain for the East North Central States as a whole. Since 1910, it has also been more rapid in Michigan than in the country as a whole. Table 1 gives the percentage changes in total population for Michigan, the East North Central States, and the United States since 1900.

TABLE 1—Percentage increases in total population, 1900-1955

Area	1900 to 1910	1910 to 1920	1920 to 1930	1930 to 1940	1940 to 1950	1950 to 1955
	Percent change					
Michigan.....	16.1	30.5	32.0	8.5	21.2	13.6
East North Central Division...	14.2	17.7	17.8	5.3	14.2	10.5
United States.....	21.0	14.9	16.1	7.2	14.5	9.0

FARM POPULATION DECLINING

Only 11 percent of Michigan's people reported rural-farm residence in 1950, a decline from slightly more than 16 percent in 1940. One-fourth of the people reported rural-nonfarm residence in 1950, while only 18 percent of the total population lived in rural-nonfarm places in 1940. The percentage of urban population actually fell slightly in the decade, from 65.7 in 1940 to 64.3 in 1950. If the "new" urban definition is used, however, the percentage classed as urban is substantially higher, 70.7 percent.

The rural-nonfarm portion of the population is by far the most rapidly growing segment of the State's population. It increased 67 percent in the decade 1940 to 1950. The rural-farm segment fell off 19 percent, and the urban segment increased by 19 percent.

Table 2 indicates how closely Michigan's population distribution conforms to that of the East North Central Division. On the other hand, Michigan was more urban in its residence characteristics than the United States as a whole.

POPULATION IS CONCENTRATED

A very large proportion of Michigan's people reside in the southern third of the State. In fact, Metropolitan Area F (comprising Wayne,

TABLE 2—Percentage distribution by residence, 1940 and 1950

Area	Urban		Rural-nonfarm		Rural-farm	
	1950	1940	1950	1940	1950	1940
	Percent					
Michigan.....	64.3	65.7	24.7	17.9	10.9	16.4
East North Central Division...	65.7	65.5	22.1	17.3	12.2	17.2
United States.....	59.0	56.5	25.7	20.5	15.3	22.9

Macomb and Oakland Counties) accounts for nearly half of the total State population.

The entire Upper Peninsula, on the other hand, accounts for less than 5 percent of the total population. No county north of Bay County contains as much as 1 percent of the total population of the State. The percentage of the total State population for each county and economic area is given in Appendix Table I.

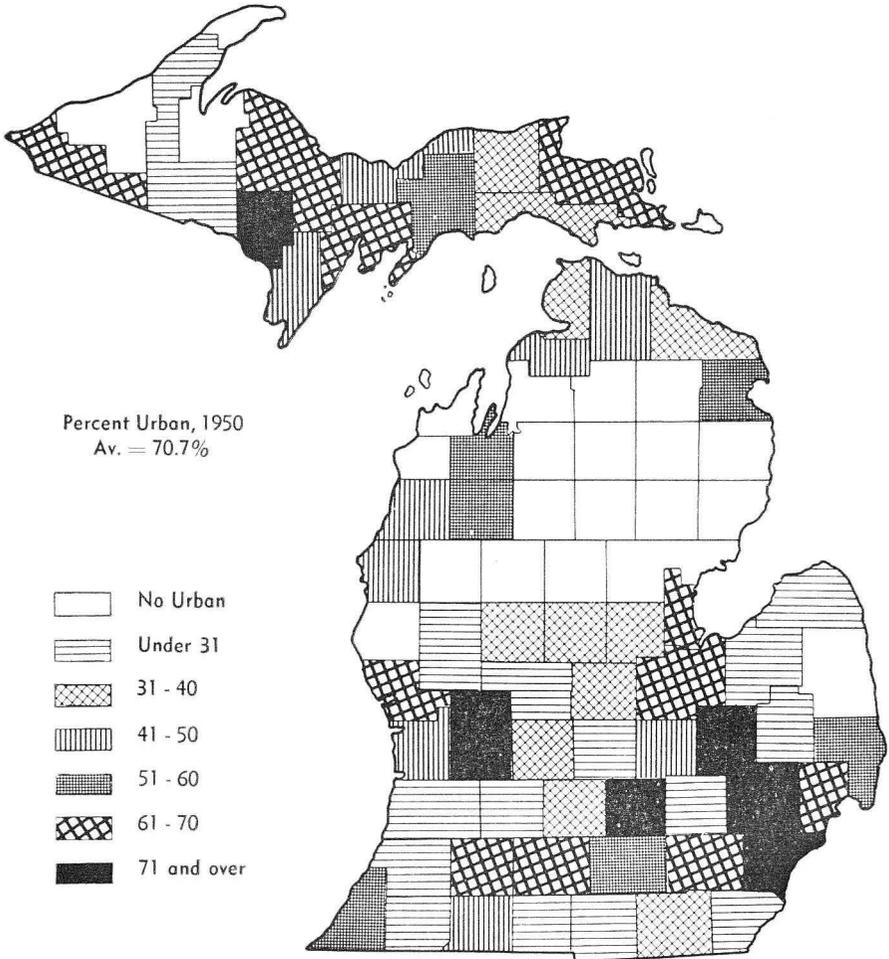


Fig. 2. Percent urban population (new definition), by county, 1950.

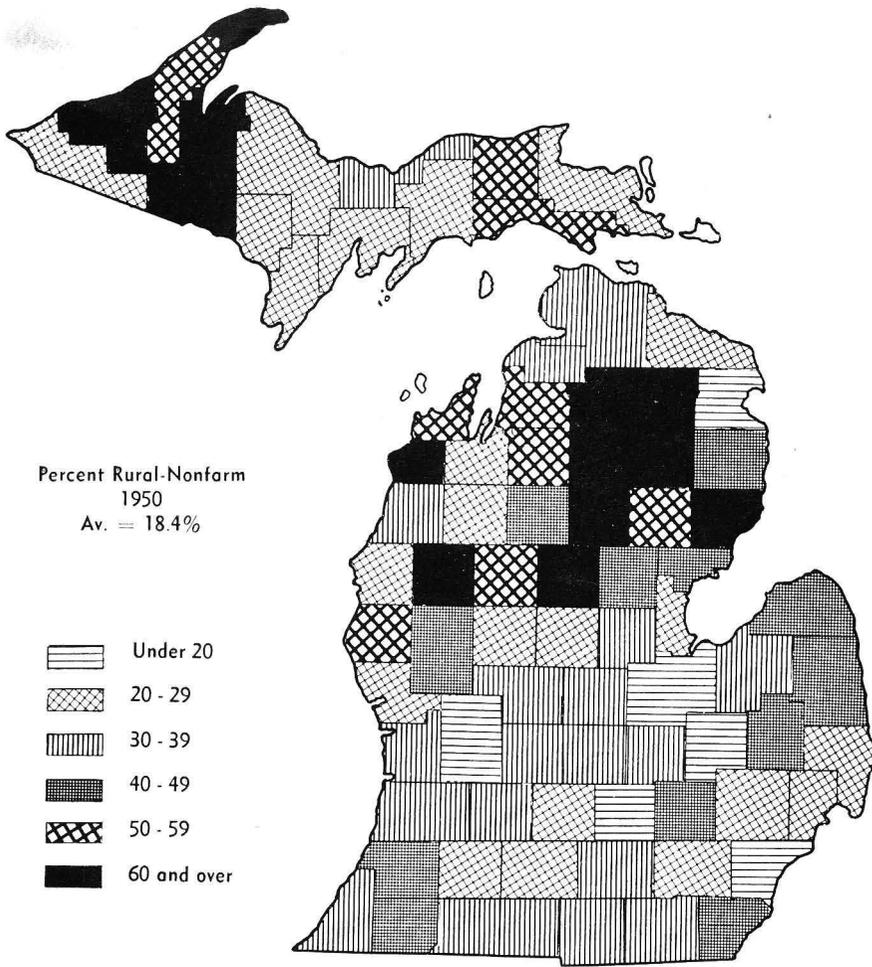


Fig. 3. Percent rural-nonfarm population (new definition), by county, 1950.

INTERNAL VARIATION IN RESIDENCE NOTABLE

As noted above, Michigan's population is concentrated in the south where the large urban centers are located. Using the new definitions in examining individual counties, however, proportions in the three residence categories differ (Figs. 2, 3 and 4). In 1950, about one-fourth of all counties (23) had no center large enough to be classed as urban. Six counties (Genesee, Ingham, Kent, Oakland and Wayne in southern Michigan, and Dickinson in the Upper Peninsula) were 71 percent or more urban (Fig. 2).

Proportionally, the rural-nonfarm residence group is most pre-

dominate in counties of the northern part of the Lower Peninsula and in the Upper Peninsula. In 13 counties, the rural-nonfarm residence group accounts for 60 percent or more of the total population (Fig. 3).

In only six counties in 1950 did the rural-farm population total more than half of the overall county population (Fig. 4).

In 15 highly urbanized counties, the percentage of rural-farm population was less than 10 percent. The percentages of urban, rural-nonfarm, and rural-farm population for the individual counties and economic areas are given in Appendix Table I.

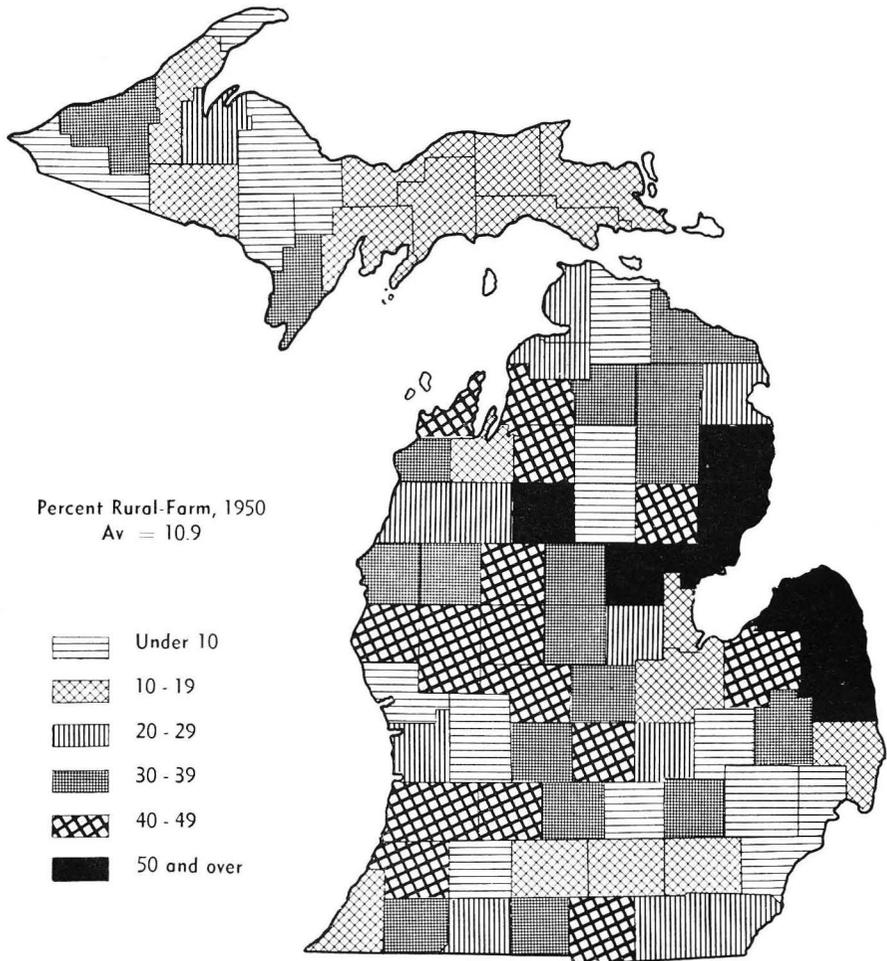


Fig. 4. Percent rural-farm population (new definition), by county, 1950.

SUBURBAN AND FRINGE INCREASING MOST RAPIDLY

Between 1940 and 1950, Michigan's population increased by 21 percent. The urban segment increased by 19 percent and the rural-farm segment declined by 19 percent. The rural-nonfarm part of the population, however, gained by 67 percent. In numerous counties, the rural-nonfarm population (using the old definition) more than doubled. Such counties, some largely rural and some mostly urban, include Alpena, Berrien, Grand Traverse, Macomb, Muskegon, Newaygo, Ottawa, Washtenaw, and Wayne.

In examining changes in residence during the last decade, the rapidity of growth on the part of the rural-nonfarm population is striking. At the same time, note the consistent decline of the rural-farm population in all sectors. Detailed percentage changes for all residence groups, by county and economic area, are given in Appendix Table I.

Under the new urban definition used for the first time in 1950, the rural-nonfarm population was reduced in size due to the inclusion in the urban category of "urbanized areas" around large cities. Formerly, such areas would have been classed as rural-nonfarm. The authors estimate that the nonvillage or "fringe" part of Michigan's population in 1950 was about 800,000, or one in every eight persons. The village part of the rural-nonfarm population was estimated to be about half as large as the nonvillage segment of the rural-nonfarm population.

CHANGES IN FERTILITY, MORTALITY, AND MIGRATION

In all societies, the three elements responsible for the rate of population change are: (1) the level of fertility; (2) the level of mortality; and (3) the extent of migration. The relatively rapid population growth in Michigan, for example, is to be explained not only by the excess of births over deaths, but also by migration into the State. The nature of Michigan's age composition, as well as many other attributes, are due to the interaction of the three elements listed above. Therefore, we will examine each element in some detail.

SPECTACULAR INCREASE IN BIRTHRATE

The increased birthrate is among the most dramatic demographic changes in the past decade. Both rural and urban segments of Michi-

gan's population participated in this increase, although the change was greater for the urban residence group.

As measured by the birthrate (or the number of births per 1,000 total population), the rates for the total population in Michigan in 1940, 1950, and 1954 were 18.9, 25.1, and 27.3, respectively. Table 3 gives birthrates for rural and urban segments in Michigan for selected years from 1940-1954.

Perhaps the most noteworthy trends indicated in Table 3 are the continued increase in the birthrate since 1950 and the high level of the urban rate compared with the rural rate. This measure, however, is influenced greatly by the age structure; for a more exact measure of the birthrate level, refinement is required.

*TABLE 3—Crude birthrates in Michigan by residence, selected years, 1940-1954**

Year	Births per 1,000 population		
	Total	Urban	Rural
1940.....	18.9	18.7	19.1
1945.....	20.5	21.6	18.6
1950.....	25.1	25.8	23.8
1951.....	26.3	27.7	24.0
1952.....	26.5	27.7	24.3
1953.....	26.7	27.2	25.7
1954.....	27.3	28.4	25.5

*Annual Reports, Michigan Department of Health.

NEARLY ALL COUNTIES SHOW GAINS IN BIRTHRATE

To examine the extent to which all areas of the State shared in birthrate increases, rates for all counties were studied at the beginning and end of the last decade. Between 1939-41 and 1949-51, the birthrate for Michigan as a whole increased by 34 percent. In this period, only 10 counties reported declines (or no changes) in the birthrate. On the other hand, in five counties the birthrate increased by more than 40 percent over the same period. The birthrates and percentage changes for all counties and economic areas are given in Appendix Table II.

FERTILITY RATES HIGH

The fertility ratio is a measure that overcomes some of the weaknesses inherent in the crude birthrate; it represents the number of

young children (under 5 years old) for every 1,000 females in the reproductive ages (15 to 49). To obtain some basis for comparing fertility levels, fertility ratios were computed for Michigan, the East North Central States and the United States, by residence, in 1940 and in 1950.

As shown in Table 4, the fertility ratio for Michigan was higher in both 1940 and 1950 than for the East North Central States and for the United States. Similarly, the fertility ratios for Michigan's urban and rural-nonfarm segments were above those for the Division and Nation. Only in the rural-farm segment was the national fertility ratio higher than that of the rural-farm segment of the Michigan population.

TABLE 4—Fertility ratios,* by residence, 1940 and 1950

Area	Total		Urban		Rural-nonfarm		Rural-farm	
	1950	1940	1950	1940	1950	1940	1950	1940
	Fertility ratio							
Michigan.....	431	304	386	262	539	408	490	401
East North Central Division..	411	276	371	238	508	364	486	371
United States.....	417	292	363	227	501	359	521	430

*Number of children under 5 years old per 1,000 females aged 15 to 49. The old urban definitions are used in the computations.

Fertility ratios for the total population of Michigan, as well as for each of the residence classes, increased between 1940 and 1950. The size of the urban fertility ratio increased 47 percent in the decade; the rural-nonfarm ratio increased 32 percent; and the rural-farm increased 22 percent. The fertility ratio for the urban population of the following counties was at least 50 percent higher in 1950 than in 1940: Barry, Cass, Emmet, Gogebic, Huron, Ionia, Iron, Jackson, Kent, Lenawee, Manistee, Menominee, Montcalm, Newaygo, Oakland, Ottawa, and Van Buren.

The fertility ratio for the rural-farm population of 13 counties declined between 1940 and 1950; in only four counties did the rural-farm fertility ratio increase 50 percent or more. Note that fertility increases have been most spectacular in those populations formerly characterized by the lowest fertility.

AGE-ADJUSTMENT³ ELEVATES RURAL-FARM FERTILITY

Figs. 5, 6, and 7 give age-adjusted fertility ratios (by county) for the urban, rural-nonfarm, and rural-farm segments of Michigan's population. When adjustments are made for age composition, the fertility ratio for the total population became 421 (unadjusted ratio 431). The influence of adjusting for age composition affected the urban ratio very little, but the rural-farm ratio was raised from 490 to 547, and the rural-nonfarm ratio was reduced from 539 to 514.

³Age adjustment, or standardization of fertility ratios, is a means of comparing actual ratios with expected ratios—or allowing for age differences in populations. Adjusted fertility ratios are expected ratios which would be obtained if the ages of women conformed to those of a base population. The age-adjusted ratios shown here were based upon age-specific characteristics for the East North Central Division, plus Kentucky (the states cooperating in the North Central Regional Project 18.)

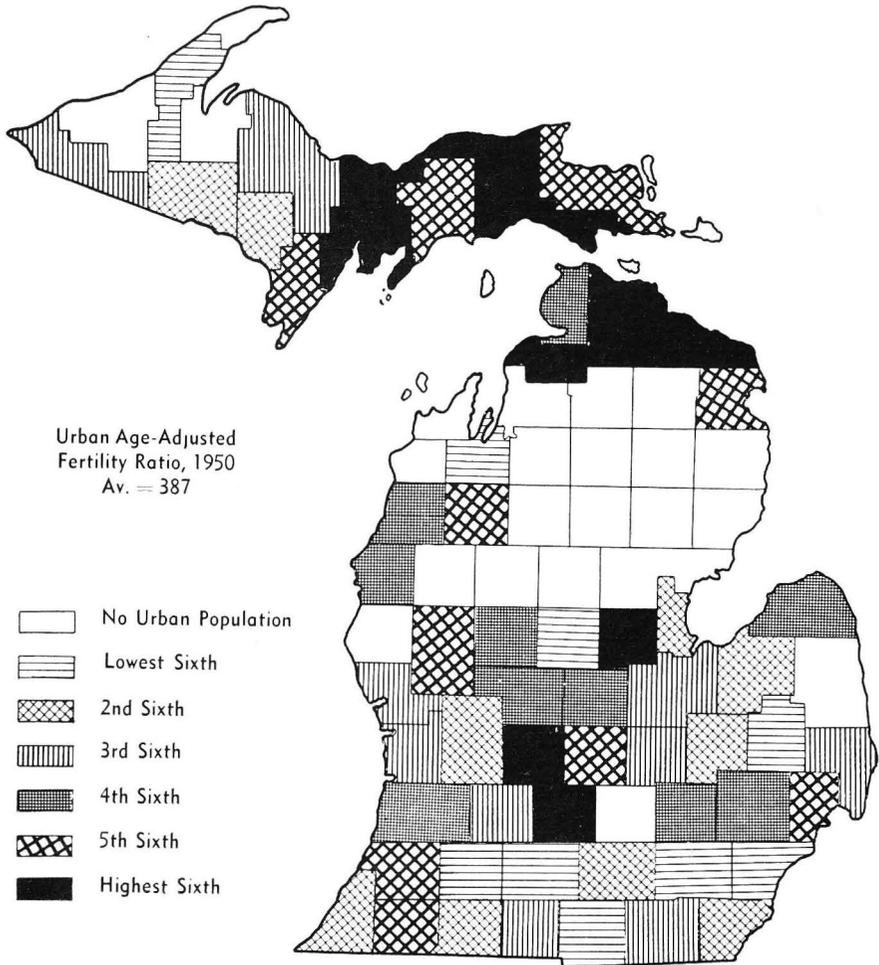


Fig. 5. Urban age-adjusted fertility ratio, by county, 1950.

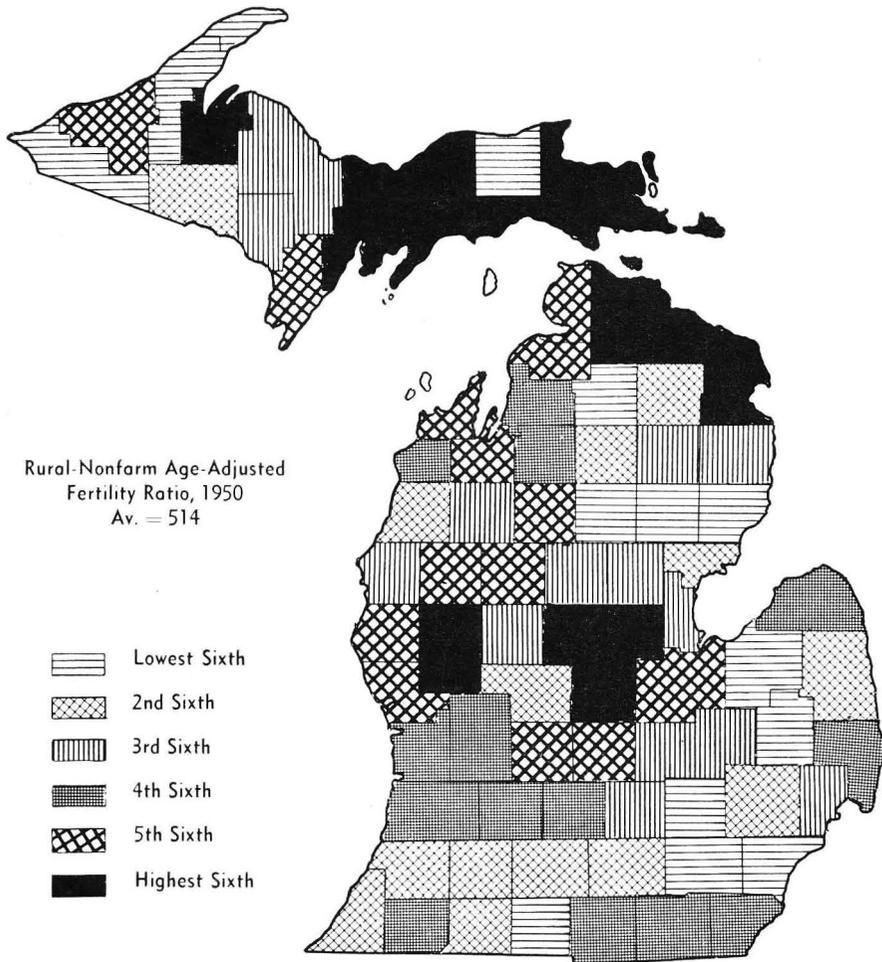


Fig. 6. Rural-nonfarm age-adjusted fertility ratio, by county, 1950.

Figs. 5, 6 and 7 show interesting variation in levels of the age-adjusted fertility ratio in Michigan counties. The highest urban fertility ratios are found for certain northern Michigan counties having small urban places (Mackinac, Presque Isle, Luce, and Charlevoix, for example.) The lowest urban fertility ratios are found in more urbanized counties, such as Washtenaw, Wayne, Ingham and Kalamazoo, in southern Michigan.

While some of the highest and lowest rural-nonfarm age-adjusted fertility ratios are found in northern Michigan counties, Fig. 6 shows

that the rural-nonfarm population near the largest cities tends to fall below State average in fertility. The highest rural-farm fertility ratios, adjusted for age, are found in counties in the northern part of the Lower Peninsula, while the lowest are found in counties in the Detroit area and in the southern tier.

DEATH RATES DECLINING

While the birthrate has shown substantial increase, the death rate has declined. As indicated in Table 5, the death rate fell substantially between 1940 and 1950, and it has continued downward

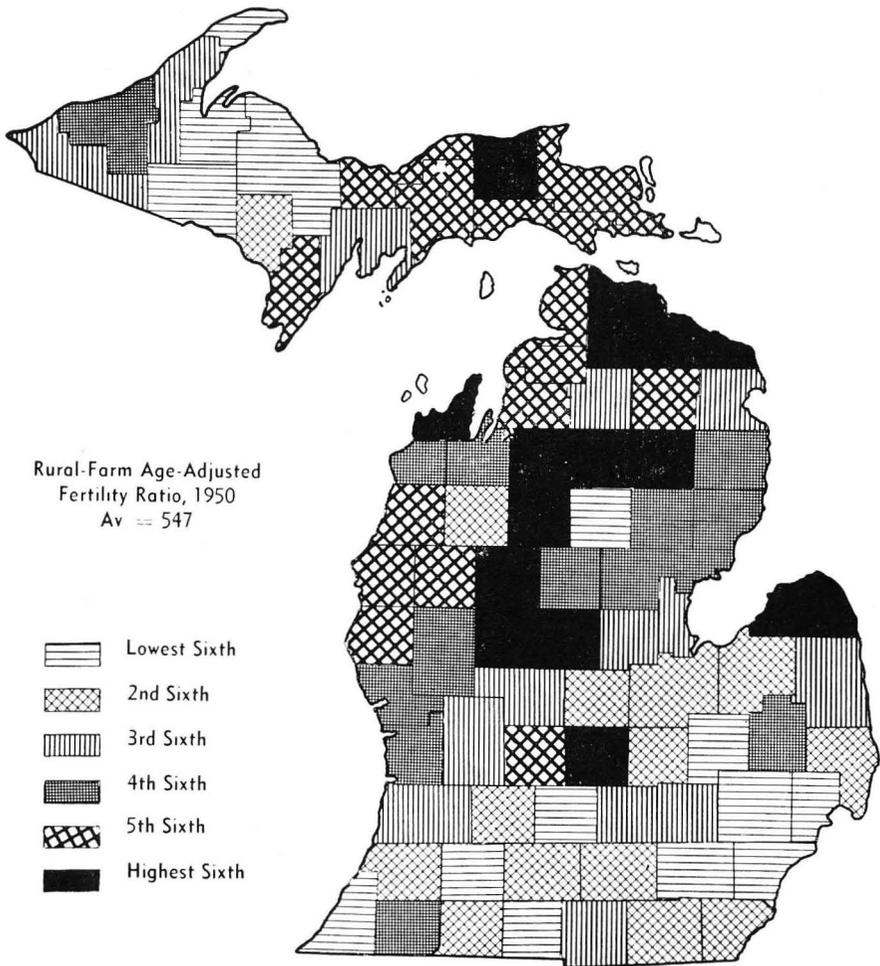


Fig. 7. Rural-farm age-adjusted fertility ratio, by county, 1950.

TABLE 5—Death rates in Michigan by residence, selected years 1940-54*

Year	Deaths per 1,000 population		
	Total	Urban	Rural
1940.....	9.9	9.6	10.5
1950.....	9.0	9.1	9.0
1951.....	9.0	9.3	8.6
1952.....	8.8	9.0	8.4
1953.....	9.1	9.2	8.8
1954.....	8.7	8.8	8.3

*Annual Reports, Michigan Department of Health.

since 1950. The lowest death rate during any year shown for the total, urban, and rural segments was registered in 1954. Thus, the rate of natural increase (the difference between birth and death rates) for the total population was 9.0 per 1,000 in 1940 and 18.6 per 1,000 in 1954. Even without migration into the State, the difference between these birth and death rate levels makes for a rapidly growing population.

DECLINING DEATH RATES IN MOST COUNTIES

As with birthrates, death rates were examined for all counties and economic areas at the beginning and end of the decade. The death rate for the State as a whole declined from 9.9 per 1,000 in 1939-41 to 9.0 per 1,000 in 1949-51. This change represented a decline of about 9 percent in the decade.

In a considerable number of counties, particularly in the Upper Peninsula and in the northern part of the Lower Peninsula, death rates were higher at the end than at the beginning of the decade. No doubt, one of the important reasons for this is the older average age of the population in these areas. Death rates and change in these rates for all counties and economic areas are given in Appendix Table II.

HEART DISEASE LEADING CAUSE OF DEATH

The 10 leading causes of death in Michigan in 1953 are summarized in Table 6. Heart disease is the leading cause; it accounts for more than twice as many deaths as the second leading cause, malignant neoplasms.

TABLE 6—Ten leading causes of death in Michigan, 1953

Rank	Cause	Number of deaths
	All causes.....	62,171
1	Diseases of heart.....	22,341
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues.....	9,924
3	Vascular lesions affecting central nervous system.....	7,145
4	Accidents.....	4,368
	Motor.....	2,035
	All other.....	2,333
5	Contagious diseases of early infancy.....	2,818
6	Influenza and pneumonia, except pneumonia of newborn..	1,781
7	Diabetes mellitus.....	1,405
8	General arteriosclerosis.....	1,278
9	Congenital malformation.....	958
10	Cirrhosis of liver.....	724

MIGRATION SOURCE OF LARGE GAIN, 1940-50

As pointed out previously, population growth is determined by the operation of birth and death rates and the balance of in- and out-migration. During the decade, more than twice as many births as deaths occurred, yielding a natural increase of more than 770,000. Net migration into the state during the period was also large, numbering about 329,000.

NET GAINS THROUGH MIGRATION GREATEST NEAR LARGE CITIES

Population changes in Michigan counties during the 1940-50 decade are more largely due to net migration than to varying levels of fertility or mortality. Heavy loss through migration characterized all Upper Peninsula counties, as well as many in the northern part of the Lower Peninsula. The Upper Peninsula alone lost 54,000 persons through net migration in the 10-year period.

Net gains through migration were particularly great in the Detroit metropolitan area. Wayne County, for example, gained 119,000 during the decade through net migration. Other counties containing large cities showed similar gains.

Fig. 8 indicates some of the importance of net migration during the decade in relation to the total population. Thus, Fig. 8 shows the increase or decrease through migration as a percentage of the total county population in 1940. More than half of all counties in Michigan

suffered net losses through migration. Six counties lost more than one-fifth of their 1940 population in this manner.

There were many counties, of course, whose net gains through migration were substantial. The net increases due to migration in Cass, Macomb, Oakland, Roscommon, and Washtenaw Counties amounted to more than one-fifth of the 1940 population in these areas.

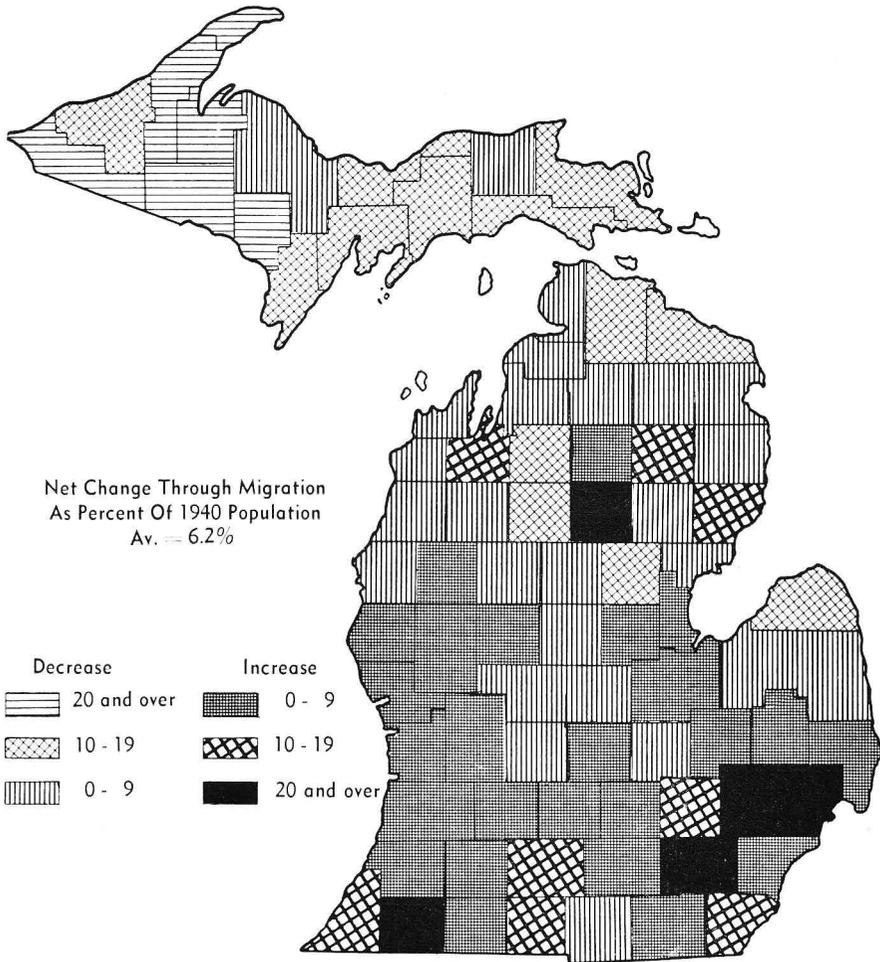


Fig. 8. Net change through migration as a percentage of the 1940 population, by county, 1940-50.

CHANGES IN CHARACTERISTICS OF MICHIGAN'S POPULATION

Three demographic attributes of population—age distribution, sex composition, and race and nativity—have been selected for discussion. Communities differ greatly with respect to these attributes, and each in turn has its impact upon the nature and character of communities.

Age and sex composition, for example, directly affect institutional requirements as well as demand for various types of goods and services. First, we turn to an examination of the age structure and the major changes in age composition of Michigan's population.

POPULATION RELATIVELY YOUNG

Using only two age groups for comparative purposes (under 15, and 65 and over), Michigan's population may be described as relatively young. Michigan contains a considerably larger proportion of young persons (under 15 years old) than do the East North Central States or the Nation. This is true of all residence groups (Table 7), except for the rural-farm group in which the total United States population contains a larger proportion.

On the other hand, Michigan contains a smaller proportion of older persons (65 years old and over) than do the East North Central states or the Nation. This is true of all residence groups, except the rural-farm group in which Michigan's percentage is higher than the Division and the Nation.

TABLE 7—Percentage young (under 15 years old) and old (65 and over) by residence, 1940 and 1950

Area	Total		Urban		Rural-nonfarm		Rural-farm	
	1950	1940	1950	1940	1950	1940	1950	1940
	Percent under 15							
Michigan.....	27.4	25.0	25.1	23.4	31.9	28.4	30.7	27.8
East North Central Division..	25.9	23.3	23.8	21.6	29.8	26.3	30.1	27.0
United States.....	26.9	25.0	23.8	21.4	30.2	27.6	33.2	31.6
	Percent 65 and over							
Michigan.....	7.2	6.3	6.8	5.4	7.4	7.5	9.4	8.8
East North Central Division..	8.5	7.4	8.3	6.7	9.0	9.1	9.0	8.5
United States.....	8.1	6.8	8.3	6.8	8.0	7.3	7.6	6.6

The data shown in Table 7 reveal two essential trends of the past decade. The first is the increasing proportion of young resulting from the increased birthrate. The second is the increasing proportion of older persons resulting from the continued decline in mortality. The percentages in the two selected age groups during the decade increased, in most instances, by substantial amounts. The exceptions are the rural-nonfarm in Michigan and in the East North Central States.

MAJOR CHANGES IN DECADE: MORE YOUNG AND MORE AGED

The primary changes in age composition of Michigan's population during the decade are shown in some detail in Fig. 9. Increases in the proportions of persons under 5 and 55 and over are striking. For males, all age groups between 5 and 55 years old were relatively larger in 1940 than in 1950. For females, there were two exceptions. The percentages of females aged 25 to 34 and 35 to 44 were slightly larger in 1950 than in 1940.

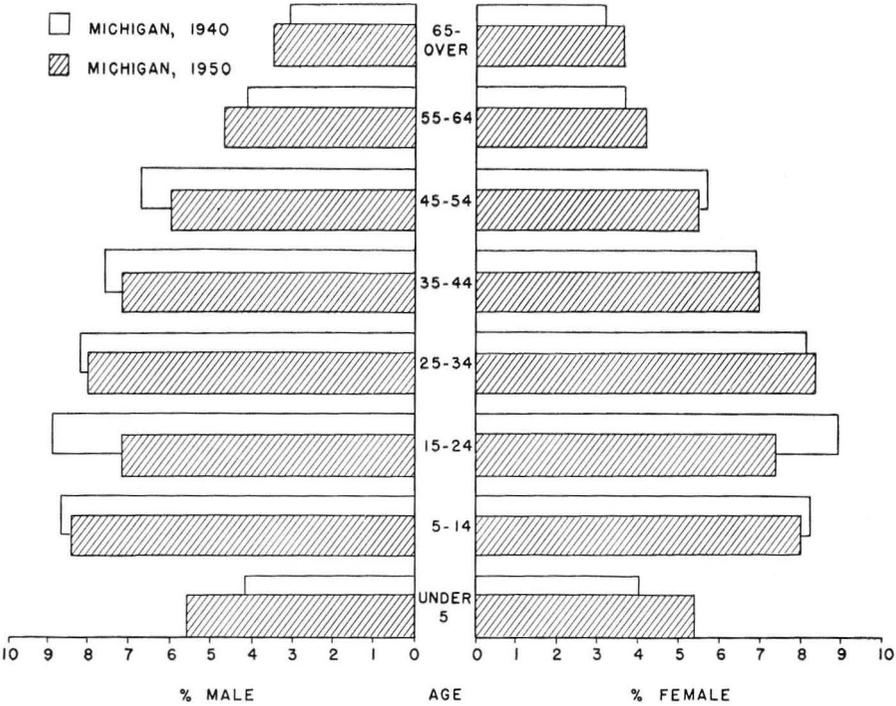


Fig. 9. Age-sex pyramid for Michigan, 1940 and 1950.

The numerical changes in selected age groups are notable. There were about 275,000 more children under 5 years old in 1950 than in 1940. And there were about 130,000 more persons aged 65 and over at the end than at the beginning of the decade. The implications of such trends, particularly for the provision of school facilities and programs for older persons, have been widely publicized.

URBAN POPULATION ATTRACTS "PRODUCTIVE-AGED" GROUPS

The differences in the age structure of Michigan's farm and urban population are striking (Fig. 10). The primary difference is that the farm population gives up its young adults, but it retains large proportions of young as well as older persons. Fig. 10 suggests that the farm group holds its male population to a greater extent than its female population. The percentages of males in the farm population are greater than the percentages of males in the urban population for all age groups, except under 5 and between 25 to 54 years old. For females, these exceptions also include the 15 to 24 age group.

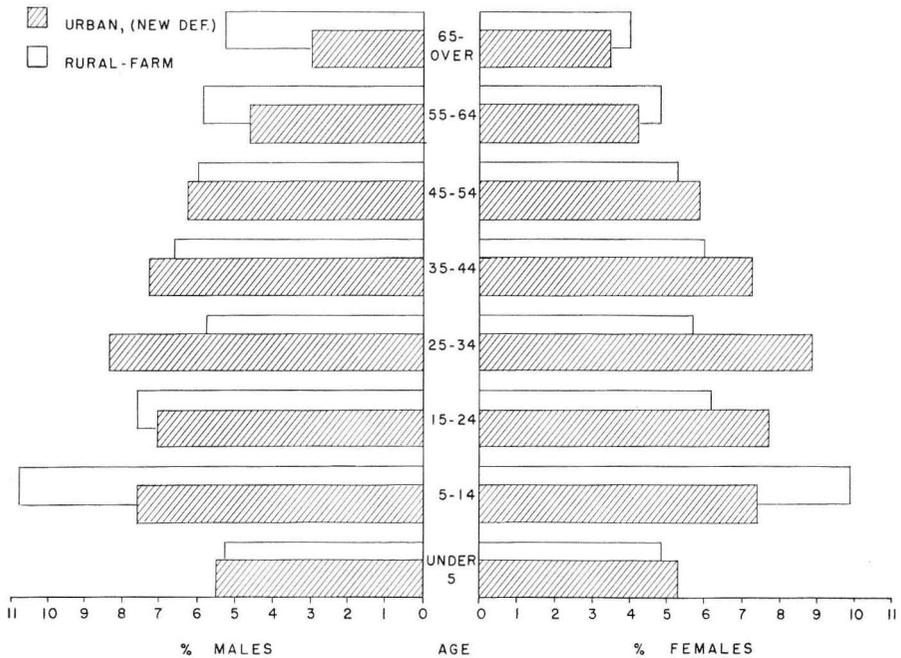


Fig. 10. Age-sex pyramid for Michigan, urban and rural-farm populations, 1950.

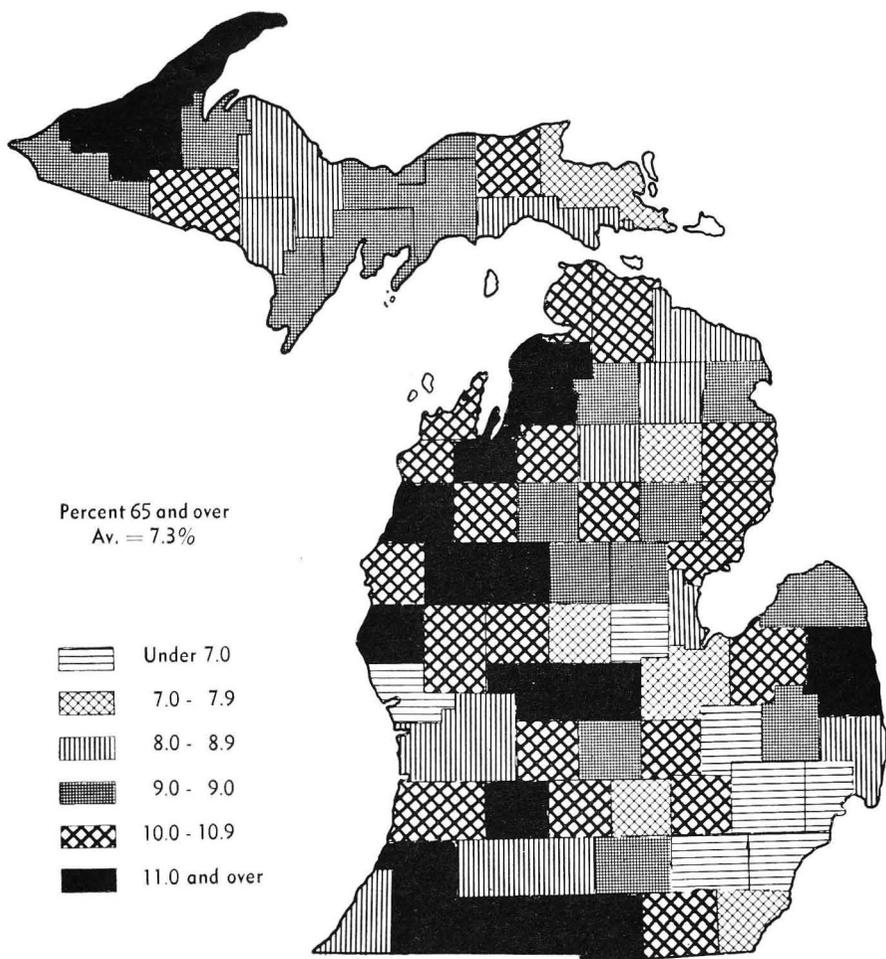


Fig. 11. Percentage of population aged 65 and over, by county, 1950.

OLDER PERSONS UNEVENLY DISTRIBUTED

Generally, those areas of Michigan with major industrial centers have relatively small proportions of older persons. On the other hand, most rural counties contain large proportions of older persons. Most of the southern tier of counties and many of those bordering on Lake Michigan contain especially large percentages of older persons (Fig. 11).

As previously noted, the numerical change in persons 65 and over between 1940 and 1950 was large. The change amounted to 40 percent for the State in the decade. In general, the highly urban

parts of the State, which had relatively small proportions of older persons in 1940, had the largest percentage gains. For example, persons aged 65 and over in Wayne, Oakland, and Macomb Counties increased by more than 50 percent. A summary of the percentages of persons 65 and over, and percentage change between 1940 and 1950, for counties and economic areas, is given in Appendix Table III.

DEPENDENCY RATIO LOW IN URBAN AREAS; HIGH IN RURAL AREAS

To identify the "dependent" population, the age groups under 15 and 65 years old and over were combined and then converted into percentages of the total population. For the total population of Michigan in 1940, this percentage was 31.3. In 1950, it was 34.6. The lowest percentage (30.4) was found in Wayne County; the highest (44.6) was in Kalkaska County. Dependency, as defined here, indicated generally low proportions in metropolitan areas and high proportions in the rural counties. Dependency ratios for all counties and economic areas are given in Appendix Table III.

SEX RATIOS HIGH

Just as age distribution varies in different populations, so do the proportions of males and females. The sex ratio is the common measure used to express the relationship between the number of males and females. Thus, ratios above 100 indicate an excess of males; those below 100 indicate an excess of females.

Compared with the East North Central States and the United States, Michigan has a large proportion of males. The high sex ratios hold true for all residence groups (Table 8). In Michigan (as well

TABLE 8—Sex ratios for Michigan, East North Central States, and the United States, by residence, 1940 and 1950

Area	Total		Urban		Rural-nonfarm		Rural-farm	
	1950	1940	1950	1940	1950	1940	1950	1940
	Sex ratios							
Michigan.....	101.7	105.2	98.7	101.3	104.4	107.2	113.7	120.2
East North Central Division.....	99.3	101.9	95.8	97.5	103.2	105.2	112.5	116.9
United States.....	98.6	100.7	94.1	95.5	102.9	103.7	110.1	111.7

as in the Division and Nation), urban sex ratios are low; rural-nonfarm, intermediate; and rural-farm, high. In 1950, Michigan's sex ratios stood at 99, 104, and 114 for the three residence groups, respectively.

As shown in Table 8, the sex ratios for all residence groups and areas declined between 1940 and 1950. The sex ratio for Michigan's total population declined from 105 to 102 during the decade.

MIGRATION AND MORTALITY INFLUENCE THE SEX RATIO

Two age groups—20 to 24, and 65 years old and over—have been selected to show the effect of migration and death rates upon sex ratios. The 20 to 24 age group is highly migratory. This is the age during which marriage most commonly occurs, when education is finished, and when careers are begun. The 65 and over age group is also involved in migration through retirement, and the change of residence due to the death of one spouse. An examination of sex ratios for these ages shows the different influences of such factors.

TABLE 9—*Sex ratios for selected age groups in Michigan, by residence, 1940 and 1950*

Residence	Age group 20-24		Age group 65 and over	
	1950	1940	1950	1940
	Sex ratios			
Total	94.9	98.1	95.4	99.5
Urban	93.3	90.8	84.8	84.0
Rural-nonfarm	90.7	93.9	104.4	106.0
Rural-farm	126.6	150.8	134.8	142.8

In 1950, the 20 to 24 age group was made up of 5 percent more females than males (Table 9). The "surplus" of females over males in this age group in urban and rural-nonfarm areas amounted to between 6 and 9 percent. In the farm population, however, this age group contained 26 percent more males than females. Such differences are due largely to the departure of more females than males from rural areas.

Note that the sex ratio for the 20 to 24 age group declined between 1940 and 1950. The ratio for the urban population aged 20 to 24, however, increased substantially. At the same time, the sex ratio in this age group of the farm population fell from 151 to 127.

Numerous studies of migration stress the selective migration from

farm populations of the young age groups, especially when urban, industrial areas provide ready employment. Such studies also point to the heavier rate of out-migration from farm areas on the part of young girls.

Fig. 12 emphasizes this situation for Michigan. It shows sex ratios for the rural-farm population aged 20 to 24 for each county in the state. In only two counties (Clare and Mackinac) does the sex ratio fall below 100. In four counties (Alger, Dickinson, Houghton, and Marquette), the sex ratio was over 180.

In 1950, the sex ratio for the 65 and over age group showed almost

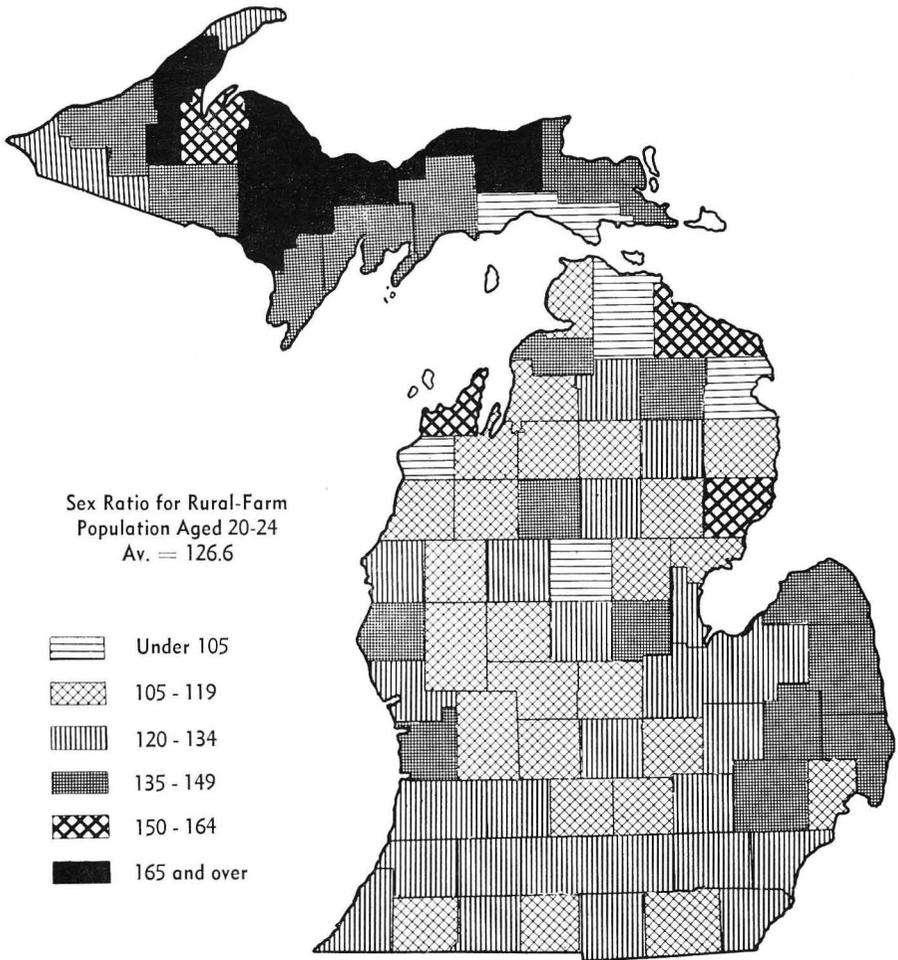


Fig. 12. Sex ratios for the 20 to 24 age group in the rural-farm population, 1950.

a 5 percent "surplus" of females. This is due primarily to the higher mortality of males at all ages and to selective migration. The difference shown in the residence groups, however, must be attributed largely to the influence of selective migration.

FOREIGN-BORN WHITE STOCK DECREASING; NEGROES INCREASING

In 1950, nearly 10 percent of Michigan's white population has been born in countries outside of the United States. This percentage is considerably greater than in the Division or the Nation. Since immigration was heaviest shortly after 1900, a large part of the foreign-born population is now in the older age groups. Hence, it is not surprising that this segment of Michigan's population is decreasing. The percentage of foreign-born white persons decreased from 13.0 percent to 9.5 percent in the last decade (Table 10).

TABLE 10—Percentage distribution by race and nativity, 1940 and 1950

Area	Native whites		Foreign-born whites		Negroes		Other races	
	1950	1940	1950	1940	1950	1940	1950	1940
	Percent							
Michigan.....	83.4	82.9	9.5	13.0	6.9	4.0	0.1	0.1
East North Central Division..	86.8	86.2	7.1	9.7	5.9	4.0	0.2	0.1
United States.....	82.8	81.1	6.7	8.7	10.0	9.8	0.5	0.4

About 7 percent of the State's population in 1950 was Negro. This percentage compares with 10 percent for the United States, and about 6 percent for the East North Central Division. The continued migration of Negroes into Michigan has been heavy. As a result, the proportion of Negroes to the total population has risen from 4 percent in 1940 to 6.9 percent in 1950 (Table 10). The actual number of Negroes in Michigan has more than doubled during the decade, rising from 208,000 in 1940 to 442,000 in 1950.

FOREIGN-BORN WHITES AND NEGROES CONCENTRATED IN CITIES

Both foreign-born white persons and Negroes are concentrated in the urban centers of Michigan. As Table 11 shows, about 11 percent of the urban population in 1950 was foreign-born. In contrast, less than 6 percent of the rural-nonfarm and 7 percent of the rural-

TABLE 11—Percentage of race and nativity groups in Michigan, by residence, 1950

Residence	Total	Native white	Foreign-born white	Negro	Other races
			Percent		
Total.....	100.0	83.4	9.5	6.9	0.1
Urban.....	100.0	79.6	10.9	9.4	0.1
Rural-nonfarm.....	100.0	92.6	5.7	1.3	0.3
Rural-farm.....	100.0	92.5	6.6	0.7	0.1

farm population were foreign-born. Of the 604,000 foreign-born white persons in Michigan in 1950, 491,000 resided in urban areas.

Negroes are even more concentrated in cities than are the foreign-born whites. In 1950, 9 percent of the urban population was classed as Negro. The comparable percentages for the rural-nonfarm and rural-farm populations were 1.3 and 0.7, respectively. Of the total 442,000 Negroes in Michigan in 1950, 422,000 resided in urban places.

CANADIANS LEAD AMONG FOREIGN-BORN WHITES

The Canadians (non-French) were the most numerous foreign-born white group in 1950 as well as in 1940. In both periods, persons born in Poland, Germany, England and Wales, Italy, U.S.S.R., Scotland, and the Netherlands ranked second to eighth. As a source of migrants, Finland ranked ninth in 1940 but was replaced by Hungary

TABLE 12—Ten most numerous foreign-born white groups, 1950 and 1940

1950			1940		
Rank	Country of birth	Number	Rank	Country of birth	Number
1	Canada (non-French) .	126,472	1	Canada (non-French).	138,567
2	Poland.....	81,595	2	Poland.....	96,826
3	Germany.....	45,323	3	Germany.....	59,783
4	England and Wales... .	42,726	4	England and Wales... .	49,099
5	Italy.....	38,937	5	Italy.....	40,631
6	U.S.S.R.....	30,804	6	U.S.S.R.....	32,229
7	Scotland.....	24,887	7	Scotland... .	27,306
8	Netherlands.....	20,215	8	Netherlands.....	24,722
9	Hungary.....	18,818	9	Finland.....	21,151
10	Canada (French).....	15,786	10	Canada (French).....	20,681

in 1950. In both 1940 and 1950, French Canadians ranked tenth. As shown in Table 12, all foreign-born groups were numerically smaller in 1950 than in 1940.

CHANGES IN SELECTED CHARACTERISTICS OF MICHIGAN'S FARM POPULATION—EMPLOYMENT, HOUSING, AND MAN-LAND RELATIONSHIPS

The purpose of this section is to examine recent changes in selected attributes of Michigan's farm population. Two measures are used in the consideration of agricultural employment: (1) the percentage of all employed persons who are employed in agricultural industries;⁴ and (2) the percentage of farm operators working 100 days or more in nonagricultural work.

In the discussion of housing conditions, two measures will be examined: (1) the percentage of farm dwellings reporting "private toilet and bath"; and (2) the percentage of farm dwellings classified as "dilapidated." In the discussion of man-land relationships, primary emphasis is given to cropland in relation to the rural-farm population.

PROPORTIONATELY FEWER EMPLOYED IN AGRICULTURAL INDUSTRIES

In keeping with the residential patterns described earlier, employment in Michigan is heavily nonagricultural. This condition is more pronounced in Michigan than in the East North Central States or in the United States as a whole. Further, in the decade 1940 to 1950, the proportion employed in agricultural industries in Michigan

⁴In addition to "farmers and farm managers" and "farm laborers and foremen," the agricultural industry category includes: (a) persons employed on farms in occupations such as truckdriver, mechanic, and bookkeeper; and (b) persons engaged in agricultural activities other than strictly farming operations, such as crop dusting or spraying, cotton ginning, and landscape gardening.

TABLE 13—*Employment in agricultural industries: Michigan, East North Central States, and the United States, 1950 and 1940*

Area	Percent of total employed persons in agricultural industries		Percent of male employed persons in agricultural industries	
	1950	1940	1950	1940
Michigan	6.7	11.7	8.4	14.6
East North Central Division . . .	8.8	13.3	11.2	17.0
United States	12.2	18.5	15.5	23.2

showed a marked decline. Similar trends were true of the East North Central States and the United States.

In 1950, less than 7 percent of all employed persons in Michigan were employed in agricultural industries (Table 13). This proportion is less than in the Division (about 9 percent) or in the United States (about 12 percent). Ten years previously, nearly 12 percent of the employed persons were engaged in agriculturally-related employment.

In 1950, about 8 percent of all employed males in Michigan were employed in agricultural industries. Looking at employed males only, the proportions in agricultural occupations are slightly higher, but the same relationships and trends found in Michigan are true in the East North Central States and the Nation.

INTERNAL VARIATIONS IN AGRICULTURAL EMPLOYMENT GREAT

In 1950, the proportion of total employed who were engaged in agricultural industries did not exceed 50 percent in any county. The range was from 0.3 percent in Wayne County to 49 percent in Missaukee County. This was according to expectation, metropolitan areas being characterized by low proportions employed in agricultural industries and high proportions in manufacturing.

The average for all nonmetropolitan areas, however, was only slightly over 17 percent. The percentages of total employed who are engaged in agricultural industries in 1950 and 1940, by county and economic area, are shown in Appendix Table III.

The proportion of employed persons in agricultural industries is greater in nonmetropolitan areas than in the metropolitan areas. Even in the nonmetropolitan areas, however, the percentage in agricultural industries is only 17 percent, while the percentage employed in manufacturing is about 30 percent (Fig. 13).

In nonmetropolitan areas between 1940 and 1950, manufacturing employment increased and agricultural employment decreased. As shown in Fig. 13, the proportion of persons employed in agricultural industries in the metropolitan areas is small. The percentages for 1950 and 1940 were 1.7 and 3.1 percent, respectively.

FARM OPERATORS WORK EXTENSIVELY AT NONFARM WORK

In 1950, nearly 33 percent of Michigan's farm operators worked 100 days or more in nonagricultural employment. This proportion represented a substantial increase over the 1940 proportion of about 20 percent. Internal variations by county and economic area (Appen-

dix Table IV) suggest that nearness to metropolitan areas is an important factor in such variations.

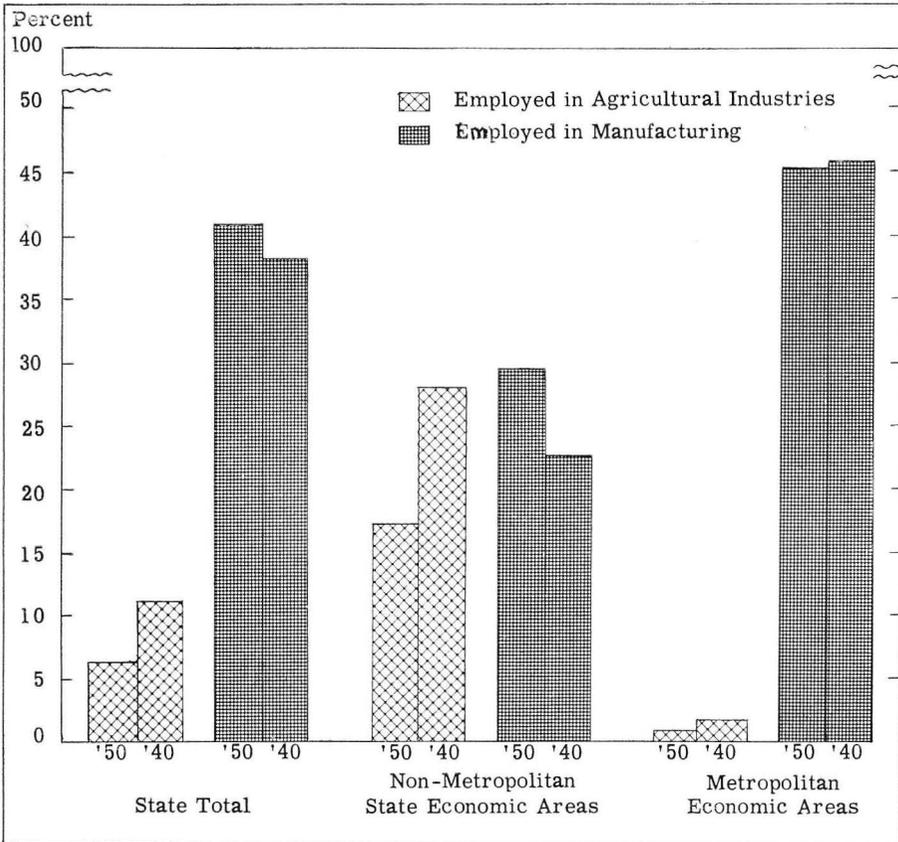


Fig. 13. Percentage of total employed persons engaged in agricultural industries and in manufacturing: metropolitan and nonmetropolitan areas, Michigan, 1940 and 1950.

In 1950, about 29 percent of farm operators residing in nonmetropolitan areas worked 100 days or more at off-farm work. In metropolitan areas, the proportion was 42 percent. In 1940, the proportions for the nonmetropolitan and metropolitan areas were 18 and 33 percent, respectively.

FARM HOUSING CONDITIONS CHANGING RAPIDLY

While it is generally conceded that farm housing conditions lag behind those of urban areas, rapid changes are occurring in the rural areas. In the decade between 1940 and 1950, the percentage of farm

TABLE 14—Selected rural-farm housing indexes: Michigan, East North Central States, and the United States, 1950 and 1940

Area	Percent rural-farm dwellings with private toilet and bath, and hot or cold running water		Percent rural-farm dwellings which are "dilapidated"		Percent rural-farm dwellings with electricity		Percent rural-farm dwellings with mechanical refrigerator		Percent rural-farm dwellings with central heating	
	1950	1940	1950	1940	1950	1940	1950	1940	1950	1940
Michigan.....	42.4	15.1	11.2	28.8	94.2	68.6	78.9	24.0	42.8	26.0
East North Central Division...	32.6	13.2	9.2	28.1	91.2	53.1	78.5	20.8	39.3	24.2
United States.....	23.8	10.6	19.5	33.9	77.7	31.3	62.7	14.9	18.1	10.1

dwellings reporting electricity increased from 69 to 94 percent; the percentage reporting mechanical refrigerators rose from 24 to 79 percent; and the percentage reported as "dilapidated" fell from 29 to 11 percent.

As shown in Table 14, Michigan ranks favorably in most factors compared to the Division and the Nation as a whole. Only in the proportion of farm dwellings considered to be in a "dilapidated" condition does the Division rank higher than Michigan.

INTERNAL VARIATION IN HOUSING MEASURES VERY GREAT

In view of the known diversity in type of farming and quality of land within Michigan, it is not surprising to find great variation in housing indexes. As indicated in Appendix Table IV, the percentage of farm dwellings reporting "toilet and private bath" ranges from a low of 8 percent to 68 percent.

In the nonmetropolitan areas, the range of this index is from 16 percent in Area 1 (the western Upper Peninsula) to 55 percent in Area 6b (Berrien and Van Buren Counties). In the metropolitan areas, the range is from 42 percent in Area C (Saginaw County) to 62 percent in Area F (Macomb, Oakland and Wayne Counties).

Farm dwellings rated as dilapidated show a similar wide range when county data are examined (Appendix Table IV). The percentage of dilapidated farm dwellings ranges from a low of less than 5 percent to a high of 28 percent. The smallest proportion of dilapidation was reported for Area 8 (Monroe, Washtenaw and St. Clair Counties), and the highest proportion occurred in Area 2 (the eastern part of the Upper Peninsula).

MAN-LAND RELATIONSHIPS⁵

The total number of farms in Michigan has been decreasing steadily: from about 175,000 in 1945, to 156,000 in 1950, and to 139,000 in 1954. Along with this trend, the average size of farms in Michigan is increasing; the average sizes in 1945, 1950 and 1954 being 104.9, 111.0, and 118.5, respectively.

The proportion of farm tenancy, already relatively low in Michigan, fell from about 12 percent in 1945 to 9.0 percent in 1950, and to 7.4 percent in 1954. The proportion of farm tenancy in the entire country in 1954 stood at 24.4 percent.

The size of farms in Michigan is still comparatively small but, as stated above, the trend is toward increasing size. The proportions of all farms under 30 acres in 1940, 1950, and 1954 were 16.9, 15.4, and 15.3, respectively. The proportions of all farms having 500 or more acres for the same periods were 0.5, 0.9, and 1.2, respectively.

In both 1940 and 1950, the land-man ratio was lower in Michigan than in the East North Central States as a whole or in the United States. The land-man ratio of 15.9 for Michigan in 1950 represents a substantial increase over the 1940 land-man ratio of 13.8.

An examination of internal variation within Michigan reveals that land-man ratios are generally lower in metropolitan than in the nonmetropolitan areas. However, the two lowest ratios found in Michigan, both 10.9, are in Area 1 (western part of Upper Michigan) and Area F (Wayne, Oakland, and Macomb Counties). The highest ratio, 21.5, is found in Area 5b (the three "Thumb" counties). The individual counties vary widely in land-man ratios. Gogebic County has the lowest (5.6 acres per man), while Sanilac County reports the highest (23.8 acres per man). Land-man ratios for all counties and economic areas are given in Appendix Table IV.

As stated above, the land-man ratio increased substantially for the entire State between 1940 and 1950. This increase occurred in all economic areas and in all but a few counties. Those counties for which lower land-man ratios were shown in 1950 than in 1940 are Barry, Benzie, Monroe, Schoolcraft, and Wayne. The Ottawa County man-land ratio was the same at the beginning and end of the decade.

⁵Expressed in terms of acres of cropland per rural-farm resident.

SUMMARY

1. Michigan's 1955 population numbered about 7½ million, an increase of nearly 14 percent more than the 1950 total. Since 1910, the rate of growth in Michigan has been more rapid than in the East North Central Division or in the Nation as a whole.

2. Michigan's population is becoming increasingly concentrated in the southern part of the State, especially in the metropolitan areas. Using the old definition, the residence distribution of the State's population in 1950 was as follows: Urban, 64 percent; rural-nonfarm, 25 percent; and rural-farm, 11 percent. Between 1940 and 1950, the urban population increased by 19 percent, the rural-nonfarm population increased by 67 percent, and the rural-farm population decreased by 19 percent.

3. Birthrates in Michigan, as elsewhere in the Nation, have increased sharply. Increases have been greater in the urban than in the rural parts of the State. The number of births per thousand population stood at 18.9 in 1940, 25.1 in 1950, and 27.3 in 1954. In 1954, the urban rate was 28.4, and the rural rate was 25.5.

4. While birthrates have been increasing, death rates in Michigan have been declining. The death rate for the State was 9.9 in 1940, 9.0 in 1950, and 8.7 in 1954. The urban death rate of 8.8 in 1954 was slightly higher than the rural rate of 8.3.

5. Population increase in Michigan during the decade 1940-50 stemmed largely from natural increase, although net in-migration was an important factor. Natural increase, or the difference between births and deaths, accounted for an increase of 770,000 persons. Net in-migration accounted for an estimated 329,000 increase in the State's population.

6. Redistribution of population through migration during the past decade resulted in heavy losses in the Upper Peninsula and large gains in the metropolitan areas. Between 1940 and 1950, Wayne County alone gained 119,000 through net migration.

7. Increasing numbers and proportions of young and old are the most striking changes in Michigan's age structure. As a result of the postwar "baby boom," there were about 275,000 more children under 5 years old in 1950 than in 1940. Due to continued declines in the death rate, there were about 130,000 more persons 65 years old and over at the beginning than at the end of the decade.

In 1940, persons under 15 years old made up 25.0 percent of the total population of Michigan; in 1950, they accounted for 27.4 percent. In 1940, persons 65 years old and over accounted for 6.3 percent of Michigan's total population; in 1950, they accounted for 7.2 percent.

8. While Michigan contains more males than females (a high sex ratio), the trend is toward a more equal balance between the sexes. The sex ratio fell from 105 in 1940 to 102 in 1950. The sex ratios for the three residence groups varied from a high of 114 in the rural-farm population to a low of 99 in the urban population. All residence groups exhibited a tendency toward "balance," but all sex ratios for Michigan were higher than for the East North Central Division and the Nation.

9. In 1950, about 10 percent of Michigan's population were foreign-born white persons, and an additional 7 percent were Negroes. The percentage of foreign-born whites declined from 13 to 10 percent between 1940 and 1950. The percentage of Negroes, on the other hand, increased from 4 to 7 percent in the same period.

10. In 1950, less than 7 percent of all employed persons in Michigan were employed in agricultural industries. This percentage represents a considerable decline from 12 percent so employed in 1940.

11. Nearly one-third of Michigan's farm operators worked 100 days or more at nonagricultural employment in 1950. The extent of nonagricultural employment on the part of Michigan farm operators has increased substantially in the past decade.

12. Farm housing in Michigan showed marked improvement in the decade from 1940 to 1950. The percentage of dwellings reporting electricity rose from 69 to 94 percent; the percentage reporting mechanical refrigerators rose from 24 to 79 percent; and the percentage reporting central heating rose from 26 to 43 percent.

13. The total number of farms in Michigan has been declining markedly; from 175,000 in 1945, to 139,000 in 1955. At the same time, average size of farms in Michigan is increasing. The average size in 1945 was 105 acres; in 1955, it was 119 acres.

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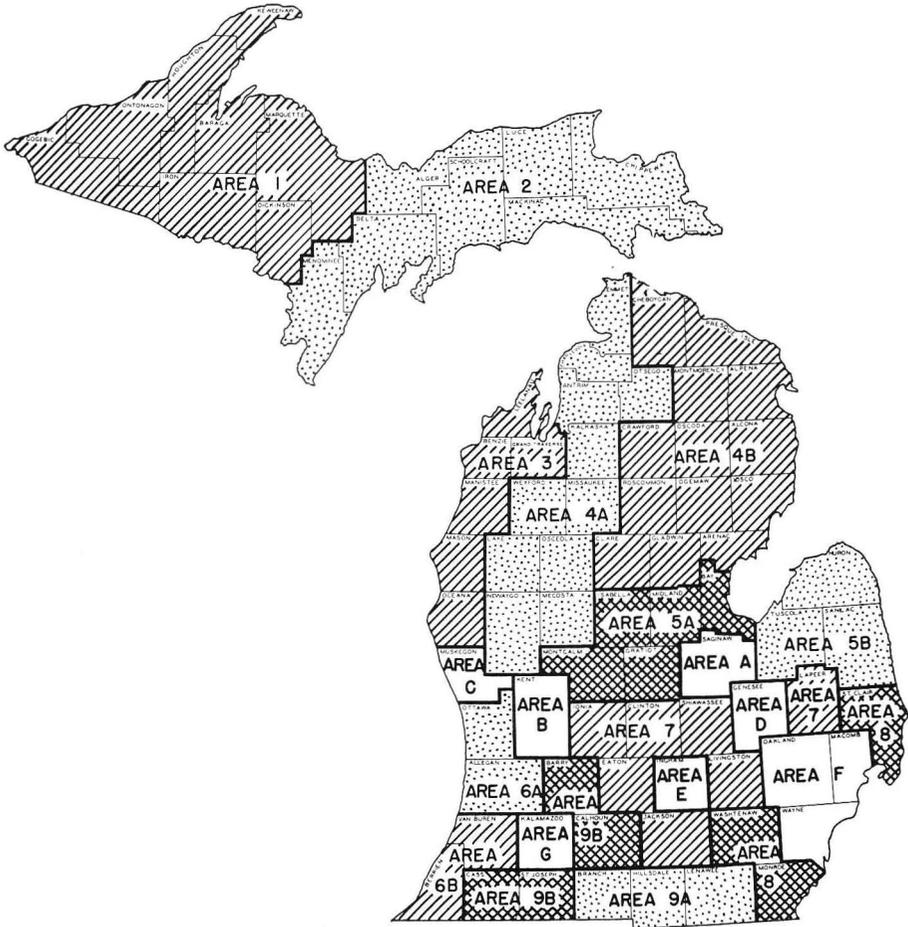


Fig. 14. Economic areas of Michigan.

APPENDIX

APPENDIX TABLE I—Percent of total population in 1950; percent of population by residence in 1950 (new urban definition); and percent change in population by residence between 1940 and 1950 (old urban definition) for counties, and economic areas

County, economic area* and metropolitan area†	Percent of total state population, 1950	Percent of population by residence, 1950 (new urban definition)			Percent change in population by residence, 1940-50 (old urban definition)			
		Urban	Rural- nonfarm	Rural- farm	Total	Urban	Rural- nonfarm	Rural- farm
State total.....	100.00	70.7	18.4	10.9	21.2	18.6	67.4	-18.9
Counties:								
Alcona.....	.09	....	43.8	56.2	7.2	....	35.8	- 7.9
Alger.....	.16	43.4	37.8	18.8	- 1.6	- 1.6	22.9	-29.7
Allegan.....	.75	24.3	34.3	41.3	13.5	45.3	56.6	-16.4
Alpena.....	.35	59.2	19.3	21.5	6.9	2.6	181.9	-25.9
Antrim.....	.17	....	59.8	40.2	- 2.2	....	20.9	-23.8
Arenac.....	.15	....	46.4	53.6	4.5	....	48.0	-16.8
Baraga.....	.13	....	70.3	29.7	-14.1	....	81.9	-35.3
Barry.....	.41	23.3	35.2	41.5	15.8	17.8	94.4	-14.4
Bay.....	1.39	63.0	22.1	15.0	18.0	16.1	83.0	-19.0
Benzie.....	.13	....	70.0	30.0	6.5	....	39.3	-31.4
Berrien.....	1.82	50.3	31.1	18.6	29.8	15.5	106.5	-13.8
Branch.....	.47	28.5	38.7	32.8	16.9	17.0	82.8	-18.1
Calhoun.....	1.90	68.0	20.4	11.5	28.2	13.7	95.3	-10.5
Cass.....	.44	23.2	41.8	35.0	28.6	30.7	86.6	- 6.9
Charlevoix.....	.21	42.5	30.1	27.4	3.4	97.1	-22.5	-24.5
Cheboygan.....	.22	41.4	30.9	27.7	0.6	0.2	65.9	-29.7
Chippewa.....	.46	61.3	22.3	16.4	5.0	13.0	21.1	-27.3
Clare.....	.16	....	64.4	35.6	11.9	....	60.3	-27.6
Clinton.....	.49	21.4	38.5	40.1	17.0	12.0	84.3	-15.4
Crawford.....	.07	....	92.5	7.5	10.3	....	18.8	-41.5
Delta.....	.52	60.8	25.3	14.0	- 3.3	1.0	7.6	-29.4
Dickinson.....	.39	72.4	20.2	7.4	-13.5	-12.7	- 7.4	-32.4
Eaton.....	.63	37.8	29.2	33.1	17.3	16.9	81.0	-11.1
Emmet.....	.26	39.1	36.2	24.7	4.7	7.5	37.7	-24.8
Genesee.....	4.25	74.5	19.7	5.8	18.9	9.9	76.2	-36.2
Gladwin.....	.15	....	43.1	56.9	0.7	....	49.9	-19.3
Gogebic.....	.42	67.7	23.2	9.1	-14.9	-12.9	- 7.4	-38.2
Grand Traverse.....	.45	59.4	21.4	19.3	22.3	17.4	213.3	-21.1
Gratiot.....	.52	35.0	30.0	35.1	3.8	14.1	63.3	-26.0
Hillsdale.....	.50	22.9	35.7	41.4	9.7	14.4	54.3	-13.7
Houghton.....	.62	30.8	56.9	12.3	-16.5	- 6.9	-15.6	-36.3
Huron.....	.52	9.0	40.6	50.4	1.7	13.3	42.5	-18.5
Ingham.....	2.71	78.3	13.7	8.0	32.4	32.6	51.1	- 5.0
Ionia.....	.60	35.8	33.8	30.4	6.9	30.3	11.8	-15.2
Iosco.....	.17	....	74.9	25.1	27.4	....	56.4	-18.0
Iron.....	.28	22.9	63.6	13.5	-12.6	-42.6	18.1	-34.7
Isabella.....	.45	39.3	22.0	38.7	11.5	35.4	85.5	-20.7
Jackson.....	1.70	56.8	31.4	11.8	15.9	2.9	56.0	-16.0
Kalamazoo.....	1.99	65.8	25.3	9.0	26.6	6.7	79.5	-17.7
Kalkaska.....	.07	....	55.4	44.6	-10.9	....	18.5	-31.9

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data for them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE I—Continued

County, economic area* and metropolitan area†	Percent of total state population, 1950	Percent of population by residence, 1950 (new urban definition)			Percent change in population by residence, 1940-50 (old urban definition)			
		Urban	Rural- nonfarm	Rural- farm	Total	Urban	Rural- nonfarm	Rural- farm
Counties:								
Kent.....	4.50	78.7	14.2	7.1	17.0	8.1	61.8	-16.4
Keweenaw.....	.05	....	95.6	4.4	-27.1	....	-24.7	-57.0
Lake.....	.08	....	66.8	33.2	9.6	....	80.7	-38.9
Lapeer.....	.60	17.2	43.8	39.1	11.5	14.5	46.1	-12.7
Leelanau.....	.14	....	50.7	49.3	2.5	....	52.0	-23.2
Lenawee.....	1.01	39.0	36.0	25.1	21.7	46.8	40.3	-16.5
Livingston.....	.42	16.3	49.7	34.0	28.1	16.1	97.3	-12.5
Luce.....	.13	34.4	54.4	11.2	9.8	2.6	21.1	-11.3
Mackinac.....	.15	31.7	51.2	17.1	- 1.6	10.4	10.0	-35.2
Macomb.....	2.90	69.6	22.9	7.5	71.8	75.8	106.9	-20.2
Manistee.....	.29	46.7	31.2	22.1	0.4	- 0.6	46.7	-29.5
Marquette.....	.75	68.5	26.3	5.2	1.1	1.3	19.2	-43.6
Mason.....	.32	46.4	21.8	31.8	5.7	9.3	62.9	-18.0
Mecosta.....	.30	35.5	21.3	43.2	12.2	35.1	70.1	-14.1
Menominee.....	.40	44.1	25.2	30.7	1.7	9.0	36.4	-22.2
Midland.....	.56	40.1	37.3	22.7	31.6	38.3	94.2	-18.5
Missaukee.....	.12	....	40.3	59.7	- 7.2	....	43.2	-25.0
Monroe.....	1.19	29.3	46.0	24.7	29.1	19.9	61.5	0.6
Montcalm.....	.49	21.5	35.3	43.2	8.5	25.3	44.3	-14.6
Montmorency...	.06	....	64.2	35.8	7.4	....	63.7	-33.5
Muskegon.....	1.90	70.1	24.4	5.5	28.6	5.5	131.0	-33.6
Newaygo.....	.34	14.2	42.0	43.8	11.8	21.3	121.8	-25.5
Oakland.....	6.20	72.5	24.2	3.4	55.9	59.1	69.0	-30.1
Oceana.....	.25	....	51.3	48.7	8.7	....	53.5	-16.8
Ogemaw.....	.15	....	54.0	46.0	7.2	....	30.7	-11.5
Ontonagon.....	.16	....	63.7	36.3	- 9.5	....	4.5	-26.7
Osceola.....	.22	....	52.4	47.6	3.7	....	40.0	-19.4
Oscoda.....	.05	....	65.5	34.5	23.2	....	55.9	-11.8
Otsego.....	.10	....	68.8	31.2	10.4	....	43.7	-26.9
Ottawa.....	1.16	42.3	34.8	22.9	23.6	7.7	105.7	-13.1
Presque Isle....	.19	32.3	27.8	39.9	- 2.1	26.1	- 1.0	-17.6
Roscommon....	.09	....	91.5	8.5	61.3	....	99.5	-47.3
Saginaw.....	2.41	69.0	18.5	12.5	17.7	12.2	87.8	-24.8
St. Clair.....	1.44	53.8	28.7	17.5	20.2	23.6	60.4	-19.6
St. Joseph.....	.55	41.5	32.7	25.8	10.5	4.6	44.7	- 8.7
Sanilac.....	.48	....	41.0	59.0	2.4	....	40.6	-13.9
Schoolcraft....	.14	55.6	28.0	16.4	- 4.0	- 5.8	10.7	-17.2
Shiawassee....	.72	41.6	29.1	29.2	11.6	9.1	57.1	-11.2
Tuscola.....	.60	15.7	39.3	45.1	7.2	95.2	42.3	-21.9
Van Buren.....	.61	14.4	43.6	42.1	11.6	18.6	41.7	-10.0
Washtenaw....	2.11	64.4	25.5	10.1	66.6	69.8	108.8	- 9.5
Wayne.....	38.21	96.9	2.6	0.5	22.8	17.5	121.6	-23.9
Wexford.....	.30	56.0	22.2	21.8	3.6	5.8	63.3	-27.2

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data for them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE I—Concluded

County, economic area* and metropolitan area†	Percent of total state population, 1950	Percent of population by residence, 1950 (new urban definition)			Percent change in population by residence, 1940-50 (old urban definition)			
		Urban	Rural- nonfarm	Rural- farm	Total	Urban	Rural- nonfarm	Rural- farm
Economic areas*								
Area 1.....	2.80	47.8	40.8	11.4	-11.0	-11.8	0.8	-35.6
2.....	1.96	51.8	29.6	18.6	0.6	5.2	17.9	-25.8
3.....	1.58	34.9	34.6	30.5	9.1	10.3	65.2	-21.9
4a.....	2.17	23.6	39.6	36.8	4.9	23.3	42.0	-23.9
4b.....	1.90	18.8	47.0	34.2	8.7	5.3	52.7	-21.1
5a.....	3.41	45.8	27.7	26.5	15.2	21.2	73.5	-19.8
5b.....	1.60	8.8	40.2	51.0	3.9	57.5	41.9	-18.1
6a.....	1.91	35.3	34.6	30.1	19.5	16.4	84.5	-14.9
6b.....	2.43	41.2	34.3	24.5	24.7	15.8	83.8	-12.2
7.....	5.16	38.8	34.6	26.6	14.8	9.9	56.6	-13.5
8.....	4.74	52.4	31.6	16.0	40.0	42.2	79.5	- 9.8
9a.....	1.98	32.4	36.6	31.0	17.3	33.0	52.7	-16.0
9b.....	3.30	52.0	27.2	20.8	23.3	13.4	84.0	-10.4
Metropolitan areas†								
Macomb.....	47.31	92.0	6.7	1.3	26.9	21.7	94.8	-24.9
Oakland.....								
Wayne.....								

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE II—Crude birth and death rates, percent change in these rates, 1939-41 and 1949-51; and age-adjusted fertility ratios by residence, 1950, for counties and economic areas

County, economic area* and metropolitan area†	Crude birthrate		Percent change 1939-41 to 1949-51	Crude death rate		Percent change 1939-41 to 1949-51	Age-adjusted fertility ratios by residence, 1950 (new definition)			
	1939-41	1949-51		1939-41	1949-51		Total	Urban	Rural- non- farm	Rural- farm
State total.....	19.1	25.5	33.5	9.9	9.00	-9.1	421.2	387.1	513.9	546.9
Counties:										
Alcona.....	19.4	20.3	4.6	11.2	10.3	-8.1	549.0	.....	514.1	583.5
Alger.....	22.1	26.0	17.6	10.5	11.0	4.7	560.3	495.4	627.3	601.8
Allegan.....	18.6	25.3	36.0	13.2	10.4	-21.2	523.2	454.7	541.8	556.0
Alpena.....	21.8	26.0	19.3	10.6	10.2	-3.8	518.9	471.4	633.5	546.4
Antrim.....	21.3	21.3	0.0	12.9	13.3	3.1	558.1	.....	531.8	604.1
Arenac.....	18.0	22.1	22.8	10.8	11.3	4.6	531.4	.....	496.2	570.3
Baraga.....	21.4	21.2	0.9	10.8	12.3	13.9	571.5	.....	591.4	520.8
Barry.....	17.7	22.6	27.7	13.0	11.0	-15.4	508.5	443.4	535.6	527.5
Bay.....	20.9	27.1	29.7	10.8	9.6	-11.1	461.9	421.1	526.6	559.5
Benzie.....	22.3	22.8	2.2	13.9	11.4	-18.0	550.2	.....	538.7	585.6
Berrien.....	18.1	25.0	38.1	11.8	9.5	-19.5	441.4	406.1	490.7	460.6
Branch.....	19.5	20.5	5.1	14.5	11.1	-23.4	439.0	431.6	420.3	473.9
Calhoun.....	19.1	25.2	31.9	11.8	9.8	-16.9	430.1	402.4	498.8	524.8
Cass.....	14.4	20.3	41.0	14.7	11.6	-21.1	531.0	478.7	530.8	577.6
Charlevoix.....	21.9	22.3	1.8	13.7	12.9	-5.8	544.6	513.6	548.9	604.7
Cheboygan.....	21.4	25.9	21.0	13.3	12.4	-6.8	569.1	491.9	591.6	701.7
Chippewa.....	23.9	27.0	13.0	11.0	9.4	-14.5	526.4	481.8	627.8	588.3
Clare.....	23.7	25.2	6.3	12.7	10.3	-18.9	530.3	.....	517.5	562.4
Clinton.....	19.7	26.5	34.5	11.4	10.0	-12.3	554.7	469.4	554.3	616.3
Crawford.....	21.5	22.4	4.2	13.0	10.1	-22.3	515.9	.....	507.2	740.8
Delta.....	20.4	26.5	29.9	11.5	11.6	0.9	523.4	492.6	597.3	536.6
Dickinson.....	18.2	20.8	14.3	9.7	10.3	6.2	436.3	407.8	518.5	523.7
Eaton.....	17.9	25.4	41.9	12.9	10.6	-17.8	511.5	496.3	534.1	506.5
Emmet.....	22.8	25.8	13.2	12.5	12.6	0.8	517.6	460.1	552.0	587.4
Genesee.....	20.8	27.9	34.1	8.4	8.0	-4.8	439.2	417.1	513.6	505.5
Gladwin.....	23.0	24.2	5.2	9.3	9.4	1.1	547.2	.....	511.9	580.3
Gogebic.....	18.8	20.2	7.4	10.8	11.5	6.5	441.2	425.9	459.0	534.7
Grand Traverse..	19.8	24.5	23.7	11.9	9.0	-24.4	449.8	376.2	557.8	571.1
Gratiot.....	22.1	26.9	21.7	12.2	11.1	-9.0	520.2	457.5	586.6	534.6
Hillsdale.....	17.6	21.6	22.7	13.8	12.4	-10.1	490.9	377.9	534.6	535.1
Houghton.....	16.2	18.5	14.2	12.3	15.0	22.0	440.3	384.8	456.7	536.3
Huron.....	21.0	26.5	26.2	11.4	9.9	-13.2	561.6	456.3	529.6	617.9
Ingham.....	20.7	27.0	30.4	9.7	8.0	-17.5	395.1	363.4	525.6	554.8
Ionia.....	18.5	24.9	34.6	12.5	10.9	-12.8	545.2	503.7	552.3	601.2
Iosco.....	20.3	22.7	11.8	10.8	11.0	1.9	501.2	.....	485.1	564.7
Iron.....	15.9	21.3	34.0	9.3	11.9	28.0	454.5	419.7	480.8	376.8
Isabella.....	22.3	26.1	17.0	10.1	9.5	-5.9	502.5	379.0	580.5	641.1
Jackson.....	17.1	24.1	40.9	11.2	10.2	-8.9	447.6	410.5	501.7	525.4
Kalamazoo.....	18.8	26.2	39.4	10.9	9.2	-15.6	416.4	373.8	511.8	483.5
Kalkaska.....	26.8	20.7	-22.8	12.0	10.9	-9.2	578.5	.....	528.8	652.6

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE II—Continued

County, economic area* and metropolitan area†	Crude birthrate		Percent change 1939-41 to 1949-51	Crude death rate		Percent change 1939-41 to 1949-51	Age-adjusted fertility ratios by residence, 1950 (new definition)				
	1939-41	1949-51		1939-41	1949-51		Total	Urban	Rural- non- farm	Rural- farm	
Counties:											
Kent.....	18.5	27.0	45.9	10.6	9.6	-9.4	435.9	410.3	534.0	551.2	
Keweenaw.....	13.2	13.7	3.8	11.7	14.1	20.5	417.9	.....	415.8	432.1
Lake.....	19.6	18.8	-4.1	14.2	13.9	-2.1	555.7	.....	542.7	593.7
Lapeer.....	16.4	20.8	26.8	11.7	9.9	-15.4	435.3	330.0	396.5	566.2	
Leelanau.....	18.3	25.1	37.2	11.3	10.4	-8.0	606.7	.....	573.1	658.8
Lenawee.....	19.7	26.7	35.5	13.1	10.3	-21.4	489.1	438.0	529.0	522.4	
Livingston.....	16.8	22.4	33.3	12.9	11.0	-14.7	484.2	468.1	461.1	536.3	
Luce.....	19.6	16.7	-14.8	9.7	7.5	-22.7	475.9	532.6	402.5	695.5	
Mackinac.....	22.3	25.4	13.9	11.0	10.4	-5.5	567.1	545.6	577.5	597.7	
Macomb.....	21.3	29.7	39.4	8.8	7.1	-19.3	487.8	477.8	520.1	498.9	
Manistee.....	18.4	22.0	19.6	14.7	13.0	-11.6	495.4	453.4	505.6	601.9	
Marquette.....	18.2	22.8	25.3	10.5	11.1	5.7	459.2	433.8	523.1	481.3	
Mason.....	18.4	23.0	25.0	12.0	12.0	0.0	509.5	465.2	513.4	586.7	
Mecosta.....	21.4	23.6	10.3	14.1	11.4	-19.1	535.2	454.3	523.7	632.0	
Menominee.....	21.8	21.7	-0.5	11.5	9.4	-18.3	527.3	476.9	542.6	607.6	
Midland.....	26.5	29.6	11.7	8.6	6.6	-23.3	539.9	490.0	588.9	551.3	
Missaukee.....	23.8	22.5	-5.5	11.2	9.9	-11.6	590.8	.....	549.4	624.8
Monroe.....	20.0	24.4	22.0	9.8	8.1	-17.3	492.9	408.0	536.9	522.6	
Montcalm.....	19.4	23.6	21.6	13.9	7.1	-48.9	503.8	447.7	507.9	540.5	
Montmorency....	21.4	21.1	-1.4	8.9	9.0	1.1	531.0	.....	504.0	592.1
Muskegon.....	22.0	28.6	30.0	9.5	8.8	-7.4	476.2	445.5	552.0	569.2	
Newaygo.....	19.4	25.3	30.4	11.6	10.5	-9.5	554.6	488.0	573.1	563.1	
Oakland.....	21.2	29.0	36.8	8.0	6.9	-13.8	459.6	447.6	496.0	484.6	
Oceana.....	18.8	22.9	21.8	14.7	12.4	-15.6	577.1	.....	569.6	588.2
Ogemaw.....	21.7	22.6	4.1	11.9	10.6	-10.9	510.9	.....	478.1	560.7
Ontonagon.....	17.9	18.6	3.9	10.9	12.6	15.6	563.4	.....	559.1	573.2
Osceola.....	18.9	24.5	29.6	12.5	11.8	-5.6	577.3	.....	542.7	628.8
Oscoda.....	22.4	20.4	-8.9	8.7	8.9	2.3	559.6	.....	523.5	640.5
Otsego.....	20.9	22.2	6.2	11.3	8.1	-28.3	484.0	.....	464.2	551.0
Ottawa.....	20.7	28.0	35.3	9.6	8.4	-12.5	499.2	443.6	532.0	559.6	
Presque Isle....	21.3	28.5	33.8	9.2	8.5	-7.6	592.3	536.4	621.8	632.5	
Roscommon.....	22.9	21.5	-6.1	11.5	10.5	-8.7	446.2	.....	441.8	506.3
Saginaw.....	20.7	27.7	33.8	10.3	9.3	-9.7	458.4	425.0	549.9	530.6	
St. Clair.....	20.0	24.7	23.5	12.1	10.7	-11.6	471.3	424.2	533.9	533.6	
St. Joseph.....	19.4	21.8	12.4	13.3	11.7	-12.0	463.5	413.6	494.1	522.9	
Sanilac.....	19.6	23.5	19.9	12.3	11.4	-7.3	531.8	.....	500.3	559.4
Schoolcraft.....	24.9	24.9	....	10.4	11.6	11.5	529.7	485.5	583.7	592.7
Shiawassee.....	19.3	26.3	36.3	11.9	10.8	-9.2	482.2	428.9	521.0	533.0	
Tuscola.....	20.5	23.3	13.7	11.8	10.5	-11.0	480.9	417.3	462.4	527.4	
Van Buren.....	16.2	22.5	38.9	14.4	12.6	-12.5	501.8	470.6	495.4	524.9	
Washtenaw.....	17.5	25.9	48.0	10.4	7.1	-31.7	355.5	311.8	443.0	512.1	
Wayne.....	17.9	24.8	38.5	8.6	8.6	0.0	361.7	358.5	474.8	484.1	
Wexford.....	20.4	25.2	23.5	12.9	11.2	-13.2	497.0	479.3	526.9	521.1	

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE II—Concluded

County, economic area* and metropolitan area†	Crude birthrate		Percent change 1939-41 to 1949-51	Crude death rate		Percent change 1939-41 to 1949-51	Age-adjusted fertility ratios by residence, 1950 (new definition)			
	1939-41	1949-51		1939-41	1949-51		Total	Urban	Rural- non- farm	Rural- farm
Economic areas*										
Area 1.....	17.6	20.5	16.5	10.8	12.2	13.0	457.9	419.3	495.0	512.4
2.....	22.1	24.8	12.2	11.1	10.2	-8.1	528.1	490.3	569.0	591.2
3.....	19.1	23.4	22.5	13.0	11.2	-13.8	509.2	418.8	544.8	594.2
4a.....	21.2	23.7	11.8	12.7	11.6	-8.7	539.0	475.8	538.0	597.0
4b.....	21.4	24.2	13.1	11.0	10.4	-5.5	532.7	487.0	518.7	591.1
5a.....	21.9	26.9	22.8	11.1	9.6	-13.5	494.4	432.0	553.1	564.1
5b.....	20.4	24.4	19.6	11.8	10.6	-10.2	521.6	432.1	495.1	567.0
6a.....	19.8	27.0	36.4	11.1	9.2	-17.1	508.1	446.6	535.5	557.4
6b.....	17.6	24.4	38.6	12.5	10.3	-17.6	454.2	411.1	492.2	486.7
7.....	17.8	24.4	37.1	11.9	10.4	-12.6	482.3	433.7	496.2	554.1
8.....	19.1	25.2	31.9	10.9	8.4	-22.9	418.5	354.1	500.8	522.8
9a.....	19.1	24.0	25.7	13.6	11.0	-19.1	478.0	426.1	503.2	514.8
9b.....	18.4	23.7	28.8	12.6	10.5	-16.7	456.5	410.1	510.8	536.5
Metropolitan areas†										
M acomb.....	18.4	25.6	39.1	8.5	8.2	-3.5	381.3	373.0	494.3	489.9
Oakland.....										
Wayne.....										

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE III—Number and percent of population 65 and over in 1950; percent change in population 65 and over between 1940 and 1950; percent of dependent population (under 15 years old, plus 65 and over), and percentage of employed persons in agricultural industries, 1940 and 1950

County, economic area* and metropolitan area†	Persons 65 and over, 1950		Percent change 1940-1950	Dependent population, 1950 (percent under 15 plus percent 65 and over)	Percentage of employed persons in agricultural industries	
	Number	Percent			1950	1940
State total.....	461,650	7.3	39.5	34.6	6.7	11.7
Counties:						
Alcona.....	627	10.7	30.1	41.3	48.8	55.8
Alger.....	901	9.0	51.9	40.7	17.5	17.2
Allegan.....	4,997	10.5	13.1	40.8	26.4	41.3
Alpena.....	2,000	9.0	30.5	40.7	18.2	25.1
Antrim.....	1,307	12.2	20.9	43.5	38.9	49.7
Arenac.....	969	10.1	24.9	41.4	41.3	58.6
Baraga.....	771	9.6	35.3	41.5	24.3	28.2
Barry.....	3,034	11.6	13.0	40.8	24.5	42.7
Bay.....	7,041	8.0	27.4	38.1	8.6	16.8
Benzie.....	884	10.6	9.3	40.8	19.8	34.8
Berrien.....	9,973	8.6	32.0	36.6	12.9	20.9
Branch.....	3,580	11.9	16.8	39.9	24.0	37.3
Calhoun.....	9,976	8.3	26.4	34.5	6.3	11.2
Cass.....	3,285	11.7	22.5	41.0	20.6	40.1
Charlevoix.....	1,580	11.7	24.3	42.8	23.2	39.0
Cheboygan.....	1,424	10.4	17.7	42.3	22.5	39.2
Chippewa.....	2,246	7.7	23.0	39.5	12.3	17.8
Clare.....	978	9.5	18.4	41.3	26.1	44.0
Clinton.....	2,975	9.5	14.8	41.9	26.4	46.5
Crawford.....	362	8.7	40.9	39.8	5.3	9.7
Delta.....	3,169	9.6	28.8	39.8	13.2	15.2
Dickinson.....	2,219	8.9	29.1	35.1	7.0	7.7
Eaton.....	4,218	10.5	13.1	40.6	20.0	34.3
Emmet.....	1,774	10.7	30.5	41.4	15.7	27.2
Genesee.....	16,231	6.0	50.9	34.8	2.3	4.9
Gladwin.....	915	9.7	17.5	42.9	39.5	55.5
Gogebic.....	2,492	9.2	37.8	36.3	3.9	5.0
Grand Traverse..	3,472	12.1	36.8	38.6	14.0	25.4
Gratiot.....	3,795	11.4	16.6	41.6	29.9	44.1
Hillsdale.....	3,768	11.8	5.6	40.6	29.8	44.7
Houghton.....	4,975	12.5	24.1	37.7	11.4	12.2
Huron.....	3,275	9.9	19.1	41.3	42.5	56.7
Ingham.....	12,090	7.0	40.7	33.0	4.2	7.4
Ionia.....	4,156	10.9	11.9	39.2	21.9	35.4
Iosco.....	1,145	10.5	53.3	40.0	19.5	34.1
Iron.....	1,842	10.4	67.2	37.0	10.3	10.2
Isabella.....	2,290	7.9	15.5	38.5	28.0	43.7
Jackson.....	9,723	9.0	30.5	34.9	6.5	11.6
Kalamazoo.....	11,055	8.7	38.4	34.9	4.5	8.6
Kalkaska.....	493	10.7	5.6	44.6	39.3	56.8

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE III—Continued

County, economic area* and metropolitan area†	Persons 65 and over, 1950		Percent change 1940-1950	Dependent population, 1950 (percent under 15 plus percent 65 and over)	Percentage of employed persons in agricultural industries	
	Number	Percent			1950	1940
Counties:						
Kent.....	25,757	8.9	32.9	35.8	3.7	6.9
Keweenaw.....	379	13.0	28.5	39.4	2.6	6.1
Lake.....	733	13.9	44.3	42.5	31.3	50.4
Iapeer.....	3,243	9.1	23.0	37.9	29.2	46.8
Leelanau.....	897	10.4	15.4	42.0	40.0	56.2
Lenawee.....	6,576	10.2	14.8	39.7	16.7	29.0
Livingston.....	2,827	10.6	27.9	39.8	22.7	40.0
Luce.....	873	10.7	36.2	38.1	7.0	8.3
Mackinac.....	778	8.4	18.2	40.5	12.5	19.8
Macomb.....	8,752	4.7	64.6	36.7	5.4	13.0
Manistee.....	2,065	11.2	10.8	39.2	16.5	24.1
Marquette.....	4,110	8.6	29.3	36.2	3.5	4.9
Mason.....	2,187	10.7	23.5	38.8	22.6	37.7
Mecosta.....	2,042	10.8	18.8	40.7	29.9	48.9
Menominee.....	2,400	9.5	21.8	39.7	24.8	31.5
Midland.....	1,973	5.5	27.1	41.2	10.4	22.4
Missaukee.....	688	9.2	8.0	43.3	49.1	64.0
Monroe.....	5,473	7.2	36.4	38.3	12.4	25.2
Montcalm.....	3,598	11.6	12.2	40.5	27.8	44.3
Montmorency.....	363	8.8	30.1	40.0	31.4	57.6
Muskegon.....	8,072	6.6	40.8	37.6	3.1	5.7
Newaygo.....	2,266	10.5	18.1	41.7	29.3	52.8
Oakland.....	20,821	5.3	74.0	35.7	2.1	5.0
Oceana.....	1,835	11.4	12.6	42.0	34.2	53.6
Ogemaw.....	916	9.8	18.5	41.9	36.2	49.5
Ontonagon.....	1,133	11.0	45.6	40.4	29.1	29.2
Osceola.....	1,524	11.1	8.5	42.8	37.5	54.3
Oscoda.....	248	7.9	49.4	39.8	28.4	41.3
Otsego.....	587	9.1	22.8	39.8	24.5	44.6
Ottawa.....	6,289	8.5	29.4	39.1	13.6	22.2
Presque Isle.....	1,024	8.5	40.3	42.2	32.9	43.7
Roscommon.....	590	10.0	110.0	37.8	6.0	18.5
Saginaw.....	11,861	7.7	27.8	37.4	7.8	14.8
St. Clair.....	8,167	8.9	29.6	38.3	10.6	19.8
St. Joseph.....	4,149	11.8	16.6	38.7	16.2	24.0
Sanilac.....	3,592	11.7	25.2	41.0	48.0	65.1
Schoolcraft.....	819	9.0	9.2	41.0	8.3	13.3
Shiawassee.....	4,824	10.5	23.7	39.7	15.5	28.9
Tuscola.....	4,059	10.6	24.5	40.6	33.8	52.8
Van Buren.....	5,152	13.2	16.7	40.2	25.9	42.4
Washtenaw.....	9,350	7.0	28.1	30.6	6.4	13.0
Wayne.....	134,752	5.5	68.3	30.4	0.3	0.5
Wexford.....	1,899	10.2	12.2	40.8	13.6	23.1

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE IV—Percent of farm operators working 100 days or more off farm, 1939 and 1949; percent of rural-farm dwellings reporting, with "private toilet and bath, and hot or cold running water," percent of "dilapidated farm buildings" 1940 and 1950; and land-man ratios, 1940 and 1950, for counties and economic areas

County, economic area,* and metropolitan area †	Percent of farm operators working 100 days or more off farms		Percent of farm dwellings reporting "private toilet and bath, and hot or cold running water"		Percent of farm dwellings reported "dilapidated"		Land-man ratio (number of acres of cropland per rural-farm population)	
	1949	1939	1950	1940	1950	1940	1950	1940
State.....	31.1	21.2	42.4	15.1	11.2	28.8	15.9	13.8
Counties:								
Alcona.....	21.1	19.2	24.5	6.2	8.9	48.9	15.8	13.6
Alger.....	28.0	32.2	10.1	2.7	26.7	12.2	9.8	7.4
Allegan.....	31.6	18.1	45.7	18.6	9.3	33.2	13.9	12.2
Alpena.....	19.9	20.9	25.0	2.4	14.8	33.2	14.5	11.9
Antrim.....	25.5	17.5	31.7	7.7	18.6	23.7	16.8	14.6
Arenac.....	23.6	15.4	26.3	3.8	15.9	38.2	15.8	12.8
Baraga.....	37.4	37.7	12.1	2.7	10.5	29.7	9.0	6.1
Barry.....	33.5	18.9	40.8	11.0	11.0	27.7	16.8	17.2
Bay.....	31.0	19.3	40.3	11.7	10.1	41.6	13.1	10.9
Benzie.....	35.1	31.2	34.0	14.5	20.6	12.4	14.3	14.4
Berrien.....	35.9	21.5	57.9	32.5	10.8	33.0	10.0	8.8
Branch.....	26.5	10.9	42.1	10.5	6.9	42.7	19.1	17.2
Calhoun.....	39.4	23.7	44.5	17.2	11.0	30.9	17.9	17.3
Cass.....	35.4	17.2	46.0	13.9	17.4	40.1	18.2	18.0
Charlevoix.....	31.7	18.3	32.4	11.9	14.5	16.0	15.4	13.7
Cheboygan.....	28.4	24.3	25.0	4.2	24.6	38.4	14.9	12.1
Chippewa.....	33.8	25.4	15.2	2.3	13.8	34.3	23.6	17.4
Clare.....	24.1	12.9	25.0	5.3	12.2	21.2	15.3	13.0
Clinton.....	26.4	14.2	46.4	14.5	6.1	14.8	19.4	17.2
Crawford.....	30.3	31.7	34.3	3.8	3.9	31.3	12.1	9.3
Delta.....	24.7	28.1	19.6	4.1	19.0	15.3	14.7	9.9
Dickinson.....	27.1	34.0	29.8	5.4	3.6	46.9	13.2	8.7
Eaton.....	31.9	16.4	44.3	15.1	8.1	28.2	17.6	15.5
Emmet.....	33.6	23.7	30.9	8.2	12.4	20.5	13.8	10.3
Genesee.....	52.9	50.4	55.6	22.1	8.0	19.0	14.0	9.9
Gladwin.....	26.1	14.0	24.5	4.0	13.9	26.7	14.5	11.4
Gogebic.....	48.4	46.1	17.2	5.9	8.3	32.0	5.6	4.2
Grand Traverse...	29.6	22.2	41.4	14.3	8.4	20.7	16.3	15.6
Gratiot.....	17.8	9.5	41.7	10.4	9.5	31.6	20.5	15.6
Hillsdale.....	24.9	12.4	39.4	11.1	12.5	33.3	17.9	15.7
Houghton.....	26.7	30.0	9.7	3.5	18.9	28.5	13.5	9.2
Huron.....	12.3	6.1	45.1	12.4	8.9	39.4	22.6	18.9
Ingham.....	33.4	25.0	50.3	20.6	9.4	13.7	15.0	14.1
Ionia.....	25.7	13.1	39.4	12.0	10.2	10.6	19.3	17.6
Iosco.....	27.6	20.9	22.4	4.2	15.3	61.4	16.9	13.7
Iron.....	39.2	42.1	30.4	7.1	14.0	47.7	9.4	6.0
Isabella.....	20.2	11.7	32.4	7.8	12.8	41.3	17.2	13.9
Jackson.....	39.4	24.6	46.5	18.2	12.8	33.1	18.0	16.4
Kalamazoo.....	43.3	26.4	59.6	21.2	8.5	36.5	17.0	14.9
Kalkaska.....	25.0	27.1	18.0	3.7	16.3	46.3	22.2	16.4

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE IV—Continued

County, economic area,* and metropolitan area†	Percent of farm operators working 100 days or more off farms		Percent of farm dwellings reporting "private toilet and bath, and hot or cold running water"		Percent of farm dwellings reported "dilapidated"		Land-man ratio (number of acres of cropland per rural-farm population)	
	1949	1939	1950	1940	1950	1940	1950	1940
Counties:								
Kent.....	36.9	27.3	52.4	24.5	9.9	17.5	13.1	11.7
Keweenaw.....	38.9	30.7	7.5	2.3	13.4	42.7	19.8	10.2
Lake.....	19.6	18.7	17.0	6.1	11.5	30.0	17.1	12.5
Lapeer.....	27.7	14.6	43.3	12.3	15.9	35.6	17.4	15.8
Leelanau.....	23.5	18.3	36.3	18.5	11.8	6.0	15.2	14.3
Lenawee.....	25.0	11.2	49.9	15.9	11.1	37.0	19.7	17.2
Livingston.....	28.5	16.3	50.3	15.3	6.0	10.8	19.2	17.8
Luce.....	43.7	33.3	22.9	4.9	27.6	30.0	12.5	12.3
Mackinac.....	28.3	29.9	20.5	3.7	18.0	44.1	15.9	10.5
Macomb.....	37.9	26.8	60.2	28.2	5.2	18.8	10.7	10.3
Manistee.....	27.1	20.2	32.1	8.7	17.3	35.2	16.3	15.0
Marquette.....	36.6	35.6	15.9	4.4	8.1	56.1	10.8	7.7
Mason.....	24.8	15.4	39.3	15.4	13.3	19.7	14.6	14.1
Mecosta.....	21.5	13.8	27.4	7.0	22.3	24.3	16.5	16.0
Menominee.....	23.1	19.7	26.6	4.8	14.8	29.5	13.2	9.8
Midland.....	41.9	27.4	32.3	10.7	17.2	48.1	12.1	10.7
Missaukee.....	19.6	16.0	21.8	3.9	17.1	12.4	20.2	15.5
Monroe.....	40.2	23.4	47.5	16.9	5.9	42.6	12.5	12.9
Montcalm.....	24.1	10.8	32.1	8.1	13.7	20.0	17.4	16.0
Montmorency.....	26.8	26.6	24.1	4.3	7.8	34.8	15.9	12.8
Muskegon.....	42.6	39.0	42.1	18.0	9.0	25.0	11.0	9.5
Newaygo.....	28.3	17.7	35.0	8.2	19.6	21.7	14.2	12.8
Oakland.....	49.2	38.1	67.8	34.8	6.2	23.5	14.4	12.4
Oceana.....	27.3	19.1	37.3	15.2	16.4	38.0	16.0	14.4
Ogemaw.....	18.6	16.5	28.4	7.5	18.9	58.8	14.9	13.2
Ontonagon.....	30.2	30.3	11.2	3.1	13.2	22.0	11.6	8.2
Osceola.....	20.3	12.7	31.6	7.8	20.1	47.2	18.6	17.4
Oscoda.....	30.3	28.7	27.3	9.2	8.7	53.1	17.1	13.8
Otsego.....	27.4	14.8	25.4	2.8	6.8	53.3	16.4	12.1
Ottawa.....	38.1	23.7	49.8	22.6	7.2	17.0	11.4	11.4
Presque Isle.....	21.6	15.2	25.9	3.1	22.9	41.2	13.7	11.2
Roscommon.....	25.0	33.5	35.1	8.5	15.9	45.6	13.4	9.8
Saginaw.....	31.3	20.1	43.4	15.0	14.1	13.5	15.8	12.4
St. Clair.....	35.1	23.8	43.5	15.8	7.9	30.6	15.8	14.4
St. Joseph.....	30.3	17.9	45.6	14.1	6.7	38.8	22.6	20.8
Sanilac.....	18.2	9.1	39.9	10.4	12.4	35.6	23.8	21.6
Schoolcraft.....	47.4	30.9	18.9	3.7	19.1	27.3	10.4	12.2
Shiawassee.....	32.7	16.2	46.6	14.1	7.3	7.1	17.2	15.9
Tuscola.....	22.6	12.9	43.6	13.9	10.4	44.7	18.0	14.3
Van Buren.....	33.7	15.5	52.2	22.7	9.1	33.4	13.2	12.2
Washtenaw.....	32.1	20.9	60.9	30.7	4.4	27.7	18.3	17.9
Wayne.....	55.0	48.9	56.3	30.0	8.7	6.6	7.4	7.5
Wexford.....	28.2	25.1	21.2	4.0	12.5	25.5	18.4	16.1

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).

APPENDIX TABLE IV—Concluded

County, economic area,* and metropolitan area†	Percent of farm operators working 100 days or more off farms		Percent of farm dwellings reporting "private toilet and bath, and hot or cold running water"		Percent of farm dwellings reported "dilapidated"		Land-man ratio (number of acres of cropland per rural-farm population)	
	1949	1939	1950	1940	1950	1940	1950	1940
Economic areas*								
Area 1.....	33.7	35.4	16.1	4.4	12.5	35.9	10.9	7.4
2.....	28.4	25.7	20.3	3.8	17.5	27.1	15.3	11.5
3.....	27.3	20.1	37.3	14.5	14.2	24.0	15.5	14.6
4a.....	25.4	17.9	28.5	7.0	17.2	27.2	16.8	14.5
4b.....	23.7	18.7	25.6	4.6	15.6	39.3	15.1	12.3
5a.....	26.0	14.8	36.0	9.6	12.3	34.7	16.3	13.6
5b.....	17.8	9.5	42.7	12.2	10.7	39.9	21.5	18.2
6a.....	34.6	20.8	47.5	20.3	8.3	26.4	12.8	11.9
6b.....	34.9	18.8	55.3	28.0	10.0	33.2	11.4	10.2
7.....	30.5	16.6	45.1	14.5	9.8	20.6	18.2	16.5
8.....	36.1	22.9	50.0	20.4	6.1	33.8	15.2	14.8
9a.....	25.3	11.5	44.2	12.9	10.5	37.3	19.0	16.7
9b.....	35.1	19.8	44.2	14.2	11.6	33.8	18.7	18.1
Metropolitan areas†								
Macomb.....	46.9	37.5	61.8	31.2	6.6	16.9	10.9	10.2
Oakland.....								
Wayne.....								

*See Fig. 14.

†Since the following metropolitan areas are identical with county units, data from them are found in the alphabetical listing of counties: Area A (Saginaw County); Area B (Kent County); Area C (Muskegon County); Area D (Genesee County); Area E (Ingham County); and Area G (Kalamazoo County).