

Population Mobility—Farm-Nonfarm Movers

GENERAL

This report, based on the 1950 Census of Population, presents statistics on farm-nonfarm residence in 1950 cross-classified by farm-nonfarm residence in 1949 of persons 1 year old and over living in continental United States at the time of the 1950 Census who changed their residence between 1949 and 1950. Thus, these statistics show separately the number of persons moving from a farm to a nonfarm residence, or vice versa, as well as the number moving from one farm residence to another or from one nonfarm residence to another. The information is based largely on the 20-percent sample data. The statistics present selected demographic, social, and economic characteristics of movers and of the population 1 year old and over. The information is presented for the United States, the geographic divisions, States, economic subregions, and State economic areas. The characteristics of nonwhites are shown for economic subregions with 50,000 nonwhites or more and for State economic areas with 25,000 nonwhites or more.

RELATED REPORTS

1950 Census reports.--Additional information on the mobility of the population is available from the other chapters of Part 4, Volume IV. Chapter A, entitled "State of Birth," presents statistics on the place of birth and place of residence of the native population. The other chapters in Part 4, "States and State Economic Areas" and "Characteristics of Migrants," contain additional statistics on changes in place of residence between 1949 and 1950 as described below. Statistics for small areas on the mobility status of the population 1 year old and over are presented in Chapter B of the individual State parts of Volume II, Characteristics of the Population. Data on mobility status for Alaska relate to residence in 1949 as in continental United States; those for Hawaii, on the other hand, relate to the period between August 14, 1945 (V-J Day), and the date of enumeration. No information on mobility was obtained for Puerto Rico and the other areas under the American flag. In Volume III (Series P-D bulletins), the mobility status of the population 1 year old and over is shown for census tracts.

Additional statistics on the mobility of the population are presented in other special reports of the 1950 Census. (See list of publications on page IV.) The mobility status of the experienced civilian labor force by detailed occupation and sex for the United States is shown in the special report entitled "Occupational Characteristics." Statistics on the mobility status of family heads by age and type of family for the United States, urban and rural, are presented in the special report "General Characteristics of Families." The mobility status of the institutional population appears in the special report "Institutional Population" for the United States by type of institution, age, and sex. In the report "Characteristics by Size of Place," mobility status is presented for the United States by size of place, age, color, and sex, and for regions by size of place. Finally, the special report "Education" presents the mobility status of children 5 to 13 years of age by school enrollment, grade in which enrolled, age, color, and sex for the United States, the South, and the North and West combined. In this report the mobility status of the population 14 years old and over is also presented by years of school completed, age, color, and sex for

the United States and the regions. In other reports, data on mobility status are usually listed under "Residence in 1949."

The special report entitled "Mobility of the Population--States and State Economic Areas" presents statistics on the extent to which the population 1 year old and over changed place of residence between 1949 and 1950. The statistics relate to selected demographic, social, and economic characteristics of the population 1 year old and over classified by mobility status. Information is presented for the United States, regions, geographic divisions, States, and State economic areas.

The special report entitled "Mobility of the Population--Characteristics of Migrants" presents statistics on the social, demographic, and economic characteristics of persons who changed their county of residence between April 1949 and 1950 cross-classified by age. The data are shown for each of 11 age groups. The data are further cross-classified by whether the 1949 and 1950 residence was in metropolitan or nonmetropolitan State economic areas, with migrants who were living or had lived in nonmetropolitan areas also classified by farm or nonfarm residence. The data are shown for the United States, regions, and selected geographic divisions.

1940 Census reports.--In the 1940 Census, data were obtained for the first time on the mobility of the population during a fixed period of time. Although the population schedule called for a report on all changes of usual residence, in the main tabulations, persons moving from one house to another within the same county, or quasi county,¹ were not distinguished from those in the same house at both dates. All these persons, as well as children under 5 years old, were described as "nonmigrants" in the 1940 reports. The period of time specified was the 5-year period from April 1935 to April 1940. Data were presented for the United States, regions, geographic divisions, States, urban and rural, and individual cities of 100,000 inhabitants or more. The statistics were published in four special reports of the Sixteenth Decennial Census, which bore the general title "Internal Migration, 1935 to 1940." The individual reports were entitled "Color and Sex of Migrants," "Age of Migrants," "Economic Characteristics of Migrants," and "Social Characteristics of Migrants."

Current Population Reports.--The Bureau of the Census conducts every month the Current Population Survey. As part of the survey, information on the mobility status of the population 1 year old and over has been obtained annually since April 1948. The statistics appear in the Current Population Reports, Series P-20. The statistics on mobility status provided by the Current Population Survey are, in general, designed to be comparable with the data obtained in the 1950 Census of Population.

Estimates of net migration.--Estimates of net migration including net immigration from abroad have been computed by States for the decade 1940 to 1950. These data are published in Current

¹ In 1940, but not in 1950, a city of 100,000 inhabitants or more and the balance of its county were each considered quasi counties so that movers between them were counted as migrants.

Population Reports--Population Estimates, Series P-25, No. 72, "Estimates of the Population of States: July 1, 1940 to 1949," May 1953. The methods of computing net migration and net civilian migration by the so-called "residual method" are explained in this report. Similar estimates can be computed for other areas for which population totals and vital statistics are available. Many such estimates have now been published by other agencies.

INTERNAL CONSISTENCY OF DATA

The inquiries on place of residence 1 year ago were asked of a representative sample of the population 1 year old and over at the time of the 1950 Census. For the purposes of this report, only those cards from the sample which represented persons who were not reported as living in the same house in 1950 as in 1949, that is, movers, were tabulated. Some statistics on the total population 1 year old and over were available from other tabulations based on the 20-percent sample data. Since the statistics in this report are based on sample data, they are subject to sampling variability as explained in the section on "Reliability of sample data."

The figures presented here may differ in some instances from those which appear for corresponding items based on the 20-percent sample in other reports. These differences are caused in part by errors in the tabulation processes. These errors include machine failure, loss of punch cards, and other types. (The net effect is a tendency toward slightly smaller counts of the same item in successive tabulations.) Experience has shown that in mass operations two tabulations of a set of punch cards are not likely to yield precisely identical results. Therefore, tolerance limits allowing for minor variations were established in advance for each tabulation. If the differences between the results of two tabulations fell within these limits, nothing was done to bring them into exact agreement with each other. This procedure was adopted in order to provide a greater volume of data within the limits of time and resources available. In earlier censuses, however, the results of different tabulations were adjusted to bring them into exact agreement. In addition, the present data based on a 20-percent sample of persons enumerated are not expected to agree exactly with figures from the 3 1/3-percent sample that are presented in some of the other Series P-E reports.

An example of the discrepancies obtained from two tabulations of the same punch cards is afforded by the figures on farm-nonfarm residence in 1949 of movers shown for the economic subregions and those shown for the State economic areas. The former are shown in table 6 and the latter in table 9. It may be seen from table A that these discrepancies are fairly small at the national level.

Table A.--MOVERS BY FARM-NONFARM RESIDENCE IN 1950 AND 1949

Residence	Data from--		Difference ¹
	Table 6	Table 9	
Total.....	24,754,405	24,757,545	+3,140
Urban and rural nonfarm in 1950.....	21,716,165	21,717,955	+1,790
Nonfarm, 1949.....	18,367,495	18,365,595	-1,900
Farm, 1949.....	1,758,575	1,759,635	+1,060
Farm residence in 1949 not reported...	1,590,095	1,592,725	+2,630
Rural farm in 1950.....	3,038,240	3,039,590	+1,350
Nonfarm, 1949.....	1,078,280	1,078,860	+580
Farm, 1949.....	1,829,330	1,824,080	-5,250
Farm residence in 1949 not reported...	150,630	136,650	+6,020

¹ Figure in table 9 minus corresponding figure in table 6.

A comparison of the data obtained by consolidating the data for State economic areas to form economic subregions indicates that differences are found in all but four subregions. For most subregions, the differences are relatively minor. In economic subregion 19, however, substantial differences are found in the farm or nonfarm residence figures for 1949 of movers in the nonfarm population in 1950 and in subregions 24, 25, and 34 in the farm or nonfarm residence in 1949 of movers in the rural-farm population in 1950. These differences are compensating and are apparently the result of errors in the sorting of the cards. It

was not feasible to ascertain which figures are correct since the discrepancies were discovered only after the sort by subregions had been destroyed through merging the cards for later tabulations.

Appendix B consists of a table showing in-migrants, out-migrants, and estimated out-migrants for State economic areas. This represents a revision of a similar table that appears in Appendix B of the Special Report P-E, No. 4B. In this table, which was revised to correct an error discovered subsequent to the publication of the Special Report P-E, No. 4B, the number of out-migrants shown by one count (6,668,395) was adjusted to equal the number of in-migrants (6,668,735) obtained from another count.

As previously mentioned, statistics on the mobility status of the population 1 year old and over are also presented in Volume II (table 23 of the individual State parts and table 70 of the United States Summary). The total number of persons in the United States who were reported as not living in the same house in 1950 as in 1949 appears as 27,972,895 in Volume II. The number shown in this report is 27,813,260. The difference, 159,635, represents 0.1 percent of the total population 1 year old and over. A comparison of the statistics for States which appear in Volume II with those presented in this report indicates that, in all but five States, the difference did not exceed 0.2 percent of the population 1 year old and over. The largest difference--1.2 percent--was in the statistics for Rhode Island. In the remaining four States--Alabama, Iowa, Louisiana, and Virginia--the differences ranged from 0.7 to 0.5 percent. These five States account for more than half of the difference between the national figures in the two reports. The data for the five States that are presented in Volume II appear to be at fault, but the errors were discovered after it was no longer feasible to make corrections there. The major part of the difference in Rhode Island is attributable to mechanical failures in the tabulation of the data for Volume II, which resulted in some cards punched "same house" being tabulated as "mobility status not reported." The tabulations of the data in Volume II for Alabama, Iowa, Louisiana, and Virginia were carried out on the UNIVAC; and here some cases from nonsample lines were counted in the category "Mobility status not reported." Furthermore, in the tabulation of the data for Volume II for all States, the "migrant, State of origin not reported," group was treated as "migrant," whereas, in the tabulations for this report, this group was treated as "mobility status not reported." For the United States as a whole, the group "migrant, State of origin not reported," is estimated at 275,000.

To obtain the population 1 year old and over in 1950 by urban-rural residence for economic subregions and State economic areas, the number of children under 1 year in each residence category was subtracted from the total population by residence of the counties comprising the areas. Information on the number of children under 1 year by residence was available from unpublished tabulations for all but four States--Alabama, Iowa, Louisiana, and Virginia. It was assumed for each county in these States that the number of children under 1 year old in each residence category was in the same proportion as the number of children under 5 years old by urban-rural residence was to the total number of children under 5 years old in the county.

ARRANGEMENT OF TABLES

The tables in this report are arranged in accordance with the areas for which statistics are presented. Data for the United States are shown in tables 1, 2, and 3. Data for the geographic divisions appear in table 4, and State data are shown in table 5. Tables 6, 7, and 8 present data by economic subregions, and tables 9 and 10 are for State economic areas.

AVAILABILITY OF UNPUBLISHED DATA

Primarily because of space limitations, it was not possible to publish in this or other reports on mobility of the population all of the detail tabulated. All of the data tabulated directly for the economic subregions are shown in this report. Other data

tabulated for geographic divisions and State economic areas, however, were not published. For a description of the unpublished data available for these areas, see the corresponding sections of Nos. 4B and 4D of the P-E reports. The unpublished data can be made

available for the cost of transcription or consolidation. Requests for such unpublished statistics, addressed to the Director, Bureau of the Census, Washington 25, D. C., will receive a prompt reply which will include an estimate of the cost of preparing the data.

DEFINITIONS AND EXPLANATIONS

The definitions of the pertinent concepts used in the 1950 Census are given below: Several of these definitions differ from those used in 1940. The changes were made after consultation with users of census data in order to improve the statistics, even though it was recognized that comparability would be adversely affected. In many cases, the new definitions were tested in connection with the Current Population Survey; and, where feasible, measures of the impact of the change on the statistics were developed.

For a discussion of the definitions of concepts used in the 1950 Census, the quality of the data, and the problems of comparability with earlier census data, see Volume II, Characteristics of the Population, Part 1, United States Summary, or the Series P-B and Series P-C United States Summary bulletins. The 1950 Population Census schedule and the major part of the instructions to enumerators are also reproduced in Volume II, Part 1.

POPULATION MOBILITY

Information on the mobility status of the population 1 year old and over residing in continental United States at the time of the 1950 Census was obtained on a 20-percent sample basis as a response to a series of inquiries beginning with "Was he living in this same house a year ago?" If the response to this inquiry was "No," the answers to the inquiries, "Was he living on a farm a year ago?" and "Was he living in this same county a year ago?" were obtained. For those persons who had been living in a different county in 1949, the enumerator was instructed to record the county and State, or Territory, possession, etc., or foreign country of residence in 1949. These questions refer to "a year ago" from the time of the interview and not necessarily from April 1, 1950. Two-thirds of the population was enumerated by mid-April and nine-tenths by the end of the month.

DEFINITIONS

Mobility and migration status.--Mobility status is expressed in terms of four main categories: (1) Nonmobile persons or non-movers, (2) mobile persons or movers, (3) persons abroad, and (4) persons for whom mobility status was not reported. These categories are based on a comparison of the reported residence in 1949 and that in 1950.

1. Nonmobile persons or nonmovers.--This group consists of persons who were living in the same house in 1950 as 12 months earlier in 1949.

2. Mobile persons or movers.--This group consists of all persons living in another house in the United States in 1950 than 12 months earlier in 1949.

3. Persons abroad in 1949.--This group consists of persons, either citizens or aliens, whose place of residence in 1949 was outside continental United States, that is, in a Territory, possession, etc., of the United States or in a foreign country. These persons are distinguished from movers, who are persons who moved from one house to another within continental United States.

4. Mobility status not reported.--This group includes those persons 1 year of age and over for whom place of residence in 1949 was not reported or those for whom sufficient information was not reported.

Mobile persons are subdivided in terms of type of mobility into the following two groups:

1. Same county or intracounty movers.--These are persons living in a different house in 1949 and 1950 but in the same county.

2. Migrants or intercounty movers.--This group consists of persons living in a different county in the United States in 1950 and 1949. Migrants are further classified by type of migration on the basis of a comparison of the State of residence in 1950 with the State of residence in 1949.

a. Migrants within a State.--This group consists of migrants who moved from one county to another within a State.

b. Migrants between States.--Among the migrants crossing State boundaries, a distinction is made between those who moved between contiguous States and those who moved between noncontiguous States. States have been classified as contiguous if their boundaries touch at any point.²

This report deals only with those persons classified as movers, that is, those persons 1 year of age and over living in another house in the United States in 1950 than 12 months earlier in 1949. Limited data on length of move are presented but this information is not cross-classified with the demographic, social, and economic characteristics of movers.

Children under 1 year old are omitted from the 1950 reports on the mobility of the population.

In-migrants and out-migrants.--The terms "in-migrants" and "out-migrants" have been used with reference to migrants into, or out of, particular areas. In-migrants to an area are migrants who moved into that area from elsewhere in the United States between 1949 and 1950 and were still living there in 1950. Out-migrants from an area are migrants who were living in the area in 1949 and moved out to some other area in the United States where they were in 1950. In-migrants and out-migrants for any area exclude migrants within the area. In-migrants and out-migrants, for example, for a particular State do not include migrants between its State economic areas. Thus, the sum of the in-migrants to the State economic areas of a State will be greater than the number of in-migrants to that State.

QUALITY OF DATA

As with the reporting of other characteristics, census data on mobility are subject to errors in response with the memory factor being particularly important. Furthermore, some bias in the sampling was occasioned by the failure of enumerators to follow instructions exactly. (See section on "Reliability of sample data.")

Estimates of incompleteness in the 1950 Census counts of persons are presented on pages XIII and XIV of Population Volume 1, and in Part 1 of Population Volume II. These estimates are based on the Post-Enumeration Survey of the 1950 Census. This was a sample re-enumeration which entailed a direct check on a case-by-case basis of the actual enumeration. An account of the methods and results of the Post-Enumeration Survey will be published at a later date.

The Post-Enumeration Survey attempted to measure both the extent of the incompleteness in the 1950 Census counts of persons and the extent of reporting errors for persons who were properly counted in the census. The results on the incompleteness of enumeration indicate an underenumeration of 1.4 percent in the total population 1 year old and over. The errors attributable to incorrect reporting of age were negligible. The results on the extent of reporting errors indicate that 8.2 percent of the persons properly included in the census count of persons 1 year old

² For a list of contiguous States, see page 4B-7 of the Special Report P-E, No. 4B.

and over were reported otherwise with respect to mobility status in the Post-Enumeration Survey than in the census. Most of these errors were offsetting, however, so that the distributions by mobility status from the two sources are similar. The number of persons who moved within the same county appears to have been slightly understated by the census, and the number who lived abroad in 1949 appears to have been overstated. Furthermore, the results of the Post-Enumeration Survey indicate that there was a higher proportion of movers in the "not reported" group in the census than among those for whom mobility status was reported.

Another measure of the consistency of response in the mobility questions is provided by a comparison of the 1950 Census data with Current Population Survey data³ for roughly the same period. The 1950 supplementary questions on migration were carried in the Current Population Survey for March and also related to residence a year ago.

The distributions for the United States from the Current Population Survey and the 1950 Census are presented below. In the calculation of the percentages, the number of persons for whom residence a year ago was not reported was excluded.

Residence in 1949	Current population survey	1950 Census
Same house.....	80.9	82.6
Different house, same county.....	13.1	11.4
Different county, same State.....	3.0	3.0
Different State.....	2.6	2.6
Abroad.....	0.3	0.4

A higher proportion of the population was reported as living in the same house a year ago in the census than in the Current Population Survey. On the other hand, the proportion of those who had moved within the same county was lower in the census. The proportion of migrants, both within the State of residence in 1950 and between States, was the same in both. Sampling variability and the slight difference in dates cannot account for the differences entirely. This comparison is perhaps further evidence that the Current Population Survey enumerators tend to be more successful than the census enumerators at identifying marginal groups with respect to a given phenomenon. In the case of mobility, the marginal group is represented by persons who moved only short distances, namely, within a county.

Information on mobility status was obtained for 145,002,963 persons, or 98.3 percent of the 147,550,413 persons 1 year old and over enumerated in continental United States in the 1950 Census. For the remaining 2,547,450 persons, either no information was obtained or the information was too incomplete to be used.

The following table based on the statistics shown in table 6 of this report presents data on the number of movers for whom farm residence in 1949 was not obtained.

Table B.--MOVERS FOR WHOM FARM-NONFARM RESIDENCE IN 1949 WAS NOT REPORTED, BY RESIDENCE IN 1950

Residence in 1950	Movers		Movers with farm-nonfarm residence not reported as percent of--	
	Total	Farm-nonfarm residence not reported	Movers	Total population 1 year old and over
Total.....	24,754,405	1,720,725	7.0	1.2
Urban and rural nonfarm.....	21,716,165	1,590,095	7.3	1.3
Rural farm.....	3,038,240	130,630	4.3	0.6

There were 411,590 migrants for whom State of 1949 residence was reported but for whom the county, and hence the State economic area, of 1949 residence was not reported. The number of such migrants for each State is shown in table 9 as "Area not

³ U. S. Bureau of the Census, *Current Population Reports--Population Characteristics*, Series P-20, No. 36, "Internal Migration and Mobility in the United States: March 1949 to March 1950," December 9, 1951.

reported." In order to obtain figures on out-migrants for each State economic area in Appendix B, it is necessary to distribute the number of such out-migrants for each State among the State economic areas in that State. In Appendix B, these migrants were prorated in accordance with the distribution of those out-migrants for whom the State economic area of 1949 residence had been reported. These estimates were further adjusted to bring the number of out-migrants from State economic areas for the country as a whole (6,668,395) into agreement with the number of in-migrants (6,668,735).

USES AND LIMITATIONS OF DATA

The data in this report show, for several kinds of statistical areas, the numbers of persons who made the following types of moves: (1) from one farm residence to another; (2) from one non-farm residence to another; (3) from a farm to a nonfarm residence; and (4) from a nonfarm to a farm residence. The characteristics of movers in these four types of streams can be compared. Furthermore, the characteristics of movers in each type of stream can be compared with the characteristics of the farm or nonfarm population, at origin or destination. In such analyses, some attention should be paid to the characteristics of the rather large number of movers for whom, as previously described, the farm or nonfarm residence in 1949 was not reported. The user may want to prorate the nonresponse group or to examine the effect upon his tentative conclusions of allocating it by extreme assumptions.

For convenience in tabulation, "nonfarm residents" in 1950 was approximated by using urban plus rural-nonfarm residents. The number of urban-farm residents in 1950 amounted to only 283,388, however. This number constituted 1.2 percent of the total farm residents and 0.2 percent of the combined urban and rural-nonfarm classes. "Farm residents" in 1950 consist of persons living on farms in rural territory.

Comparison of the characteristics of movers with the characteristics of the total population gives some indications of the selectivity of migration. It must be borne in mind, however, that the characteristics relate to the period after the move and hence some characteristics--such as occupation--may have been different before the move.

The census statistics on mobility provide information on the number of movers, migrants, etc., and on in-migration and out-migration for a given area. The census statistics, however, do not take into account all the different moves that were made in the one-year period, for example, those by persons who moved into or out of a given area but died during the period or returned to their 1949 place of residence. Regardless of the number of moves made, a person is counted only once as a mover in the census data. Persons who moved were not asked the number of miles they had moved. The census data, however, provide some indication of the relative distance involved in the moves. On the average, a person who moves within a State moves a shorter distance than one who moves to another State in the same region, he in turn moves a shorter distance than a mover to a State in a different region.

The mobility statistics in this report relate to one particular 12-month period. The typicality of this period may be examined, however, on the basis of the annual data from the Current Population Survey. These indicate that in the period of slight economic recession from 1949 to 1950 mobility was at a relatively low level as compared with that of other postwar years. Therefore, the directions of net flow and the patterns of mobility may also not be typical in some respects of the period since the end of World War II.

USUAL PLACE OF RESIDENCE

In accordance with Census practice dating back to 1790, each person enumerated in the 1950 Census was counted as an inhabitant of his usual place of residence or usual place of abode, that is, the place where he lives and sleeps most of the time. This place is not necessarily the same as his legal residence, voting

residence, or domicile, although, in the vast majority of cases, the use of these different bases of classification would produce identical results.

The questions on place of residence in 1949 were supposed to refer to usual residence also. The respondent was not, however, furnished all the rules that the enumerator was instructed to use in determining the respondent's usual residence in 1950. Hence, in some cases, another type of residence may have been reported. For example, some college students living in college dormitories in both 1949 and 1950 incorrectly may have reported their parental home as their 1949 residence. Hence, they were classified as migrants when their residence was actually the same at both dates.

TYPE OF RESIDENCE

The major cross-classification by type of residence used in this report is in terms of farm-nonfarm residence. For 1950 residence, statistics are shown separately for the urban and rural-nonfarm population and the rural-farm population. In some instances, the data for the nonfarm population, that is, the urban and rural-nonfarm population, are shown separately for the urban and rural-nonfarm segments. In this report, the relatively small number of persons reported as living on farms in urban territory in 1950 is included in the nonfarm population, since the urban-farm population amounts to only about 1 percent of the total farm population. The data on type of residence in 1949 are shown for three classes: living on a farm, living in a nonfarm area, and farm-nonfarm residence not reported. Here then "urban farm" was combined with "rural farm."

URBAN, RURAL-NONFARM, AND RURAL-FARM POPULATION

Urban and rural residence.—According to the new definition that was adopted for use in the 1950 Census, the urban population comprises all persons living in (a) places of 2,500 inhabitants or more incorporated as cities, boroughs, and villages, (b) incorporated towns of 2,500 inhabitants or more except in New England, New York, and Wisconsin, where "towns" are minor civil divisions of counties rather than places, (c) the densely settled urban fringe, including both incorporated and unincorporated areas, around cities of 50,000 or more, and (d) unincorporated places of 2,500 inhabitants or more outside any urban fringe. The remaining population is classified as rural. According to the old definition, the urban population was limited to all persons living in incorporated places of 2,500 inhabitants or more and in areas (usually minor civil divisions) classified as urban under special rules relating to population size and density. In view of this change in definition, the statistics for 1940 by urban-rural residence are not comparable with those presented here for 1950.

Farm population--urban and rural.—The farm population for 1950, as for 1940 and 1930, includes all persons living on farms without regard to occupation. In determining farm and nonfarm residence in the 1950 Census, however, certain special groups were classified otherwise than in earlier censuses. In 1950, persons living on what might have been considered farm land were classified as nonfarm if they paid cash rent for their homes and yards only. A few persons in institutions, summer camps, motels, and tourist camps were classified as farm residents in 1940, whereas in 1950 all such persons were classified as nonfarm. For the United States as a whole, there is evidence from the Current Population Survey that the farm population in 1950 would have been somewhat larger had the 1940 procedure been used. In this report data are presented for the rural-farm population only since virtually all of the farm population is located in rural areas.

Rural-nonfarm population.—The rural-nonfarm population includes all persons living outside of urban areas who do not live on farms. It comprises persons living in a variety of types of residences, such as isolated nonfarm homes in the open country, villages and hamlets of fewer than 2,500 inhabitants, and some of the fringe areas surrounding the smaller incorporated places.

STATE ECONOMIC AREAS

State economic areas are relatively homogeneous subdivisions of States. They consist of single counties or groups of counties which have similar economic and social characteristics. The boundaries of these areas have been drawn in such a way that each State is subdivided into relatively few parts, with each part having certain significant characteristics which distinguish it from adjoining areas. The country has been subdivided into 501 State economic areas. For the purpose of this report, however, some of the thinly populated agricultural areas have been combined so that only 443 units are shown.

The grouping of the 3,103 counties or equivalent subdivisions of the United States into State economic areas is the product of a special study sponsored by the Bureau of the Census in cooperation with the Agricultural Marketing Service and several State and private agencies. The delimitation procedure was devised by Dr. Donald J. Bogue of the Scripps Foundation for Research in Population Problems, on loan to the Bureau of the Census.⁴

Subsequent to the publication of the bulletin State Economic Areas, the State economic areas were grouped to form 119 economic subregions. In order to obtain a better delineation for the economic subregions, it was necessary to modify the system of combining State economic areas for tabulations of population statistics. As a result of these changes, the number of tabulation areas for the presentation of population data was increased to 453. It was not possible to recognize these changes in this report because the codes for the State economic areas in which migrants lived in 1949 were established before the economic subregions were delimited.

ECONOMIC SUBREGIONS

Economic subregions represent combinations of State economic areas. By this combination, the 501 State economic areas were consolidated into a set of 119 areas which cut across State lines but which preserve, to a great extent, the homogeneous character of the State economic areas. For the counties included in the economic subregions, see Appendix A. In the course of delineating the economic subregions, a few modifications were made in the groupings of the State economic areas as presented in this report and the Special Report P-E, No. 4B.

For a discussion of the economic subregions and a listing of the State economic areas and counties comprising the subregions, see the joint publication of the U. S. Bureau of the Census and Bureau of Agricultural Economics, Farm Population, Series Census-BAE, No. 19, "Economic Subregions of the United States," July 27, 1953.

RACE AND COLOR

The concept of race as it had been used by the Bureau of the Census is derived from that which is commonly accepted by the general public. It does not, therefore, reflect clear-cut definitions of biological stock, and several categories obviously refer to nationalities. The information on race is ordinarily not based on a reply to questions asked by the enumerator but rather obtained by observation. Enumerators were instructed to ask a question when they were in doubt.

Color.—The term "color" refers to the division of population into two groups, white and nonwhite. The group designated as "nonwhite" consists of Negroes, Indians, Japanese, Chinese, and other nonwhite races. Persons of Mexican birth or ancestry who were not definitely Indian or of other nonwhite race were classified as white.

Negro.—In addition to full-blooded Negroes, this classification includes persons of mixed white and Negro parentage and

⁴ For further discussion and materials on State economic areas, see U. S. Bureau of the Census, State Economic Areas, by Donald J. Bogue, Washington, D. C., 1951.

persons of mixed Indian and Negro parentage unless the Indian blood very definitely predominates or unless the individual is accepted in the community as an Indian.

Other races.--This category includes Indians, Japanese, Chinese, and other nonwhite races.

Mixed parentage.--Persons of mixed parentage are classified according to the race of the nonwhite parent, and mixtures of nonwhite races are generally classified according to the race of the father.

AGE

The age classification is based on the age of the person at his last birthday as of the date of enumeration, that is, the age of the person in completed years. The enumerator was instructed to obtain the age of each person as of the date of his visit rather than as of April 1, 1950.

MARITAL STATUS

In the 1950 Census, data on marital status are based on the replies to the question, "Is he now married, widowed, divorced, separated, or never married?" The classification refers to the status at the time of enumeration. Persons classified as "married" comprise, therefore, both those who have been married only once and those who have remarried after having been widowed or divorced. Persons reported as separated or in common-law marriages are classified as married. Those reported as never married or with annulled marriages are classified as single. Since it is probable that some divorced persons are reported as single, married, or widowed, the census returns doubtless understate somewhat the actual number of divorced persons who have not remarried.

Differences between the number of married men and the number of married women arise from spouses having their usual residence in different areas, from variations in the completeness of enumeration of married men and women, and from response and processing errors.

A person is classified as "married, spouse present" if the person's husband or wife was reported as a member of the household or quasi household in which the person was enumerated, even though he or she may have been temporarily absent on business or vacation, visiting, in a hospital, etc., at the time of the enumeration.

YEARS OF SCHOOL COMPLETED

The data on years of school completed were derived from the combination of answers to two questions: (a) "What is the highest grade of school that he has attended?" and (b) "Did he finish this grade?" In the present report, these data are shown for the population 25 years old and over.

The questions on educational attainment applied only to progress in "regular" schools. Such schools are public, private, or parochial schools, colleges, universities, or professional schools, either day or night, full time or part time--that is, those schools where enrollment may lead to an elementary or high school diploma, or to a college, university, or professional school degree. Schooling obtained through a correspondence course was counted only if the course was given by a regular school, such as a university, and the person received credit thereby in the regular school system.

The question on highest grade of school attended called for the highest grade attended, regardless of "skipped" or "repeated" grades, rather than the number of full school years which the persons had spent in school.

The question on completion of highest grade was to be answered "Yes" if the persons had completed the full grade. If a person was still attending school in that grade, had completed only a half grade, or had dropped out of or failed to pass the last grade attended, the required answer was "No." In this

report, persons who failed to report on completion of the grade were assumed to have finished.

The median number of school years completed is expressed in terms of a continuous series of numbers. For example, the fourth year of high school is indicated by 12 and the first year of college by 13. For the sake of comparability, the first year of high school is uniformly represented by 9, although there are some areas with only 7 years of elementary school.

EMPLOYMENT STATUS

The major concepts involved in the employment status classification are as follows:

Census week.--The 1950 data on employment status pertain to the calendar week preceding the enumerator's visit, which is defined as the "census week."

Employed.--Employed persons comprise all civilians 14 years old and over who, during the census week, were either (1) "at work"--those who did any work for pay or profit, or worked without pay for 15 hours or more on a family farm or in a family business; or (2) "with a job but not at work"--those who did not work and were not looking for work but had a job or business from which they were temporarily absent because of vacation, illness, industrial dispute, badweather, or layoff with definite instructions to return to work within 30 days of layoff. Also included as "with a job" are persons who had new jobs to which they were scheduled to report within 30 days. In this report, these two categories are combined and shown as "employed."

Unemployed.--Persons 14 years old and over are classified as unemployed if they were not at work during the census week but were either looking for work or would have been looking for work except that (1) they were temporarily ill, (2) they expected to return to a job from which they had been laid off for an indefinite period, or (3) they believed no work was available in their community, or in their line of work.

Labor force.--The labor force includes all persons classified as employed or unemployed, as described above, and also members of the Armed Forces (persons on active duty with the United States Army, Navy, Air Force, Marine Corps, or Coast Guard). The "civilian labor force" comprises the employed and unemployed components of the labor force.

Not in labor force.--Persons not in the labor force comprise all civilians 14 years of age and over who are not classified as employed or unemployed, including persons doing only incidental unpaid family work (less than 15 hours). Included in this group are persons primarily engaged in their own home housework, students, seasonal workers in an "off" season, the retired, persons unable to work, inmates of institutions, and persons not reporting on their employment status.

MAJOR OCCUPATION GROUP

The data on major occupation group of employed persons presented here refer to the job held during the census week and are based on answers to the question, "What kind of work was he doing?" If the persons was employed at two jobs or more, the job at which he worked the greatest number of hours during the census week was reported.

The occupational classification system developed for the 1950 Census of Population consists of 469 items, 270 of which are specific occupation categories; the remainder are subgroupings (mainly on the basis of industry) of 13 of the occupation categories. The 469 detailed items are classified into 12 major occupation groups, which form the basis on which the occupation data are presented in this report. The 1950 major groups are generally comparable with the 1940 major groups, although there are a number of differences in title and content. For further information on comparability between 1950 and earlier census data on occupation, see Volume II, Characteristics of the Population, Part I, United States Summary.

The composition of the 1950 major groups (except the "not reported" group) is indicated in the illustrative list shown below:

Professional, technical, and kindred workers.--Includes Accountants; Actors; Airplane pilots and navigators; Architects; Artists; Athletes; Auditors; Authors; Chemists; Chiropractors; Clergymen; College presidents, professors, and instructors; Conservationists; Dancers; Dentists; Designers; Dietitians; Draftsmen; Editors; Embalmers; Entertainers; Farm management advisors; Foresters; Funeral directors; Healers; Home management advisors; Judges; Lawyers; Librarians; Musicians; Natural scientists; Nutritionists; Optometrists; Osteopaths; Personnel workers; Pharmacists; Photographers; Physicians; Professional nurses; Radio operators; Recreation workers; Religious workers; Reporters; Social scientists; Social workers; Sports instructors and officials; Student professional nurses; Surgeons; Surveyors; Teachers; Technical engineers; Therapists; Veterinarians.

Farmers and farm managers.--Includes tenant farmers and share croppers.

Managers, officials, and proprietors, except farm.--Includes Buyers; Building superintendents; Credit men; Lodge officials; Postmasters; Public administration officials; Purchasing agents; Railroad conductors; Ship officers, pilots, pursers, and engineers; Shippers of farm products; Union officials.

Clerical and kindred workers.--Includes Bank tellers; Bill and account collectors; Bookkeepers; Cashiers; Dentist's office attendants; Express agents; Express messengers; Library assistants and attendants; Mail carriers; Messengers; Office boys; Office machine operators; Physician's office attendants; Railway mail clerks; Receiving clerks; Secretaries; Shipping clerks; Station agents; Stenographers; Telegraph messengers; Telegraph operators; Telephone operators; Ticket agents; Typists.

Sales workers.--Includes Advertising agents and salesmen; Auctioneers; Demonstrators; Hucksters; Insurance agents and brokers; Newsboys; Peddlers; Real estate agents and brokers; Stock and bond salesmen.

Craftsmen, foremen, and kindred workers.--Includes Annelers; Bakers; Blacksmiths; Boilermakers; Bookbinders; Brickmasons; Cabinetmakers; Carpenters; Cement finishers; Compositors; Concrete finishers; Coppersmiths; Cranemen; Derrickmen; Die makers; Die setters; Electricians; Electrotypers; Engravers; Excavating machinery operators; Forgemen; Glaziers; Goldsmiths; Grading machinery operators; Heat treaters; Hoistmen; Lens grinders and polishers; Lithographers; Locomotive engineers; Locomotive firemen; Log and lumber scalers and graders; Loom fixers; Machinists; Mechanics; Metal molders; Metal rollers; Metal roll hands; Millers; Millwrights; Motion picture projectionists; Opticians; Organ tuners; Painters (construction and maintenance); Paperhangers; Photoengravers; Piano tuners; Pipe fitters; Plasterers; Plate printers; Plumbers; Power linemen and servicemen; Printing pressmen; Road machinery operators; Roofers; Sheet metal workers; Shoemakers, except in factories; Silversmiths; Slaters; Stationary engineers; Stereotypers; Stone carvers; Stone cutters; Stonemasons; Structural metal workers; Tailors; Telegraph and telephone linemen and servicemen; Tile setters; Tinsmiths; Tool makers; Typesetters; Upholsterers; Watchmakers; Window dressers.

Operatives and kindred workers.--Includes Apprentices; Asbestos workers; Auto service attendants; Blasters; Boatmen; Bus conductors and drivers; Canalmen; Chauffeurs; Deck hands; Deliv-

erymen; Dressmakers; Dry cleaning operatives; Dyers; Fruit, nut, and vegetable graders and packers; Furnacemen; Insulation workers; Laundry operatives; Meat cutters; Metal filers, grinders, and polishers; Metal heaters; Milliners; Mine operatives and laborers; Motormen; Painters (except construction and maintenance); Parking lot attendants; Photographic process workers; Powdermen; Power station operators; Railroad brakemen and switchmen; Routemen; Sailors; Sawyers; Seamstresses; Smeltermen; Stationary firemen; Street railway conductors; Surveying chainmen, rodmen, and axmen; Taxicab drivers; Textile spinners; Textile weavers; Tractor drivers; Truck drivers; Welders.

Private household workers.--Includes housekeepers and laundresses in private households.

Service workers, except private household.--Includes Attendants and ushers in amusement places; Bailiffs; Barbers; Bartenders; Beauticians; Boarding house keepers; Bootblacks; Bridge tenders; Charwomen; Cooks, except in private households; Detectives; Doorkeepers; Elevator operators; Firemen (fire protection); Fountain workers; Guards; Hospital attendants; Janitors; Lodging-house keepers; Manicurists; Marshals; Midwives; Policemen; Porters; Practical nurses; Sextons; Sheriffs; Stewards; Waiters; Watchmen.

Farm laborers and foremen.--Includes both paid and unpaid family farm laborers, and self-employed farm service laborers.

Laborers, except farm and mine.--Includes Car washers; Fishermen; Garage laborers; Groundskeepers; Longshoremen; Oystermen; Raftsmen; Stevedores; Teamsters; Woodchoppers.

INCOME

Income, as defined in the 1950 Census, is the sum of the money received, less losses, from the following sources: Wages or salary; net income (or loss) from the operation of a farm, ranch, business, or profession; net income (or loss) from rents, or receipts from roomers or boarders; royalties; interest, dividends, and periodic income from estates and trust funds; pensions; veterans' payments, Armed Forces allotments for dependents, and other governmental payments or assistance; and other income such as contributions for support from persons who are not members of the household, alimony, and periodic receipts from insurance policies or annuities. The figures in this report represent the amount of income received before deductions for personal income taxes, social security, bond purchases, union dues, etc.

Receipts from the following sources were not included as income: money received from the sale of property, unless the recipient was engaged in the business of selling such property; the value of income "in kind," such as food produced and consumed in the home, free living quarters; withdrawals of bank deposits; money borrowed; tax refunds; gifts; and lump sum inheritances or insurance payments.

This report presents only information for family heads, on the income of their families. A family, as defined in the 1950 Census, is a group of two or more persons related by blood, marriage, or adoption and living together; all such persons are regarded as members of one family. Family income represents the combined incomes of all members of a family; the composition of families is that as found at the time of the interview, although the time period covered by the income statistics is the calendar year 1949.

RELIABILITY OF SAMPLE DATA

SAMPLE DESIGN

Most of the data in this report are based on a representative sample of approximately 20 percent of the population. Statistics not based on the 20-percent sample are indicated in headnotes on the tables in which they appear and are either based on

complete counts or were obtained by subtracting 20-percent sample data from complete counts.

On the schedules used in the 1950 Census of Population, a separate line was filled out for each person enumerated, with every fifth line designated as a sample line. Within each enumeration

district, the schedules were divided approximately equally among five versions. On each version the sample constituted a different set of lines so that each line on the schedule was in the sample on one of the five versions. The sample data shown in this report are based on the persons enumerated on these sample lines.

Estimates of the number of persons with specified characteristics based on sample data have in all cases been obtained by multiplying the number of persons in the sample containing these characteristics by five. Estimates of percentages have been obtained in each case by using the values in this report for both the numerator and denominator.

Although the sampling plan used did not automatically insure an exact 20 percent of the population (because of the presence of blank or voided lines, special entries, etc.), it was unbiased and the deviation from 20 percent was expected to be quite small. Small biases arose, however, when the enumerator failed to follow his instructions exactly. These were usually in the direction of a slight underrepresentation of adult males. In the United States as a whole, the estimate of the total population from the 20-percent sample was 0.25 percent short. The shortage was 0.30 percent in the Northeast, 0.35 percent in the North Central States, 0.15 percent in the South, and 0.20 percent in the West. Among States the shortages in the estimate of total population ranged from 0.70 percent to 0.00 percent. For the United States, there was a shortage of 1.45 percent in the sample estimate of males 25 years and over. Errors of processing as noted earlier resulted in a further reduction in sample size. These slight biases result in the estimate of total movers being slightly lower, and the estimate of total nonmovers being slightly higher, than the figures which would have been obtained from an unbiased 20-percent sample. They have relatively little effect on the distributions shown, however. The figures on males per 100 females are probably the data most seriously affected by the biases, and even for these the figures would only be increased by about 1 percent if the shortages in the sample did not exist.

SAMPLING VARIABILITY

The data in this report based on the 20-percent sample are subject to sampling variability, which can be determined approximately from the standard errors shown in tables C and D. These tables do not reflect the effects of the biases mentioned above. Table C presents the approximate standard errors of sample estimates of selected sizes. Table D shows the approximate standard errors of percentages when computed by using values in this report for both numerator and denominator. Linear interpolation may be used for values not shown.

The standard error is a measure of sampling variability. The chances are about 2 out of 3 that the difference due to sampling variability between an estimate and the figure that would have been obtained from a complete count of the population is less than the standard error. The amount by which the standard error must be multiplied to obtain other odds deemed more appropriate can be found in most statistical textbooks. For example, the chances are about 19 out of 20 that the difference is less than twice the standard error, and 99 out of 100 that it is less than 2½ times the standard error.

Illustration: Table 7 shows that in subregion 1 there were an estimated 6,420 males 20 to 24 years of age living in nonfarm areas in 1949, who had changed their place of residence between 1949 and 1950 to another dwelling in urban and rural-nonfarm areas (15.9 percent of the 40,365 males 1 year old and over in

this category). Linear interpolation in table C indicates that the approximate standard error of an estimate of 6,420 is about 170. Consequently, the chances are about 2 out of 3 that the figure which would have been obtained from a complete count of males 20 to 24 years of age living in nonfarm areas in 1949 who had changed their place of residence between 1949 and 1950 to another dwelling in urban and rural-nonfarm areas would have differed by less than 170 from the sample estimate. It also follows that there is only about 1 chance in 100 that a complete census count would have differed by as much as 425, that is, by about 2½ times the standard error. Table D indicates, also by linear interpolation, that the standard error of the 15.9 percent on a base of 40,365 is about 0.4 percent.

The standard errors in tables C and D are not directly applicable to differences between two estimates. The standard error of the difference between an estimate and a number obtained from a complete count (e.g., 1950 estimates derived by subtracting sample estimates from complete-count figures, such as the estimates of nonmovers) is identical with the standard error of the estimate based on the sample. The standard error of the difference between two estimates, based on samples, is approximately the square root of the sum of the squares of the standard error of each estimate considered separately. This formula will represent the actual standard error quite accurately for the difference between separate and uncorrelated characteristics. In other cases, however, if there is a high positive correlation between the two characteristics, it will overestimate the true standard error. Net migration is a difference between two sample estimates; its standard error is approximately the square root of the sum of the squares of the standard errors of the number of in-migrants and out-migrants.

Particular care should be used in dealing with the smaller figures and small differences between figures because they are subject to larger relative error arising from processing and enumeration bias and larger relative sampling variability. These smaller figures have been included in the tables to permit analysis of broader groups with smaller relative bias and sampling variability.

Table C.--STANDARD ERROR OF ESTIMATED NUMBER

(Range of 2 chances out of 3)

Estimated number	Approximate standard error	Estimated number	Approximate standard error
100.....	20	250,000.....	1,030
500.....	50	500,000.....	1,460
1,000.....	70	1,000,000.....	2,060
5,000.....	150	5,000,000.....	4,550
10,000.....	210	10,000,000.....	6,230
25,000.....	330	15,000,000.....	7,630
50,000.....	460	25,000,000.....	9,510
100,000.....	650		

Table D.--STANDARD ERROR OF ESTIMATED PERCENTAGE

(Range of 2 chances out of 3)

Estimated percentage	Base of percentage							
	500	1,000	2,500	10,000	25,000	100,000	500,000	5,000,000
2 or 98.....	1.3	0.9	0.6	0.3	0.2	0.1
5 or 95.....	2.0	1.4	0.9	0.5	0.3	0.1	0.1	...
10 or 90.....	2.8	2.0	1.2	0.6	0.4	0.2	0.1	...
25 or 75.....	4.0	2.8	1.8	0.9	0.6	0.3	0.1	...
50.....	4.6	3.3	2.1	1.0	0.7	0.3	0.1	...

It is planned to issue errata sheets for the Special Reports P-E, Nos. 4A, 4B, and 4D. Persons interested in obtaining these sheets should write to the Bureau of the Census, Washington 25, D. C., requesting that their names be placed on the mailing list to receive copies when they are issued.