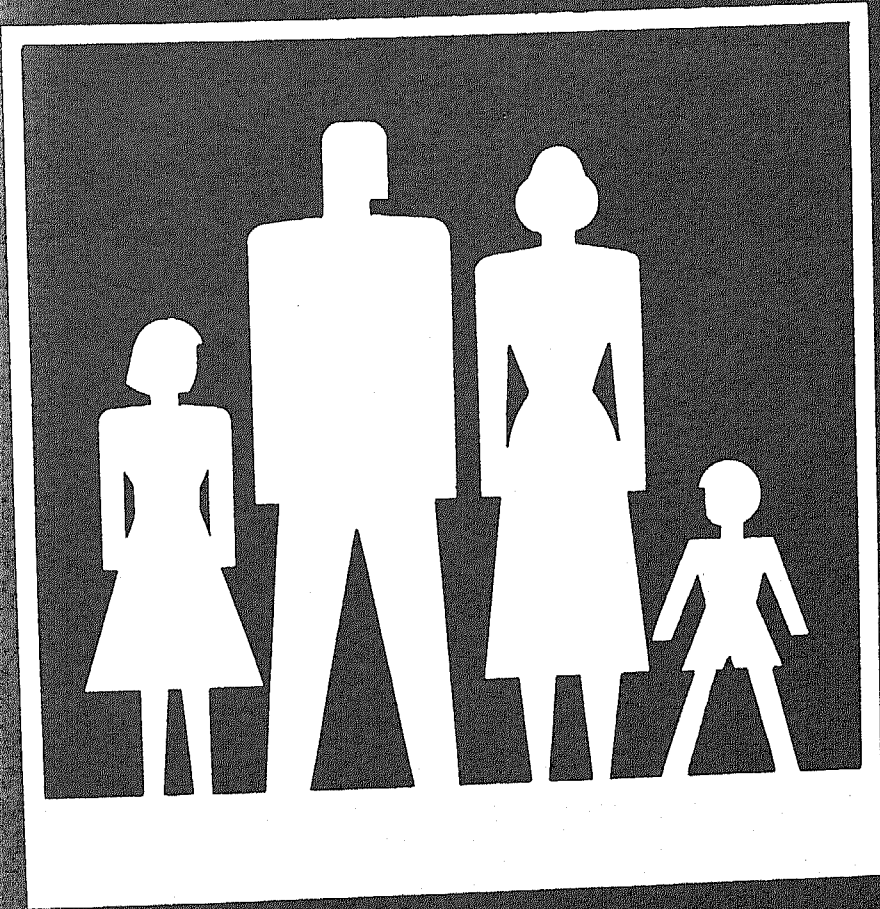


1950 UNITED STATES CENSUS OF POPULATION

U. S. DEPARTMENT OF COMMERCE • BUREAU OF THE CENSUS



OCCUPATIONAL CHARACTERISTICS

UNITED STATES CENSUS of POPULATION: 1950

U. S. DEPARTMENT OF COMMERCE
SINCLAIR WEEKS, *Secretary*

BUREAU OF THE CENSUS
ROBERT W. BURGESS, *Director*
(From Feb. 5, 1953)

ROY V. PEEL, *Director*
(To Feb. 4, 1953)



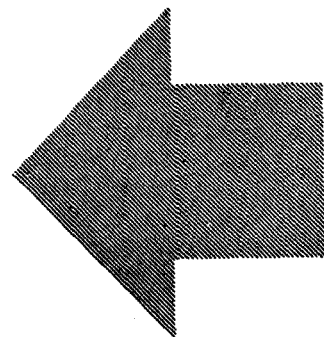
SPECIAL REPORTS

OCCUPATIONAL CHARACTERISTICS

*Prepared under the supervision of
Howard G. Brunzman, Chief
Population and Housing Division*

1950 POPULATION CENSUS REPORT P-E NO. 1B
PREPRINT OF VOLUME IV, PART I, CHAPTER B
UNITED STATES GOVERNMENT PRINTING OFFICE 1956

**Detailed occupation statistics by
AGE • MARITAL STATUS • EDUCATION •
RACE • CLASS OF WORKER • INCOME •
HOURS WORKED • WEEKS WORKED • ETC.**





BUREAU OF THE CENSUS

ROBERT W. BURGESS, *Director* (From Feb. 5, 1953)

ROY V. PEEL, *Director* (To Feb. 4, 1953)

A. ROSS ECKLER, *Deputy Director*
HOWARD C. GRIEVES, *Assistant Director*
ROBERT Y. PHILLIPS, *Special Assistant*
CONRAD TAEUBER, *Assistant Director*
JACK B. ROBERTSON, *Special Assistant*
MORRIS H. HANSEN, *Assistant Director for Statistical Standards*
LOWELL T. GALT, *Assistant Director for Operations*
WALTER L. KEHRES, *Assistant Director for Administration*
CALVERT L. DEDRICK, *Coordinator, International Statistics*
A. W. VON STRUVE, *Acting Public Information Officer*

Population and Housing Division—

HOWARD G. BRUNSMAN, *Chief*
HENRY S. SHRYOCK, JR., *Assistant Chief for Population*
WAYNE F. DAUGHERTY, *Assistant Chief for Housing*
Demographic Statistics—Henry D. Sheldon, *Chief*
Social Statistics—Paul C. Glick, *Chief*
Coordinator for Manpower Statistics—Gertrude Bancroft
Economic Statistics—Robert B. Pearl, *Chief*
Occupation and Industry Statistics—David L. Kaplan, *Chief*
Statistical Methods—Joseph Steinberg, *Chief*
Statistical Procedures—Sigmund Schor, *Chief*

Administrative Service Division—EVERETT H. BURKE, *Chief*
Agriculture Division—RAY HURLEY, *Chief*
Budget and Management Division—CHARLES H. ALEXANDER, *Chief*
Business Division—HARVEY KAILIN, *Chief*
Census Operations Division—MARION D. BINGHAM, *Chief*
Decennial Tabulation Office—JOHN J. LENNON, *Chief*
Field Division—ROBERT B. VOIGHT, *Chief*
Foreign Trade Division—J. EDWARD ELY, *Chief*
Geography Division—CLARENCE E. BATSCHLETT, *Chief*
Governments Division—ALLEN D. MANVEL, *Chief*
Industry Division—MAXWELL R. CONKLIN, *Chief*
Machine Tabulation Division—C. F. VAN AKEN, *Chief*
Personnel Division—HELEN D. ALMON, *Chief*
Statistical Reports Division—EDWIN D. GOLDFIELD, *Chief*
Statistical Research Division—WILLIAM N. HURWITZ, *Chief*
Transportation Division—DONALD E. CHURCH, *Chief*

SUGGESTED IDENTIFICATION

U. S. Bureau of the Census. U. S. Census of Population: 1950.
Vol. IV, Special Reports, Part 1, Chapter B, Occupational
Characteristics. U. S. Government Printing Office, Wash-
ington, D. C., 1956.

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.,
or any of the Field Offices of the Department of Commerce - - - - - Price \$1.50

PREFACE

This report presents detailed statistics on the social and economic characteristics of the workers in each occupation in the United States. The characteristics shown include urban-rural residence, nativity and citizenship, race, age, marital status, residence in 1949, years of school completed, class of worker, hours worked, weeks worked, and income.

The data are based on tabulations of a 3 1/3-percent sample of the returns obtained in the Seventeenth Decennial Census of the population of the United States, conducted as of April 1, 1950. Provision for the Seventeenth Decennial Census was made in the act providing for the Fifteenth and subsequent decennial censuses, approved June 18, 1929. The major portion of the information compiled from the Census of Population of 1950 appears in Volume I, Number of Inhabitants, and in Volume II, Characteristics of the Population. These two volumes contain statistics for regions, divisions, States, and parts of States, as well as for the country as a whole.

This is one of a series of reports (Series P-E bulletins) which comprise Volume IV, Special Reports, and which supplement the information contained in Volumes I and II. The present bulletin constitutes Chapter B of Part 1, Economic Characteristics, of Volume IV.

The materials presented here were prepared under the supervision of Howard G. Brunzman, Chief, Population and Housing Division, and Dr. Henry S. Shryock, Jr., Assistant Chief for Population Statistics, with the assistance of Edwin D. Goldfield, then Program Coordinator. They were prepared by David L. Kaplan, Chief, Occupation and Industry Statistics Branch, assisted by Claire Casey and Agnes I. Poppen. The compilation of the statistics was under the direction of Robert B. Voight, then Assistant Chief for Operations, assisted by Arthur W. Coombs, Lillian I. Hoffman, and Lena F. Engstrom. Sampling procedures were under the direction of Joseph Steinberg, Chief, Statistical Methods Branch, assisted by Joseph Waksberg and Albert Mindlin. The technical editorial work and planning were under the supervision of Mildred M. Russell, assisted by Louise L. Douglas. The collection of the information on which these statistics were based was under the supervision of Lowell T. Galt, then Chief, Field Division, and the tabulations were under the supervision of C. F. Van Aken, Chief, Machine Tabulation Division.

May 1956.

U. S. CENSUS OF POPULATION: 1950

Volume

- I Number of Inhabitants (comprising Series P-A bulletins)
- II Characteristics of the Population (comprising Series P-A, P-B, and P-C bulletins)
- III Census Tract Statistics (comprising Series P-D bulletins)
- IV Special Reports (comprising Series P-E bulletins):
 - 1A Employment and Personal Characteristics
 - 1B Occupational Characteristics
 - 1C Occupation by Industry
 - 1D Industrial Characteristics
 - 2A General Characteristics of Families
 - *2B Detailed Characteristics of Families
 - 2C Institutional Population
 - 2D Marital Status
 - 2E Duration of Current Marital Status
 - 3A Nativity and Parentage
 - 3B Nonwhite Population by Race
 - 3C Persons of Spanish Surname
 - 3D Puerto Ricans in Continental United States
 - 4A State of Birth
 - 4B Population Mobility--States and State Economic Areas
 - *4C Population Mobility--Farm-Nonfarm Movers
 - *4D Population Mobility--Characteristics of Migrants
 - 5A Characteristics by Size of Place
 - 5B Education
 - 5C Fertility

U. S. CENSUS OF HOUSING: 1950

Volume

- I General Characteristics (comprising Series H-A bulletins)
 - II Nonfarm Housing Characteristics (comprising Series H-B bulletins)
 - III Farm Housing Characteristics
 - IV Residential Financing
 - V Block Statistics (comprising Series H-E bulletins)
- Housing statistics for census tracts are included in the Population Series P-D bulletins.

* Not yet published.

Occupational Characteristics

(Page numbers listed here omit the chapter prefix number which appears as part of the page number for each page.
The prefix for this chapter is 1B)

INTRODUCTION

	Page		Page
General.....	3	Definitions and explanations--Continued	
Related materials.....	3	Nativity and citizenship.....	7
Accuracy and internal consistency of data.....	3	Marital status.....	7
Availability of unpublished data.....	4	Residence in 1949.....	7
Definitions and explanations.....	4	Years of school completed.....	7
Medians.....	4	Class of worker.....	8
Employment status.....	4	Hours worked during census week.....	8
Occupation.....	4	Weeks worked in 1949.....	8
Classification system.....	4	Income in 1949.....	8
Comparability.....	5	Sample design and variability.....	9
Quality of data.....	5	Sample design.....	9
Urban-rural residence.....	6	Sampling variability.....	9
Race.....	6	Ratio estimates.....	14
Age.....	7		

TEXT TABLES

Table		Page
A.--Comparison of complete count and 3 1/3-percent sample data on detailed occupation of the experienced civilian labor force, for the United States: 1950.....		10
B.--Standard error of estimated number.....		14
C.--Standard error of estimated percentage.....		14

DETAILED TABLES

Table	Page	Table	Page
1.--Detailed occupation of the experienced civilian labor force and of employed persons, by sex, for the United States, urban and rural: 1950.....	15	13.--Class of worker of nonwhite employed persons, by detailed occupation and sex, for the United States: 1950.....	129
2.--Nativity and citizenship of the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	23	14.--Hours worked during the census week by employed persons, by detailed occupation and sex, for the United States: 1950.....	135
3.--Race of the experienced civilian labor force and of employed persons, by detailed occupation and sex, for the United States: 1950.....	29	15.--Hours worked during the census week by employed wage and salary workers, by detailed occupation and sex, for the United States: 1950.....	147
4.--Age of the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	37	16.--Weeks worked in 1949 by the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	159
5.--Age of wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	53	17.--Weeks worked in 1949 by wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	167
6.--Age of employed persons, by detailed occupation and sex, for the United States: 1950.....	69	18.--Weeks worked in 1949 by the nonwhite experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	175
7.--Age of nonwhite employed persons, by detailed occupation and sex, for the United States: 1950.....	81	19.--Income in 1949 of the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	183
8.--Marital status of the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	93	20.--Income in 1949 of the experienced civilian labor force who worked 50 to 52 weeks in 1949, by detailed occupation and sex, for the United States: 1950.....	199
9.--Residence in 1949 of the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	99	21.--Income in 1949 of the nonwhite experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	215
10.--Years of school completed by the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	107	22.--Wage and salary income in 1949 of wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	231
11.--Years of school completed by the nonwhite experienced civilian labor force, by detailed occupation and sex, for the United States: 1950.....	115	23.--Wage and salary income in 1949 of wage and salary workers in the experienced civilian labor force who worked 50 to 52 weeks in 1949, by detailed occupation and sex, for the United States: 1950.....	247
12.--Class of worker of employed persons, by detailed occupation and sex, for the United States: 1950.....	123		

Occupational Characteristics

GENERAL

This report presents detailed national statistics on selected characteristics of the men and women workers in each occupation. The characteristics shown include urban-rural residence, nativity and citizenship, race, age, marital status, residence in 1949, years of school completed, class of worker, hours worked during the census week, weeks worked in 1949, and income in 1949.

RELATED MATERIALS

Volume II. Characteristics of the Population.--The present report supplements the reports for individual States and for the United States and its several regions and divisions, originally published in the Series P-B bulletins, "General Characteristics," and the Series P-C bulletins, "Detailed Characteristics." Those bulletins form the major component of the bound Volume II, Characteristics of the Population. Part I of Volume II comprises the data originally published in the United States Summary bulletins; the remainder of the volume is divided into a part for each State, containing the data originally published in the State bulletins.

In Volume II, the cross-classifications of occupation by residence, race, age, class of worker, and income are presented in terms of intermediate occupation lists of 158 categories for males and 67 categories for females. In this report, the several cross-classifications are presented in terms of the detailed occupation list of 446 categories. Cross-classifications by nativity and citizenship, marital status, residence in 1949, years of school completed, hours worked, and weeks worked are also presented here, as well as a number of tables for nonwhite persons and for wage and salary workers. This report, however, is limited to national statistics whereas Volume II presents the various cross-classifications for the country as a whole, each State, and large standard metropolitan areas.

Special reports.--Many of the other Series P-E special reports include statistics which may be of interest to users of the present report.

A detailed national cross-classification of occupation by industry for employed men and women is given in P-E No. 1C, "Occupation by Industry." Data on major occupation group by industry, as well as information on the social and economic characteristics of the workers in each industry, are presented in P-E No. 1D, "Industrial Characteristics." Statistics on the employment status of the population in relation to various social and economic characteristics are given in P-E No. 1A, "Employment and Personal Characteristics."

The following special reports present statistics on major occupation group in relation to the main subject of the report:

P-E No. 2A, "General Characteristics of Families."--Data for household and family heads.

P-E No. 3A, "Nativity and Parentage."--Data for the white population, according to nativity, parentage, and country of origin.

P-E No. 3B, "Nonwhite Population by Race."--Data for the nonwhite population, separately for Negroes, Indians, Japanese, Chinese, and Filipinos.

P-E No. 3C, "Persons of Spanish Surname."--Data for white persons of Spanish surname in five Southwestern States, classified by nativity and parentage.

P-E No. 3D, "Puerto Ricans in Continental United States."--Data for persons born in Puerto Rico and for those born in continental United States of Puerto Rican parentage.

P-E No. 4B, "Population Mobility--States and State Economic Areas."--Data relating selected social and economic characteristics to the mobility of the American people as indicated by the difference in place of residence between 1949 and 1950.

P-E No. 4C, "Population Mobility--Farm-Nonfarm Movers."¹--Data on selected social and economic characteristics as related to farm-nonfarm changes in residence between 1949 and 1950.

P-E No. 4D, "Population Mobility--Characteristics of Migrants."¹--Data on selected social and economic characteristics cross-classified by age as related to population movements among the geographic divisions of the United States.

P-E No. 5A, "Characteristics by Size of Place."--Data relating selected social and economic characteristics of the people of the United States to the size of the community in which they live.

P-E No. 5B, "Education."--Data relating selected social and economic characteristics of the people of the United States to the number of years of school they had completed.

P-E No. 5C, "Fertility."--Data relating selected social and economic characteristics to the fertility of American women as measured by the number of children ever born and by the number of own children under 5 years old in the household.

1940 Census reports.--Statistics similar to those shown here were presented in 1940 in the report The Labor Force (Sample Statistics)--Occupational Characteristics. Occupational statistics were also presented in 1940 Population Census Volumes II and III. For information on 1940-1950 comparisons, see the section on "Definitions and explanations."

Current Population Reports.--The Bureau of the Census conducts every month the Current Population Survey. This sample survey provides national estimates once each quarter on the major occupation group of employed persons (Current Population Reports, Series P-57). In addition, Current Population Survey data on major occupation group in cross-classification with such characteristics as marital status, geographic mobility, and income are published in the Series P-20, P-50, and P-60, Current Population Reports. The statistics provided by the Current Population Survey are, in general, designed to be comparable with the decennial census statistics. There are, however, certain elements of difference, as indicated in the section on "Definitions and explanations."

ACCURACY AND INTERNAL CONSISTENCY OF DATA

Virtually all of the data on occupation shown in Volume II of the 1950 Population Census are based on complete counts of the population. The one exception is the cross-classification of occupation by income, which is based on a 20-percent sample. The figures shown in the present report are based on a 3 1/3-percent sample of the census returns. Accordingly, because of sampling

¹ This report is planned for subsequent publication.

variability and certain small biases, differences may be expected among corresponding figures obtained from the complete count, the 20-percent sample, and the 3 1/3-percent sample. The section on "Sample design and variability" describes the nature of the biases and provides estimates of the differences to be expected between the 100-percent data and 3 1/3-percent data because of sampling variability.

Differences between figures for corresponding items in different reports or in tables within the same report may also result from 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 insignificant variations were established in advance for each tabulation in the 1950 Population Census. 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 usually adjusted to bring them into exact agreement.

Information on other aspects of the accuracy of the data presented in this report is given in the section on "Definitions and explanations."

AVAILABILITY OF UNPUBLISHED DATA

Some of the data obtained from the tabulations on which the tables in this report are based have not been published. Data on occupation by nativity and citizenship, marital status, residence in 1949, and weeks worked by wage and salary workers are available for nonwhites in the experienced civilian labor force. Also available are statistics on occupation by self-employment income for all self-employed workers in the experienced civilian labor force, and for those who worked 50 to 52 weeks in 1949. These figures can be obtained upon request, for the cost of transcribing or reproducing them. Requests for such unpublished material should be addressed to the Bureau of the Census, Washington 25, D. C.

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. These 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 complete 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, Part 1, in which are also reproduced the 1950 Population Census schedule and the major part of the instructions to enumerators.

MEDIANS

The median, a type of average, is presented in connection with the data on age and income which appear in this report. The median is the value which divides the distribution into two equal parts--one-half of the cases falling below this value and one-half of the cases exceeding this value.

EMPLOYMENT STATUS

Employment status is defined on the basis of the person's activity during the calendar week preceding the enumerator's visit. This week, designated as the "census week," is not the same for all respondents, because not all persons were enumerated during the same week. The majority of the population was enumerated during the first half of April 1950. Most of the cross-classifications in this report are shown for the experienced civilian labor force; however, those cross-classifications (i.e., residence, race, age, and class of worker) given in 1950 Population Census Volume II for employed persons are shown here similarly.

Experienced civilian labor force.--The experienced civilian labor force consists of employed persons and experienced unemployed persons, as defined below.

Employed.--Employed persons comprise all civilians 14 years old and over who, during the census week, were either (a) "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 business; or (b) "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, bad weather, 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.

Experienced unemployed.--This category comprises all persons 14 years old and over with previous work experience who were not at work during the census week, but were either looking for work or would have been looking for work except that (a) they were temporarily ill, (b) they expected to return to a job from which they had been laid off for an indefinite period, or (c) they believed no work was available in their line of work or in their community.

OCCUPATION

The occupation information presented here was derived from answers to the question, "What kind of work was he doing?" Information on occupation was collected for persons in the experienced civilian labor force. For an employed person, the information referred to the job he held during the census week. If he was employed at two or more jobs, the job at which he worked the greatest number of hours during the census week was reported. For an experienced unemployed person, the information referred to the last job he had held.

Classification System

The occupational classification system used in the 1950 Census of Population was developed in consultation with many individuals, private organizations, and government agencies. The system is organized into 12 major groups and 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. For the tables in this report, certain of the categories were combined to yield a total of 446 items. The composition of each of the detailed categories is shown in the publication, U. S. Bureau of the Census, 1950 Census of Population, Classified Index of Occupations and Industries, Washington, D. C., 1950.

The term "n.e.c." which is part of a number of occupation titles means not elsewhere classified. In the separation of "Managers, officials, and proprietors (n.e.c.)" by class of worker into salaried and self-employed components, the small number of unpaid family workers in this occupation is included in the self-employed component. Mine laborers, noted as an exclusion from the major group "Laborers, except farm and mine," are included in the major group "Operatives and kindred workers." Since the data

presented here refer only to civilians, the category "Members of the Armed Forces" is limited to unemployed veterans who had not worked since their discharge from the Armed Forces.

The subdivisions by industry shown for a number of occupations are based on the 1950 Population Census industrial classification system. An explanation of this system, including its relation to the Standard Industrial Classification, is given in 1950 Population Census Volume II, Part 1, and in the report Series P-E No. 1D, "Industrial Characteristics."

Relation to DOT classification.--The occupational classification of the Population Census is generally comparable with the system used in the Dictionary of Occupational Titles (DOT).² The two systems, however, are designed to meet different needs and to be used under different circumstances. The DOT system is designed primarily for employment service needs, such as placement and counseling, and is ordinarily used to classify very detailed information obtained in an interview with the worker himself. The census system on the other hand is designed for statistical purposes and is ordinarily used in the classification of limited occupational descriptions obtained in an interview with a member of the worker's family. As a result, the DOT system is much more detailed than the census system; and it also calls for many types of distinctions which cannot be made from census information.

Relation to certain industry groups.--In the Population Census classification systems, the industry category "Agriculture" is somewhat more inclusive than the total of the two major occupation groups, "Farmers and farm managers" and "Farm laborers and foremen." The industry category includes, in addition to all persons in these two major occupation groups, (a) other persons employed on farms, such as truck drivers, mechanics, and bookkeepers, and (b) persons engaged in agricultural activities other than strictly farm operation, such as crop dusting or spraying, cotton ginning, and landscape gardening. Similarly, the industry category "Private households" is somewhat more inclusive than the major occupation group "Private household workers." In addition to the housekeepers, laundresses, and miscellaneous types of domestic workers covered by the major occupation group, the industry category includes persons in occupations such as chauffeur and secretary, if they work for private households.

Comparability

1940 Census.--The identification of persons in the labor force was accomplished in the 1950 Census through a somewhat different set of questions from those used in 1940. The changes were made, in part, in order to obtain a more nearly complete count of the labor force. The effect of the changes in question wording, however, appears relatively minor. For most of the occupation categories, therefore, comparability between 1940 and 1950 is not affected by these changes.

In making 1940-1950 comparisons, it should be noted that the original 1940 figures include members of the Armed Forces, whereas the 1950 figures are limited to civilians. In the 1940 occupational classification, the Armed Forces were mainly included in the category "Soldiers, sailors, marines, and coast guards," under the major group "Protective service workers."

The occupational classification system used in 1940 is basically the same as that of 1950. There are a number of differences, however, in the title and content for certain items, and in the degree of detail shown for the various major groups. The process of adjusting the 1940 detailed occupation data for comparability with the 1950 figures is not explained in this report because of the great deal of material involved in this process. Further information appears in 1950 Population Census Volume II, Part 1, in which adjusted 1940 detailed occupation data are shown for employed persons (table 125).

² See U. S. Department of Labor, Bureau of Employment Security, Dictionary of Occupational Titles, Second Edition, Vols. I and II, Washington, D. C., 1949.

1930 and earlier censuses.--Prior to 1940, the census data on the economically active population referred to "gainful workers." Gainful workers were persons reported as having a gainful occupation, that is, an occupation in which they earned money or a money equivalent, or in which they assisted in the production of marketable goods, regardless of whether they were working or seeking work at the time of the census. (In 1930, a person was not considered to have had a gainful occupation unless he spent at least the equivalent of one day per week at the occupation.) The labor force figures in 1950 are based on activity during the census week only. The effects of this variation in approach on the several occupation categories are almost impossible to measure. It seems clear, however, that for virtually all occupations the gainful worker concept yields larger figures than the "labor force" concept.

The occupational classification system used in the censuses prior to 1940 was markedly different from the 1950 system. For information on occupation data from these earlier censuses, see the publication, U. S. Bureau of the Census, Sixteenth Census Reports, Population, Comparative Occupation Statistics for the United States, 1870 to 1940, Washington, D. C., 1943.

Current Population Survey.--A number of operating problems tend to introduce incomparabilities between the data from the Current Population Survey and the 1950 Population Census; see section on "Count of persons in labor force." Also, the occupational classification of the 1950 Census was not introduced in the Current Population Survey until October 1950.

Other data.--Differences in concept and definition cause incomparabilities between census data and data from other sources. Because the 1950 Census employment data were obtained by household interviews, they differ from statistics based on reports from individual business establishments, farm enterprises, and certain government programs. In the data shown here, persons employed at more than one job are counted only once as employed and are classified according to the job at which they worked the greatest number of hours during the census week. In statistics based on reports from business and farm establishments, on the other hand, persons who work for more than one establishment may be counted more than once. Moreover, other data, unlike those presented here, generally exclude private household workers, unpaid family workers, and self-employed persons, and may include workers less than 14 years of age. An additional difference arises from the fact that persons with a job but not at work are included with the employed in the statistics shown here, whereas only part of this group is likely to be included in employment figures based on establishment payroll reports. In addition, comparability between the statistics presented here and statistics from other sources is also frequently affected by the use of different classification systems; see section on "Relation to DOT classification."

In regard to comparisons between occupation figures from the Population Census and those based on data from government licensing agencies, professional associations, trade unions, etc., comparability may not be as direct as would first appear. Among the sources of difference may be the inclusion in the organizational listing of retired persons or persons devoting all or most of their time to another occupation, the inclusion of the same person in two or more different listings, and the fact that relatively few organizations attain complete coverage or membership in an occupation field.

Quality of Data

Count of persons in labor force.--Many of the figures shown here are probably subject to some understatement because of the omission of some marginal workers from the count of the labor force. These omissions arise from the difficulty of applying certain of the employment status concepts, and, perhaps more important, the fact that complete information is not always obtained for certain groups. For example, housewives, students, and semiretired persons, who work on only a part-time or intermittent basis, may fail to report that they are employed or looking for work unless carefully questioned. In many cases,

enumerators may assume that such persons could not be in the labor force and will omit the necessary questions. As a result, the statistics will understate the size of the labor force.

A measure of this understatement is provided by a comparison with the data from the Current Population Survey. The estimated size of the civilian labor force in the United States based on the Current Population Survey is about 5 percent above the corresponding complete-count figure from the 1950 Census. Examination of the census returns for a sample of households that were also included in the Current Population Survey for April 1950 indicates that although differences of all kinds were found, on balance, the Current Population Survey enumerators, who were much more experienced than were the temporary census enumerators, reported more completely on the employment of teen-agers and women 25 years old and over. This difference is reflected in a more accurate reporting of persons employed in industries, such as agriculture, trade, and personal services, where part-time or occasional work is widely prevalent. These are the groups for whom variability in response is relatively great in labor force surveys. On the other hand, the differences were at a minimum for men and for young women--the major components of the "full-time" labor force.

Classification of occupation returns.--Another factor to be considered in the interpretation of these data is that enumerators sometimes returned occupation designations which were not sufficiently specific for precise allocation. One cause may have been the enumerator's lack of knowledge of how to describe a particular job on the census schedule. Another possible cause was inadequate information about the worker's job on the part of the housewife or other person from whom the enumerator obtained the report. Indefinite occupation returns can frequently be assigned, however, to the appropriate category through the use of supplementary information. For example, the industry return on the census schedule is often of great assistance. The basic document used in the allocation of the schedule returns of occupation to the appropriate categories of the classification system is the publication, U. S. Bureau of the Census, 1950 Census of Population, Alphabetical Index of Occupations and Industries, Washington, D. C., 1950.

The application of a detailed occupational classification to approximately 60 million workers is obviously subject to some error. Although the number of misclassifications probably does not have any serious effect on the usefulness of most of the data, there are a few cases where relatively small numbers of erroneous returns may produce what might be regarded as a serious misstatement of the facts. Some of the more obvious misclassifications have been adjusted, but it was not possible to perform a complete review of the data for all discrepancies.

Post-Enumeration Survey.--Information on certain aspects of the quality of the occupation data is available from the Post-Enumeration Survey. This survey consisted, in part, of a sample of about 22,000 households which were reinterviewed to determine the accuracy of the reports obtained in the original enumeration. Although the information thus obtained is subject to a number of qualifications (as explained in 1950 Population Census Volume II, Part 1), the analysis does provide useful indications of the quality of the census data.

The Post-Enumeration Survey material on occupation has been tabulated only for major groups. One important factor which affects the quality of the data on occupation--the reporting of employment status--was not investigated, mainly because the time interval between the census and Post-Enumeration Survey enumerations appeared too great to yield adequate information on an item so subject to change as employment status.

In general, the percent distributions by major occupation group were only slightly affected by errors of coverage, errors in reporting a job description, and errors in reporting age. With few exceptions, the percentage of employed persons in each such category was affected by less than one percentage point. The stability in the percentage was found both when corrections were made for all three types of errors combined and when cor-

rections were made for each type separately. This stability also existed with regard to the distributions for both sexes combined and for males and females separately.

The accuracy of the count of persons in each major group was also measured by the Post-Enumeration Survey. The absolute number of employed persons in most of the major occupation groups was in error by less than 4 percent as a result of the three types of errors measured.

URBAN-RURAL RESIDENCE

In this report, persons are classified by residence at the time of the census into three categories, i.e., urban, rural non-farm, and rural farm. The farm-nonfarm dichotomy is applied here only to the rural segment of the population since virtually all farm residents live in rural areas.

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 simply minor civil divisions of counties, (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 and nonfarm population.--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 tourists 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 slightly larger had the 1940 procedure been used. The rural-nonfarm population includes all persons living outside of urban areas who do not live on farms.

RACE

The concept of race as it has 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.

Negro.--In addition to full-blooded Negroes, this classification includes persons of mixed white and Negro parentage and 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 non-white races are generally classified according to the race of the father.

Nonwhite.--The group designated as "nonwhite" (in tables 7, 11, 13, 18, and 21) consists of Negroes, Indians, Japanese, Chinese, and other nonwhite races.

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.

A considerable body of evidence exists which indicates that age is misreported in several characteristic ways and that certain age groups are less completely enumerated than others in censuses. A comparison of age distributions from the 1950 Census with age distribution based on figures from the 1940 Census and brought up to date from official records of births, deaths, and migration suggests this generalization is also true for the 1950 Census. The results of the Post-Enumeration Survey lend further support to this view. These errors, however, probably do not have any appreciable effect on the age-occupation relationships shown in this report.

NATIVITY AND CITIZENSHIP

The classification of the population into the two groups, native and foreign born, is based on replies to the question, "What State (or foreign country) was he born in?" A person born in the United States or any of its Territories or possessions is counted as native. Also included as native is the small group of persons who, although born in a foreign country or at sea, were American citizens by birth because their parents were American citizens. The small number of persons for whom place of birth was not reported were assumed to be native.

The foreign born are subdivided by citizenship (i.e., as naturalized or alien) on the basis of replies to the question, "Is he naturalized?" This question was asked of all persons of foreign birth. Those for whom no report on citizenship was obtained are classified as "Citizenship not reported."

The data on nativity have a high degree of accuracy. According to the Post-Enumeration Survey, the estimated net under-enumeration rates are 1.4 percent for the native population and 0.6 percent for the foreign born. Additional error resulting from the actual misreporting of nativity for persons properly counted in the census was negligible.

In the 1950 Census, the question on citizenship was answered for approximately 92 percent of the foreign-born population and no report was made for 8 percent. The Post-Enumeration Survey results indicate that errors in the answers on citizenship were in the direction of overstating the number of naturalized foreign born and understating the number of aliens. For the 8 percent not reporting on citizenship in the census, the Post-Enumeration Survey results indicate a citizenship distribution approximately the same as that of the foreign-born population for which the information was reported.

MARITAL STATUS

The data on marital status are derived from replies to the question, "Is he now married, widowed, divorced, separated, or (has he) never (been) 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 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.

The category "Married" is divided into "spouse present" and "spouse absent." 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.

The group "Married, spouse absent" includes persons reported as "separated," i.e., married persons permanently or temporarily living apart from their spouse because of marital discord. This group also includes married persons employed and living at a considerable distance from their homes, and all other married persons whose place of residence was not the same as that of their spouse.

RESIDENCE IN 1949

The data on residence in 1949 refer to usual place of residence one year prior to the date of enumeration. In this report, the primary division is between those who lived in the same county at both dates, and those who lived in different counties. The latter are subdivided according to whether their place of residence was in the same State at both dates, in different but contiguous States, or in different and noncontiguous States. The last-named category also includes the relatively small number of persons enumerated in continental United States in 1950 who were living abroad in 1949, i.e., residing in a foreign country or in a Territory or possession of the United States. It should be noted that some persons moved more than once during the year prior to enumeration, and some may actually have moved between counties during the year but by 1950 had returned to their county of residence in 1949.

According to the Post-Enumeration Survey, differences in reporting residence in 1949 were largely offsetting so that the net error was negligible. Comparisons with Current Population Survey data for roughly the same period indicate no significant differences for the categories shown in this report. The effect of these differences on the relationship between residence in 1949 and occupation shown in this report is, however, not known.

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?"

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 person had spent in school.

The question on completion of highest grade was to be answered "Yes" if the person 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.

The Post-Enumeration Survey indicated that the net effect of misreporting educational attainment was small. Although the misreporting for persons 25 years old and over (the age group in which most workers are found) included more cases of overreporting years of school completed than underreporting, the median number of school years completed was affected only by a minor amount. The impact of these errors on the distributions for the several occupations shown in this report has not, however, been determined.

CLASS OF WORKER

The class-of-worker information refers to the same job as does the occupation and industry information. The allocation of a person to a particular class-of-worker category is basically independent, however, of the occupation or industry in which he worked. The classification by class of worker consists of four categories which are defined below. A number of tables in this report (tables 5, 15, 17, 22, and 23) contain data for "Wage and salary workers." This group represents the combination of "Private wage and salary workers" and "Government workers."

Private wage and salary workers.--Persons who worked for a private employer for wages, salary, commission, tips, pay-in-kind, or at piece rates.

Government workers.--Persons who worked for any governmental unit (Federal, State, or local), regardless of the activity which the particular agency carried on.

Self-employed workers.--Persons who worked for profit or fees in their own business, profession, or trade, or who operated a farm either as an owner or tenant. Included here are the owner-operators of large stores and manufacturing establishments as well as small merchants, independent craftsmen and professional men, farmers, peddlers, and other persons who conducted enterprises of their own. Persons paid to manage businesses or farms owned by other persons or by corporations, on the other hand, are classified as private wage and salary workers (or, in some few cases, as government workers).

Unpaid family workers.--Persons who worked without pay on a farm or in a business operated by a member of the household to whom they are related by blood or marriage. The great majority of unpaid family workers are farm laborers.

The relatively small number of persons for whom class of worker was not reported has been included among private wage and salary workers unless there was evidence on the census schedule that they should have been classified in one of the other class-of-worker categories.

HOURS WORKED DURING CENSUS WEEK

The data on hours worked were derived from answers to the question, "How many hours did he work last week?" asked of persons who reported they had worked during the week prior to their enumeration. The statistics refer to the number of hours actually worked during the census week, and not necessarily to the number usually worked or the scheduled number of hours. For persons working at more than one job, the figures relate to the combined number of hours worked at all jobs during the week. In the distribution of employed persons by the number of hours worked, the proportion who worked only a small number of hours is understated because such workers were omitted from the labor force count more frequently than were those working full time. Also for some types of workers, such as professional workers, proprietors of businesses or farms, and unpaid family workers, the number of hours worked often could not be accurately deter-

mined, because such workers frequently do not follow regular schedules of work.

WEEKS WORKED IN 1949

The statistics on weeks worked are based on replies to the question, "Last year, in how many weeks did this person do any work at all, not counting work around the house?" The data pertain to the number of different weeks during 1949 in which a person did any work for pay or profit (including paid vacations and sick leave) or worked without pay on a family farm or in a family business. Weeks of active service in the Armed Forces are also included. It is probable that the number of persons who worked in 1949 is understated, because there is some tendency for respondents to forget intermittent or short periods of employment. For the same reason, the figures represent only an approximate statement of the amount of work in 1949.

In the 1950 Population Census, no distinction was made between a part-time and full-time workweek, whereas in 1940 the enumerator was instructed to convert part-time work to equivalent full-time weeks. A full-time week was defined as the number of hours locally regarded as full time for the given occupation and industry.

There was some tendency, in both 1940 and 1950, for enumerators to obtain the information on weeks worked in terms of months and to convert into weeks by multiplying by 4 rather than by $4\frac{1}{3}$ as instructed. In both years, therefore, the class intervals were so selected that instances in which months were originally reported were included in the same interval, regardless of whether the conversion was made on the basis of 4 or $4\frac{1}{3}$ weeks per month. In the 1940 reports, however, the statistics were published in terms of months, whereas in the 1950 reports units of weeks are used.

INCOME IN 1949

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 by persons 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.

The data on wage and salary income shown in tables 22 and 23 refer to total money earnings received for work performed as an employee. This includes wages, salary, Armed Forces pay, commission, tips, piece-rate payments, and cash bonuses earned.

In the 1940 Census, the income distributions by occupation were limited to wage or salary income. Comparisons cannot, therefore, be made with the figures shown in tables 19 to 21, which refer to income from all sources.

The figures in this census, as in all field surveys of income, are only approximately accurate because of errors of response and nonreporting. In most cases the schedule entries for

income are based not on records but on memory, usually that of the housewife. Other errors of reporting are due to misunderstanding of the income questions or to misrepresentation. In addition, the number of persons shown at each income level is subject to error because of the omission of persons who were not

enumerated in the census. Despite these sources of error, however, the various checks which have been made on the quality of the 1950 Census income data suggest that they are sufficiently reliable for the analysis of the income differentials by occupation shown in this report.

SAMPLE DESIGN AND VARIABILITY

SAMPLE DESIGN

The data in this report are based on information tabulated for a representative sample of approximately 3 1/3 percent of the population. A separate line was provided on the population schedules 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.³ The statistics in this report are based on tabulations of a systematic selection of one-sixth of the persons on these sample lines, or about 3 1/3 percent of the population.

Estimates of the number of persons with specified characteristics have in all cases been obtained by multiplying the number of persons in the sample with these characteristics by 30.

Although the sampling plan used did not automatically insure an exact 3 1/3-percent sample of persons, it was unbiased and for the United States the deviation from 3 1/3 percent was expected to be quite small for major classes of the population. Small biases, however, arose when the enumerator failed to follow his instructions exactly. These were usually in the direction of a slight underrepresentation of adult males, particularly heads of households in the sample. Errors of processing as noted in the section on "Accuracy and internal consistency of data" also affected the sample size.

Table A compares the distribution by detailed occupation of the experienced civilian labor force, as presented in this report, with corresponding statistics based on the complete count presented in Volume II, Part 1, of the 1950 Census of Population. Differences between the corresponding columns in this table reflect, among other things, enumerators' errors in selecting the sample and errors in processing. The net effect of these factors is relatively small and should have little influence on the interpretation of the data.

SAMPLING VARIABILITY

Since the data in this report are based on samples of the population, they are subject to sampling variability. The sampling variability of the data can be estimated from the standard errors shown in tables B and C. These tables do not reflect the biases mentioned above. Table B presents the approximate standard errors of sample estimates of selected sizes. Table C shows the approximate standard errors of percentages when computed by using data from this report for both numerator and denominator. Linear interpolation can be used for estimates not shown in these tables.

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 1 shows that there were an estimated 47,070 males employed as clergymen who were rural-nonfarm residents (29.9 percent of the 157,380 total males employed as clergymen and 0.6 percent of the 7,282,440 employed male rural-nonfarm residents). From linear interpolation in table B, it is found that the standard error of the estimate of 47,070 is about 1,200. Consequently, the chances are about 2 out of 3 that the figure that would have been obtained from a complete count of male rural-nonfarm residents employed as clergymen differs by less than 1,200 from the sample estimate. It also follows that there is only about 1 chance in 100 that a complete census would differ by as much as 3,000, that is, by 2½ times the standard error. It may be estimated from table C, also by linear interpolation, that the standard error of the 29.9 percent on the base of 157,380 is about 0.7 percent and that the standard error of the 0.6 percent on the base of 7,282,440 is less than 0.1 percent.

The standard errors shown in tables B and C are not directly applicable to differences between two estimates. The standard error of a difference 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. (It can also be used to approximate the standard error of the difference between estimates shown here and corresponding figures shown in the 1940 Census special report on occupational characteristics.) In other cases, however, if there is a high positive correlation between the two characteristics, the formula will overestimate the true standard error.

Tables B and C are not directly applicable to the estimates of medians presented in this report. The sampling variability of estimates of medians depends on the distribution upon which the medians are based.⁴

The smaller figures and small differences between figures should be used with particular care because they are subject to larger relative error arising from sampling variability and processing and enumeration errors.

⁴ The standard error of a median based on the 3 1/3-percent sample may be estimated as follows: If the estimated total number reporting on the characteristic is N , compute the number $\frac{N}{2} - 2.8\sqrt{N}$. Cumulate the frequencies in the table until the class interval which contains this number is located. By linear interpolation, obtain the value below which $\frac{N}{2} - 2.8\sqrt{N}$ cases lie. In a similar manner, obtain the value below which $\frac{N}{2} + 2.8\sqrt{N}$ cases lie. If information on the characteristic had been obtained from the total population, the chances are about 2 out of 3 that the median would lie between these two values. The chances will be about 19 out of 20 that the median will be in the interval computed similarly but using $\frac{N}{2} \pm 2(2.8)\sqrt{N}$ and about 99 in 100 that it will be in the interval obtained by using $\frac{N}{2} \pm (2.5)(2.8)\sqrt{N}$.

³ In 19 counties of Michigan and Ohio, the sample consisted basically of every fifth household and all persons in these households were considered in the sample. Such a household sample was used as an experiment to determine the feasibility of this type of sample in future censuses of population.

Table A.—COMPARISON OF COMPLETE COUNT AND 3 1/3-PERCENT SAMPLE DATA ON DETAILED OCCUPATION OF THE EXPERIENCED CIVILIAN LABOR FORCE,
FOR THE UNITED STATES: 1950

Detailed occupation	Both sexes				Ratio of complete count to 3 1/3-percent sample			Detailed occupation	Both sexes				Ratio of complete count to 3 1/3-percent sample		
	Complete count	3 1/3-percent sample	Percent distribution		Both sexes	Male	Female		Complete count	3 1/3-percent sample	Percent distribution		Both sexes	Male	Female
			Complete count	3 1/3-percent sample							Complete count	3 1/3-percent sample			
Experienced civilian labor force.....	58,998,943	58,550,700	100.00	100.00	1.008	1.012	0.998								
Professional, technical, and kindred workers.....	4,988,012	4,937,790	8.45	8.43	1.010	1.020	0.996								
Accountants and auditors.....	383,676	383,490	0.65	0.65	1.000	1.002	0.992	Managers, officials, and proprietors, exc. farm...	5,076,436	4,953,270	8.60	8.46	1.025	1.028	1.006
Actors and actresses.....	18,453	16,410	0.03	0.03	1.124	1.134	1.015	Buyers and department heads, store.....	144,566	143,940	0.25	0.25	1.004	0.989	1.051
Airplane pilots and navigators.....	14,191	14,070	0.02	0.02	1.009	1.016	0.993	Buyers and shippers, farm products.....	28,809	26,880	0.05	0.05	1.072	1.064	1.076
Architects.....	25,000	23,733	0.04	0.04	1.054	1.053	1.080	Conductors, railroad.....	56,036	54,930	0.09	0.09	1.020	1.017	2.011
Artists and art teachers.....	80,535	81,660	0.14	0.14	0.986	0.964	1.025	Credit men.....	33,326	34,410	0.06	0.06	0.968	0.937	1.100
Athletes.....	12,389	11,700	0.02	0.02	1.059	1.048	1.268	Floormen and floor managers, store.....	11,051	10,770	0.02	0.02	1.026	1.017	1.037
Authors.....	16,184	15,870	0.03	0.03	1.020	0.987	1.077	Inspectors, public administration.....	56,807	57,660	0.10	0.10	0.985	0.987	0.947
Chemists.....	75,747	76,590	0.13	0.13	0.989	0.983	1.032	Federal public administration and postal service.....	27,328	27,510	0.05	0.05	0.993	0.993	1.007
Chiropractors.....	13,082	12,450	0.02	0.02	1.051	1.052	1.046	State public administration.....	9,592	9,720	0.02	0.02	0.987	0.971	1.724
Clergymen.....	168,419	165,540	0.29	0.28	1.017	1.021	0.935	Local public administration.....	19,887	20,430	0.03	0.03	0.973	0.987	0.794
College presidents, professors, and instructors (n.e.c.).....	125,583	123,610	0.21	0.21	1.014	1.004	1.051	Managers and superintendents, building.....	66,620	67,020	0.11	0.11	0.994	0.996	0.989
Dancers and dancing teachers.....	17,239	16,080	0.03	0.03	1.072	1.096	1.062	Officers, pilots, pursers, and engineers, ship.....	41,387	40,830	0.07	0.07	1.014	1.016	0.942
Dentists.....	75,025	68,730	0.13	0.12	1.092	1.096	0.948	Officials & administrators (n.e.c.), public administration.....	155,303	153,450	0.26	0.26	1.012	1.011	1.017
Designers.....	40,108	40,080	0.07	0.07	1.001	1.000	1.002	Federal public administration and postal service.....	50,042	48,900	0.08	0.08	1.023	1.021	1.041
Dietitians and nutritionists.....	22,826	22,440	0.04	0.04	1.017	1.000	0.990	State public administration.....	23,298	22,350	0.04	0.04	1.042	1.013	1.318
Draftsmen.....	124,749	119,760	0.21	0.20	1.042	1.032	1.197	Local public administration.....	81,963	82,200	0.14	0.14	0.997	1.003	0.977
Editors and reporters.....	91,472	91,560	0.16	0.16	0.999	1.001	0.995	Officials, lodge, society, union, etc.....	27,060	28,830	0.05	0.05	0.939	0.939	0.936
Engineers, technical.....	534,424	527,190	0.91	0.90	1.014	1.014	0.999	Postmasters.....	38,831	38,610	0.07	0.07	1.006	1.040	0.964
Aeronautical.....	17,925	17,850	0.03	0.03	1.004	1.007	0.862	Purchasing agents and buyers (n.e.c.).....	64,147	65,550	0.11	0.11	0.979	0.982	0.943
Chemical.....	33,072	31,620	0.06	0.05	1.046	1.044	1.044	Managers, officials, & proprietors (n.e.c.)—salaried.....	1,811,448	1,769,910	3.07	3.02	1.023	1.029	0.983
Civil.....	125,568	123,600	0.21	0.21	1.016	1.016	1.000	Construction.....	88,164	86,910	0.15	0.15	1.014	1.014	1.034
Electrical.....	108,137	106,920	0.18	0.18	1.011	1.011	1.033	Manufacturing.....	416,443	410,490	0.71	0.70	1.015	1.018	0.962
Industrial.....	40,985	41,100	0.07	0.07	0.997	0.998	0.904	Transportation.....	96,683	94,290	0.16	0.16	1.025	1.034	0.832
Mechanical.....	112,664	109,620	0.19	0.19	1.028	1.030	0.765	Telecommunications, & utilities & sanitary services.....	61,564	58,560	0.10	0.10	1.051	1.050	1.061
Metallurgical, and metallurgists.....	11,490	12,690	0.02	0.02	0.905	0.905	0.926	Wholesale trade.....	158,749	153,630	0.27	0.26	1.033	1.030	1.099
Mining.....	10,991	11,340	0.02	0.02	0.969	0.968	1.058	Retail trade.....	521,373	507,900	0.88	0.87	1.027	1.036	0.979
Not elsewhere classified.....	73,592	72,450	0.12	0.12	1.016	1.016	0.996	Food and dairy products stores, and milk retailing.....	103,399	99,750	0.17	0.17	1.033	1.040	0.983
Entertainers (n.e.c.).....	16,311	16,800	0.03	0.03	0.971	1.011	0.884	General merchandise and five and ten cent stores.....	60,165	58,560	0.10	0.10	1.027	1.039	0.990
Farm and home management advisors.....	12,316	10,740	0.02	0.02	1.147	1.076	1.229	Apparel and accessories stores.....	42,530	41,940	0.07	0.07	1.014	1.032	0.978
Foresters and conservationists.....	27,052	26,820	0.05	0.05	1.009	1.018	0.795	Furniture, home furnishings, and equipment stores.....	27,820	27,660	0.05	0.05	1.006	1.028	0.833
Funeral directors and embalmers.....	39,914	38,280	0.07	0.07	1.043	1.040	1.089	Motor vehicles and accessories retailing.....	57,015	55,380	0.10	0.09	1.030	1.040	0.804
Lawyers and judges.....	181,226	172,290	0.31	0.29	1.052	1.058	0.906	Gasoline service stations.....	36,058	34,380	0.06	0.06	1.049	1.051	0.959
Librarians.....	55,750	57,060	0.09	0.10	0.977	1.001	0.974	Eating and drinking places.....	70,991	70,550	0.12	0.12	1.007	1.022	0.969
Musicians and music teachers.....	161,307	162,690	0.27	0.28	0.991	1.024	0.960	Hardware, farm implement, & bldg. material retail.....	43,901	43,110	0.07	0.07	1.018	1.016	1.098
Natural scientists (n.e.c.).....	40,698	38,700	0.07	0.07	1.052	1.049	1.068	Other retail trade.....	79,854	76,990	0.14	0.13	1.043	1.044	1.037
Nurses, professional.....	403,793	408,840	0.68	0.70	0.988	1.024	0.987	Banking and other finance.....	119,264	111,750	0.20	0.19	1.067	1.079	0.975
Nurses, student professional.....	76,671	77,340	0.13	0.13	0.991	0.878	0.994	Insurance and real estate.....	70,429	70,890	0.12	0.12	0.993	1.008	0.925
Optometrists.....	14,711	14,970	0.02	0.03	0.983	0.983	0.972	Business services.....	28,162	27,630	0.05	0.05	1.019	1.030	0.975
Osteopaths.....	5,167	5,100	0.01	0.01	1.013	0.993	1.145	Automobile repair services and garages.....	24,045	24,210	0.04	0.04	0.993	0.997	0.798
Personnel and labor relations workers.....	52,858	52,830	0.09	0.09	1.001	0.993	1.020	Miscellaneous repair services.....	4,374	4,560	0.01	0.01	0.959	0.966	0.859
Pharmacists.....	88,998	85,380	0.15	0.15	1.042	1.047	0.993	Personal services.....	66,688	62,940	0.11	0.11	1.060	1.063	1.053
Photographers.....	54,734	52,890	0.09	0.09	1.035	1.021	1.109	All other industries (incl. not reported).....	155,510	156,150	0.26	0.27	0.996	1.005	0.969
Physicians and surgeons.....	192,317	179,610	0.33	0.31	1.071	1.075	1.015	Managers, officials, & propr's (n.e.c.)—self-employed.....	2,541,045	2,460,480	4.31	4.20	1.033	1.035	1.018
Radio operators.....	16,421	16,410	0.03	0.03	1.001	1.012	0.897	Construction.....	203,087	195,330	0.34	0.33	1.040	1.040	1.023
Recreation and group workers.....	16,799	16,860	0.03	0.03	0.996	1.057	0.923	Manufacturing.....	239,138	233,610	0.41	0.40	1.024	1.028	0.960
Religious workers.....	41,698	41,100	0.07	0.07	1.015	1.030	1.008	Transportation.....	51,926	51,750	0.09	0.09	1.003	1.003	1.019
Social and welfare workers, except group.....	76,467	77,970	0.13	0.13	0.981	0.985	0.979	Telecommunications, & utilities & sanitary services.....	5,782	4,290	0.01	0.01	1.348	1.364	1.067
Social scientists.....	35,893	34,440	0.06	0.06	1.042	1.050	1.026	Wholesale trade.....	179,404	176,700	0.30	0.30	1.015	1.014	1.041
Sports instructors and officials.....	45,823	45,120	0.08	0.08	1.016	1.011	1.029	Retail trade.....	1,426,316	1,369,290	2.42	2.34	1.042	1.044	1.029
Surveyors.....	26,229	25,320	0.04	0.04	1.036	1.023	1.509	Food and dairy products stores, and milk retailing.....	401,110	383,130	0.68	0.65	1.047	1.055	1.011
Teachers (n.e.c.).....	1,127,845	1,130,130	1.91	1.93	0.998	1.000	0.997	General merchandise and five and ten cent stores.....	65,531	64,080	0.11	0.11	1.023	1.051	0.930
Technicians, medical and dental.....	78,033	80,640	0.13	0.14	0.968	0.992	0.949	Apparel and accessories stores.....	85,209	82,800	0.14	0.14	1.029	1.014	1.065
Technicians, testing.....	76,962	77,010	0.13	0.13	0.999	1.003	0.987	Furniture, home furnishings, and equipment stores.....	68,538	66,570	0.12	0.11	1.030	1.019	1.167
Technicians (n.e.c.).....	27,471	27,180	0.05	0.05	1.011	0.995	1.106	Motor vehicles and accessories retailing.....	60,118	58,860	0.10	0.10	1.021	1.019	1.112
Therapists and healers (n.e.c.).....	24,864	23,940	0.04	0.04	1.039	1.030	1.047	Gasoline service stations.....	147,763	144,600	0.25	0.25	1.022	1.021	1.053
Veterinarians.....	13,489	11,460	0.02	0.02	1.177	1.151	1.781	Eating and drinking places.....	292,640	278,010	0.50	0.47	1.053	1.057	1.041
Professional, technical, and kindred workers (n.e.c.).....	117,091	118,710	0.20	0.20	0.986	0.984	0.997	Hardware, farm implement, & bldg. material retail.....	85,201	79,230	0.14	0.14	1.075	1.073	1.118
Farmers and farm managers.....	4,320,576	4,300,500	7.32	7.34	1.005	1.006	0.973	Other retail trade.....	220,206	212,010	0.37	0.36	1.039	1.042	1.021
Farmers (owners and tenants).....	4,285,462	4,264,170	7.26	7.28	1.005	1.006	0.973	Banking and other finance.....	21,995	21,000	0.04	0.04	1.047	1.043	1.144
Farm managers.....	35,114	36,330	0.06	0.06	0.967	0.969	0.938	Insurance and real estate.....	45,019	45,090	0.08	0.08	0.998	1.007	0.946
								Business services.....	34,101	34,020	0.06	0.06	1.002	1.003	1.001
								Automobile repair services and garages.....	60,458	60,180	0.10	0.10	1.005	1.006	0.942
								Miscellaneous repair services.....	29,806	29,370	0.05	0.05	1.015	1.	

Table A.--COMPARISON OF COMPLETE COUNT AND 3 1/3-PERCENT SAMPLE DATA ON DETAILED OCCUPATION OF THE EXPERIENCED CIVILIAN LABOR FORCE,
FOR THE UNITED STATES: 1950--Con.

Detailed occupation	Both sexes				Ratio of complete count to 3 1/3-percent sample			Detailed occupation	Both sexes				Ratio of complete count to 3 1/3-percent sample		
	Complete count	3 1/3-percent sample	Percent distribution		Both sexes	Male	Female		Complete count	3 1/3-percent sample	Percent distribution		Both sexes	Male	Female
			Complete count	3 1/3-percent sample							Complete count	3 1/3-percent sample			
Clerical and kindred workers	7,070,023	7,047,090	11.98	12.04	1.003	1.003	1.003	Craftsmen, foremen, and kindred workers--Con.							
Agents (n.e.c.)	126,085	123,360	0.21	0.21	1.022	1.033	0.965	Forgemen and hammermen	13,631	14,280	0.02	0.02	0.955	0.950	1.290
Attendants and assistants, library	12,674	11,850	0.02	0.02	1.070	1.178	1.037	Furriers	12,888	13,320	0.02	0.02	0.968	0.973	0.934
Attendants, physician's and dentist's office	41,880	43,380	0.07	0.07	0.965	0.883	0.970	Glaziers	10,665	10,980	0.02	0.02	0.971	0.964	1.248
Baggage men, transportation	8,101	8,430	0.01	0.01	0.961	0.977	0.920	Heat treaters, annealers, and temperers	18,296	19,170	0.03	0.03	0.954	0.961	0.643
Bank tellers	64,497	62,070	0.11	0.11	1.039	1.037	1.042	Inspectors, scalers, and graders, log and lumber	17,851	18,060	0.03	0.03	0.988	1.010	0.672
Bookkeepers	736,097	731,670	1.25	1.25	1.006	1.024	1.001	Inspectors (n.e.c.)	97,300	94,740	0.16	0.16	1.027	1.033	0.958
Cashiers	234,335	238,140	0.40	0.41	0.984	0.995	0.981	Construction	8,272	7,440	0.01	0.01	1.112	1.118	0.742
Collectors, bill and account	23,953	24,330	0.04	0.04	0.985	1.000	0.905	Railroads and railway express service	37,000	36,330	0.06	0.06	1.018	1.018	1.080
Dispatchers and starters, vehicle	31,508	32,490	0.05	0.06	0.970	0.981	0.896	Transport, exc. r. r., communic'n, & other public util.	12,598	11,250	0.02	0.02	1.120	1.114	1.287
Express messengers and railway mail clerks	18,881	18,060	0.03	0.03	1.045	1.047	0.957	Other industries (incl. not reported)	39,430	39,720	0.07	0.07	0.993	1.003	0.940
Mail carriers	167,880	166,890	0.28	0.29	1.006	1.005	1.075	Jewelers, watchmakers, goldsmiths, and silversmiths	47,804	47,460	0.08	0.08	1.007	1.006	1.033
Messengers and office boys	58,813	58,620	0.10	0.10	1.003	1.012	0.965	Job setters, metal	25,015	24,960	0.04	0.04	1.002	1.002	1.043
Office machine operators	145,943	146,400	0.25	0.25	0.997	0.960	1.005	Linemen & servicemen, telegraph, telephone, & power	215,948	213,330	0.37	0.36	1.012	1.013	0.981
Shipping and receiving clerks	297,125	299,790	0.50	0.51	0.991	0.989	1.017	Locomotive engineers	73,306	71,730	0.12	0.12	1.022	1.021	1.231
Stenographers, typists, and secretaries	1,621,863	1,612,740	2.75	2.75	1.006	1.033	1.004	Locomotive firemen	56,032	55,290	0.09	0.09	1.013	1.018	0.458
Telegraph messengers	8,038	8,340	0.01	0.01	0.964	0.957	1.032	Loom fixers	30,969	29,940	0.05	0.05	1.034	1.038	0.798
Telegraph operators	34,915	35,010	0.06	0.06	0.997	0.995	1.007	Mechanists	533,726	523,980	0.90	0.89	1.019	1.017	1.125
Telephone operators	365,708	364,590	0.62	0.62	1.003	1.074	1.000	Mechanics and repairmen	1,767,618	1,753,440	3.00	2.99	1.008	1.008	1.001
Ticket, station, and express agents	59,895	62,340	0.10	0.11	0.961	0.957	0.987	Automobile	73,720	73,710	0.12	0.13	1.000	0.996	1.297
Clerical and kindred workers (n.e.c.)	3,011,832	2,998,590	5.10	5.12	1.004	1.000	1.009	Office machine	677,569	670,320	1.15	1.14	1.011	1.011	0.994
								Radio and television	16,289	17,580	0.03	0.03	0.927	0.937	0.542
								Railroad and car shop	78,259	77,610	0.13	0.13	1.008	1.006	1.098
								Not elsewhere classified	48,339	48,780	0.08	0.08	0.991	0.988	2.611
									873,442	865,440	1.48	1.48	1.009	1.010	0.973
Sales workers	4,044,143	4,014,210	6.85	6.86	1.007	1.010	1.003	Millers, grain, flour, feed, etc.	9,777	9,300	0.02	0.02	1.051	1.044	...
Advertising agents and salesmen	33,734	35,370	0.06	0.06	0.954	0.960	0.920	Millwrights	60,193	61,530	0.10	0.11	0.978	0.979	0.847
Auctioneers	5,453	5,430	0.01	0.01	1.004	1.052	0.692	Molders, metal	63,567	60,510	0.11	0.10	1.051	1.050	1.079
Demonstrators	14,003	14,130	0.02	0.02	0.991	0.800	1.046	Motion picture projectionists	26,567	27,360	0.05	0.05	0.971	0.969	1.091
Hucksters and peddlers	23,197	23,370	0.04	0.04	0.993	1.001	0.944	Opticians, and lens grinders and polishers	19,814	20,160	0.03	0.03	0.983	0.968	1.091
Insurance agents and brokers	307,442	305,130	0.52	0.52	1.008	1.012	0.964	Painters, construction and maintenance	431,109	433,620	0.73	0.74	0.994	0.995	0.945
Newsboys	99,222	108,270	0.17	0.18	0.916	0.915	0.956	Paperhangers	22,536	22,110	0.04	0.04	1.019	1.006	1.113
Real estate agents and brokers	142,564	141,030	0.24	0.24	1.011	1.025	0.934	Pattern and model makers, except paper	37,338	35,340	0.06	0.06	1.057	1.058	1.015
Stock and bond salesmen	11,257	11,100	0.02	0.02	1.014	1.015	1.008	Photoengravers and lithographers	28,991	31,050	0.05	0.05	0.934	0.937	0.851
Salesmen and sales clerks (n.e.c.)	3,407,271	3,370,380	5.78	5.76	1.011	1.015	1.005	Piano and organ tuners and repairmen	7,989	8,370	0.01	0.01	0.954	0.989	0.479
Manufacturing	326,846	321,090	0.55	0.55	1.018	1.019	1.006	Plasterers	64,351	64,920	0.11	0.11	0.991	0.990	1.104
Wholesale trade	414,588	406,050	0.70	0.69	1.021	1.021	1.014	Plumbers and pipe fitters	295,990	291,690	0.50	0.50	1.015	1.016	0.829
Retail trade	2,530,545	2,510,730	4.29	4.29	1.008	1.010	1.005	Pressmen and plate printers, printing	51,510	51,510	0.09	0.09	0.975	0.980	0.889
Other industries (incl. not reported)	135,292	132,510	0.23	0.23	1.021	1.033	0.985	Rollers and roll hands, metal	31,016	32,640	0.05	0.06	0.950	0.950	0.953
								Roofers and slaters	48,528	47,640	0.08	0.08	1.019	1.018	1.248
								Shoemakers and repairers, except factory	58,509	56,040	0.10	0.10	1.051	1.049	1.118
								Stationary engineers	218,146	219,210	0.37	0.37	0.995	0.997	0.809
Craftsmen, foremen, and kindred workers	8,152,743	8,093,590	13.82	13.82	1.007	1.008	0.992	Stone cutters and stone carvers	9,072	9,300	0.02	0.02	0.976	0.975	0.996
Bakers	124,833	120,090	0.21	0.21	1.039	1.038	1.051	Structural metal workers	55,133	53,790	0.09	0.09	1.025	1.025	1.060
Blacksmiths	45,152	42,840	0.08	0.07	1.054	1.055	0.871	Tailors and tailoresses	85,945	84,300	0.15	0.14	1.020	1.020	1.017
Boilermakers	38,896	38,940	0.07	0.07	0.999	0.994	2.006	Tinmiths, coppermiths, and sheet metal workers	129,639	127,080	0.22	0.22	1.020	1.023	0.778
Bookbinders	32,393	33,540	0.05	0.06	0.966	1.015	0.931	Toolmakers, and die makers and setters	156,992	158,310	0.27	0.27	0.992	0.991	1.058
Brickmasons, stonemasons, and tile setters	175,828	174,480	0.30	0.30	1.008	1.007	1.249	Upholsterers	63,787	63,180	0.11	0.11	1.010	1.011	0.991
Cabinetmakers	76,421	75,210	0.13	0.13	1.016	1.013	1.335	Craftsmen and kindred workers (n.e.c.)	74,052	77,880	0.13	0.13	0.951	0.954	0.808
Carpenters	985,443	976,890	1.67	1.67	1.009	1.008	1.127	Members of the armed forces	29,326	32,490	0.05	0.06	0.903	0.904	0.825
Cement and concrete finishers	32,653	32,100	0.06	0.05	1.017	1.016	1.178								
Compositors and typesetters	178,696	175,740	0.30	0.30	1.017	1.024	0.927	Operatives and kindred workers	11,715,606	11,661,510	19.86	19.92	1.005	1.008	0.996
Cranemen, derrickmen, and hoistmen	106,864	107,040	0.18	0.18	0.998	0.997	1.150	Apprentices	119,848	119,430	0.20	0.20	1.003	1.009	0.842
Decorators and window dressers	45,029	44,070	0.08	0.08	1.022	1.052	0.958	Auto mechanics	3,879	3,840	0.01	0.01	1.010	1.017	0.867
Electricians	324,046	318,960	0.55	0.54	1.016	1.015	1.144	Bricklayers and masons	6,471	6,670	0.01	0.01	0.942	0.947	0.400
Electrotypers and stereotypers	11,941	11,250	0.02	0.02	1.061	1.065	0.973	Carpenters	10,753	10,470	0.02	0.02	1.027	1.030	0.742
Engravers, except photoengravers	10,039	9,900	0.02	0.02	1.014	1.035	0.894	Electricians	9,194	9,780	0.02	0.02	0.940	0.949	0.478
Excavating, grading, and road machinery operators	111,026	110,310	0.19	0.19	1.006	1.005	1.579	Mechanists and toolmakers	15,704	15,030	0.03	0.03	1.045	1.040	1.922
								Mechanics, except auto	6,539	7,500	0.01	0.01	0.872	0.885	0.742
								Plumbers and pipe fitters	12,373	12,000	0.02	0.02	1.031	1.045	0.796
								Building trades (n.e.c.)	4,254	3,930	0.01	0.01	1.082	1.082	1.133
								Metalworking trades (n.e.c.)	6,848	7,590	0.01	0.01	0.902	0.907	0.625
								Printing trades	15,569	15,180	0.03	0.03	1.026	1.046	0.596
								Other specified trades	13,124	12,750	0.02	0.02	1.029	1.034	0.919
								Trade not specified	15,140	14,490	0.03	0.02	1.045	1.036	1.257
								Asbestos and insulation workers	16,425	16,620	0.03	0.03	0.988	0.992	0.859
								Attendants, auto service and parking	247,420	247,680	0.42	0.42	0.999	1.003	0.861
								Blasters and powdermen	11,485	10,980	0.02	0.02	1.046	1.046	1.078
								Boatmen, canalmen, and lock keepers	8,450	8,190	0.01	0.01	1.032	1.033	

Table A.—COMPARISON OF COMPLETE COUNT AND 3 1/3-PERCENT SAMPLE DATA ON DETAILED OCCUPATION OF THE EXPERIENCED CIVILIAN LABOR FORCE, FOR THE UNITED STATES: 1950—Con.

Detailed occupation	Both sexes				Ratio of complete count to 3 1/3-percent sample			Detailed occupation	Both sexes				Ratio of complete count to 3 1/3-percent sample		
	Complete count	3 1/3-percent sample	Percent distribution		Both sexes	Male	Female		Complete count	3 1/3-percent sample	Percent distribution		Both sexes	Male	Female
			Complete count	3 1/3-percent sample							Complete count	3 1/3-percent sample			
Operatives and kindred workers—Con.															
Bus drivers	157,222	155,190	0.27	0.27	1.013	1.010	1.112	Operatives and kindred workers—Con.							
Chainmen, rodmen, and axmen, surveying	7,397	7,050	0.01	0.01	1.049	1.043	1.406	Operatives and kindred workers (n.e.c.)—Con.							
Conductors, bus and street railway	11,439	11,190	0.02	0.02	1.022	1.036	0.600	Manufacturing—Con.							
Deliverymen and routemen	247,403	247,680	0.42	0.42	0.999	0.998	1.039	Nondurable goods							
Dressmakers and seamstresses, except factory	142,680	144,150	0.24	0.25	0.990	1.025	0.989	3,119,098	3,110,670	5.29	5.31	1.003	1.006	1.000	
Dyers	25,389	24,180	0.04	0.04	1.050	1.053	0.985	Food and kindred products							
Filers, grinders, and polishers, metal															
Fruit, nut, & vegetable graders & packers, exc. factory	34,369	33,090	0.06	0.06	1.039	1.025	1.047	530,883	522,990	0.90	0.89	1.015	1.021	1.007	
Furnacemen, smeltermen, and pourers	57,547	57,660	0.10	0.10	0.998	0.999	0.970	128,976	128,130	0.22	0.22	1.007	0.994	1.040	
Heaters, metal	9,679	8,220	0.02	0.01	1.177	1.180	1.123	60,378	58,650	0.10	0.10	1.029	1.040	0.978	
Laundry and dry cleaning operatives	448,636	447,720	0.76	0.76	1.002	1.023	0.992	88,007	88,140	0.15	0.15	0.998	1.011	0.991	
Meat cutters, except slaughter and packing house	176,315	173,760	0.30	0.30	1.015	1.016	0.946	32,632	31,890	0.06	0.05	1.025	1.032	0.987	
Milliners	12,858	13,920	0.02	0.02	0.924	0.924	0.924	66,390	62,790	0.11	0.11	1.057	1.066	1.050	
Mine operatives and laborers (n.e.c.)	604,583	596,970	1.02	1.02	1.013	1.013	1.015	49,056	48,690	0.08	0.08	1.008	1.038	0.992	
Coal mining	381,209	377,330	0.65	0.64	1.010	1.010	1.006	55,847	55,710	0.09	0.10	1.002	1.010	0.966	
Crude petroleum and natural gas extraction	108,317	106,710	0.18	0.18	1.015	1.016	0.896	37,449	37,650	0.06	0.06	0.995	1.014	0.971	
Mining and quarrying, except fuel	115,087	112,950	0.20	0.19	1.019	1.018	1.041	12,098	11,340	0.02	0.02	1.067	1.141	1.019	
Motormen, mine, factory, logging camp, etc.	24,322	25,800	0.04	0.04	0.943	0.944	0.844	Tobacco manufactures							
Motormen, street, subway, and elevated railway	26,795	27,480	0.05	0.05	0.975	0.973	1.121	67,603	67,500	0.11	0.12	1.002	0.965	1.018	
Oilers and greasers, except auto															
Painters, except construction and maintenance	122,833	122,040	0.21	0.21	1.006	1.014	0.950	694,998	692,310	1.18	1.18	1.004	1.003	1.005	
Photographic process workers	29,289	30,840	0.05	0.05	0.950	0.933	0.971	150,391	151,890	0.25	0.26	0.990	0.981	0.994	
Power station operators	21,613	21,510	0.04	0.04	1.005	1.024	0.682	25,208	25,290	0.04	0.04	0.997	0.999	0.990	
Sailors and deck hands	51,109	51,660	0.09	0.09	0.989	0.992	0.864	25,157	24,660	0.04	0.04	1.020	0.994	1.056	
Sawyers	97,614	96,810	0.17	0.17	1.008	1.014	0.782	463,390	460,620	0.79	0.79	1.006	1.003	1.009	
Spinners, textile	84,946	85,650	0.14	0.15	0.992	0.987	0.773	30,852	29,850	0.05	0.05	1.034	1.068	0.996	
Stationary firemen	126,806	126,600	0.21	0.22	1.002	1.004	0.773	Apparel and other fabricated textile products							
Switchmen, railroad	62,146	60,150	0.11	0.10	1.033	1.038	0.675	855,210	861,720	1.45	1.47	0.992	1.002	0.990	
Taxicab drivers and chauffeurs	212,422	214,500	0.36	0.37	0.990	0.989	1.062	798,580	805,470	1.35	1.38	0.991	1.002	0.989	
Truck and tractor drivers	1,396,594	1,385,550	2.37	2.37	1.008	1.008	0.990	56,630	56,250	0.10	0.10	1.007	1.002	1.009	
Weavers, textile	102,624	101,640	0.17	0.17	1.010	1.020	0.994	225,940	226,110	0.38	0.39	0.997	0.998	1.016	
Welders and flame-cutters	275,545	272,940	0.47	0.47	1.010	1.010	0.986	104,026	103,170	0.18	0.18	1.008	0.993	1.097	
Operatives and kindred workers (n.e.c.)															
Manufacturing	6,444,119	6,420,480	10.92	10.97	1.004	1.006	0.999	61,938	62,190	0.10	0.11	0.996	1.017	0.972	
Durable goods	5,686,303	5,662,380	9.64	9.67	1.004	1.007	1.000	59,526	60,750	0.10	0.10	0.980	0.945	1.018	
Sawmills, planing mills, & misc. wood products	2,525,737	2,510,310	4.28	4.29	1.006	1.008	1.002	78,276	79,140	0.13	0.14	0.989	0.972	1.011	
Sawmills, planing mills, and mill work	192,908	193,290	0.33	0.33	0.998	0.999	0.984	Chemicals and allied products							
Miscellaneous wood products	148,231	148,680	0.25	0.25	0.997	0.999	0.954	189,913	190,170	0.32	0.32	0.999	1.011	0.958	
Furniture and fixtures	44,677	44,610	0.08	0.08	1.002	1.003	0.998	26,427	26,130	0.04	0.04	1.011	1.029	0.977	
Stone, clay, and glass products	129,125	128,460	0.22	0.22	1.005	1.012	0.982	14,752	14,820	0.03	0.03	0.995	1.176	1.004	
Glass and glass products	188,309	183,240	0.32	0.31	1.028	1.026	1.032	18,046	18,690	0.03	0.03	0.966	0.959	1.905	
Cement, concrete, gypsum & plaster products	74,603	73,050	0.13	0.12	1.021	1.035	0.991	Miscellaneous chemicals and allied products							
Structural clay products	29,419	30,120	0.05	0.05	0.977	0.968	1.339	130,688	130,530	0.22	0.22	1.001	1.009	0.969	
Pottery and related products	22,067	21,060	0.04	0.04	1.048	1.045	1.059	Petroleum and coal products							
Misc. nonmetallic mineral & stone products	34,352	32,010	0.06	0.05	1.073	1.088	1.059	53,739	53,070	0.09	0.09	1.013	1.010	1.130	
Metal industries															
Primary metal industries	545,742	544,290	0.93	0.93	1.003	1.001	1.009	47,086	46,470	0.08	0.08	1.013	1.010	1.139	
Blast furnaces, steel works, & rolling mills	267,914	266,490	0.45	0.46	1.005	1.005	1.013	6,633	6,600	0.01	0.01	1.008	1.005	1.088	
Other primary iron and steel industries	130,308	126,630	0.22	0.22	1.029	1.026	1.091	Petroleum refining							
Primary nonferrous industries	73,517	74,400	0.12	0.13	0.988	0.994	0.909	53,070	52,600	0.09	0.09	1.000	1.003	0.990	
Fabricated metal ind. (incl. not spec. metal)	64,089	65,460	0.11	0.11	0.979	0.977	1.021	Miscellaneous petroleum and coal products							
Fabricated steel products	277,828	277,800	0.47	0.47	1.000	0.993	1.008	123,586	122,970	0.21	0.21	1.005	0.990	1.041	
Fabricated nonferrous metal products	242,321	241,830	0.41	0.41	1.002	1.000	1.008	299,400	294,690	0.51	0.50	1.016	1.026	1.005	
Not specified metal industries	31,806	31,860	0.05	0.05	0.998	0.969	1.045	30,820	29,100	0.05	0.05	1.059	1.065	1.031	
Machinery, except electrical	3,701	4,110	0.01	0.01	0.900	1.003	0.684	219,962	216,480	0.37	0.37	1.016	1.025	1.008	
Agricultural machinery and tractors	356,694	358,200	0.60	0.61	0.996	1.005	0.956	48,618	49,110	0.08	0.08	0.990	0.989	0.991	
Office and store machines and devices	51,003	53,160	0.09	0.09	0.959	0.965	0.888	41,468	41,400	0.07	0.07	1.002	1.021	0.981	
Miscellaneous machinery	38,679	38,970	0.07	0.07	0.993	1.008	0.963	Nonmanufacturing industries (incl. not reported)							
Electrical machinery, equipment, and supplies	267,012	266,070	0.45	0.45	1.004	1.014	0.959	757,816	758,100	1.28	1.29	1.000	1.003	0.990	
Transportation equipment	347,183	342,810	0.59	0.59	1.013	1.022	1.005	Construction							
Motor vehicles and motor vehicle equipment	458,185	455,730	0.78	0.78	1.005	1.006	1.002	69,233	68,160	0.12	0.12	1.016	1.018	0.926	
Aircraft and parts	359,699	359,340	0.61	0.61	1.001	1.001	1.002	93,979	95,430	0.16	0.16	0.985	0.988	0.790	
Ship and boat building and repairing	65,607	64,260	0.11	0.11	1.021	1.020	1.006	Transportation, except railroad							
Railroad and misc. transportation equipment	14,772	15,860	0.03	0.03	1.066	1.072	0.941	36,211	35,880	0.06	0.06	1.009	1.009	1.012	
Professional & photographic equip., & watches	18,107	18,270	0.03	0.03	0.991	0.998	0.926	51,212	52,260	0.09	0.09	0.980	0.980	0.975	
Professional equipment and supplies	76,431	75,270	0.13	0.13	1.042	1.022	1.065	Wholesale and retail trade							
Photographic equipment and supplies	41,671	39,090	0.07	0.07	1.066	1.053	1.082	301,860	302,760	0.51	0.52	0.997	0.994	1.002	
Watches, clocks, & clockwork-operated devices	16,518	16,620	0.03	0.03	0.994	0.943	1.086	52,411	51,120	0.09	0.09	1.025	1.034	0.972	
Miscellaneous manufacturing industries	20,242	19,560	0.03	0.03	1.035	1.044	1.029	Business and repair services							
	229,155	229,020	0.39	0.39	1.001	1.008	0.994	21,051	20,250	0.04	0.03	1.040	1.042	1.037	
								52,492	52,620	0.09	0.09	0.998	1.011	0.914	
								Personal services							
								Public administration	52,492	52,620	0.09	0.09	0.998	1.011	0.914
								All other industries (incl. not reported)	79,367	79,620	0.13	0.14	0.997	1.016	0.954
								Private household workers							
								1,487,574	1,516,380	2.52	2.59	0.981	1.014	0.979	
								Housekeepers, private household							
								145,453	151,110	0.25	0.26	0.963	1.594	0.947	
								Living in	52,755	56,220	0.09	0.10	0.938	1.050	0.937
								Living out	92,698	94,890	0.16	0.16	0.977	1.687	0.953
								Laundresses, private household	73,485	75,970	0.12	0.13	0.972	1.013	0.971

Table A.--COMPARISON OF COMPLETE COUNT AND 3 1/3-PERCENT SAMPLE DATA ON DETAILED OCCUPATION OF THE EXPERIENCED CIVILIAN LABOR FORCE, FOR THE UNITED STATES: 1950--Con.

Detailed occupation	Both sexes			Ratio of complete count to 3 1/3-percent sample			Percent distribution			Ratio of complete count to 3 1/3-percent sample			
	Complete count	3 1/3-percent sample	Both sexes	Both sexes	Male	Female	Com-plete count	3 1/3-percent sample	Both sexes	Male	Female	Com-plete count	3 1/3-percent sample
Service workers, except private household	4,511,996	4,503,300	1.002	1.007	1.007	0.996							
Attendants, hospital and other institution	210,756	205,710	1.025	1.030	1.021	1.021							
Attendants, professional and personal service (n.e.c.)	50,081	49,890	1.004	1.022	1.022	0.995							
Barbers, recreation and amusement	64,206	66,130	0.971	0.971	0.972	0.995							
Barbers, beauticians, and manicurists	207,835	202,310	1.026	1.011	1.011	1.001							
Boarding and lodging house keepers	29,190	31,230	0.935	0.935	0.940	0.901							
Bookbinders	14,794	15,630	0.947	0.947	0.947	0.901							
Charwomen and cleaners	124,336	124,380	1.000	1.000	1.000	0.998							
Cooks, except private household	463,234	466,110	0.994	0.994	0.994	0.994							
Counter and fountain workers	92,939	93,150	0.988	0.988	0.988	0.994							
Elevator operators	94,167	92,940	1.013	1.013	1.013	0.997							
Firemen, fire protection	110,773	107,670	1.029	1.029	1.029	0.997							
Guards, watchmen, and doorkeepers	248,979	246,840	1.008	1.008	1.008	0.993							
Housekeepers and stewards, except private household	108,971	111,180	0.980	0.980	0.980	0.988							
Janitors and sextons	471,750	472,140	0.999	0.999	0.999	0.969							
Marshals and constables	6,581	6,150	1.070	1.070	1.070	0.969							
Midwives	1,794	1,620	1.045	1.045	1.045	0.992							
Police	194,315	190,900	1.018	1.018	1.018	0.992							
Police and detectives	173,672	170,280	1.018	1.018	1.018	0.992							
Private	20,641	20,220	1.021	1.021	1.021	0.984							
Porters	173,784	173,190	1.003	1.003	1.003	0.991							
Practical nurses	144,240	143,500	1.005	1.005	1.005	0.991							
School and bus drivers	18,710	17,400	1.075	1.074	1.074	1.006							
Ushers, recreation and amusement	25,185	25,530	0.986	0.986	0.986	0.996							
Waiters and waitresses	713,112	708,600	1.006	1.006	1.006	0.999							
Watchmen (crossing) and bridge tenders	11,717	12,990	0.902	0.902	0.902	0.945							
Service workers, except private household (n.e.c.)	543,743	543,070	0.994	0.994	0.994	0.985							
Farm laborers and foremen	2,514,780	2,536,020	0.992	0.992	0.992	0.970							
Farm foremen	17,243	17,610	0.973	0.973	0.973	0.900							
Farm laborers, wage workers	1,565,105	1,564,980	1.000	1.000	1.000	0.979							
Farm laborers, unpaid family workers	916,994	943,080	0.974	0.978	0.978	0.967							
Farm service laborers, self-employed	9,627	10,350	0.930	0.937	0.937	0.883							
Laborers, except farm and mine	3,715,990	3,715,900	1.010	1.009	1.009	1.037							
Fishermen and oystermen	72,428	73,770	0.982	0.979	0.979	1.036							
Garage laborers, and car washers and greasers	70,154	69,610	1.005	1.003	1.003	1.079							
Hand laborers, except farm, and groundskeepers	159,003	149,840	1.061	1.037	1.037	1.126							
Longshoremen and stevedores	69,622	66,840	1.041	1.041	1.041	0.959							
Lumbermen, raftermen, and wood choppers	189,972	189,130	1.004	1.004	1.004	0.972							
Teamsters	25,254	25,770	0.977	0.981	0.981	0.857							
Laborers (n.e.c.)	3,172,357	3,165,050	1.003	1.003	1.003	1.036							
Manufacturing	1,172,981	1,164,630	1.007	1.006	1.006	1.021							
Durable goods	734,353	729,840	1.007	1.006	1.006	1.021							
Sawmills, planing mills, and mill work	165,523	163,890	1.009	1.009	1.009	0.971							
Miscellaneous wood products	147,947	147,180	1.005	1.005	1.005	0.971							
Furniture and fixtures	17,556	16,710	1.051	1.037	1.037	1.196							
Stone, clay, and glass products	20,918	21,900	0.954	0.982	0.982	0.965							
Glass and glass products	82,052	82,230	0.986	0.986	0.986	0.965							
Cement, & concrete, gypsum, & plaster prod	25,966	26,000	0.964	0.964	0.964	0.982							
Structural clay products	27,934	27,270	1.024	1.021	1.021	1.153							
Pottery and related products	6,715	6,990	0.974	0.974	0.974	0.895							
Misc. nonmetallic mineral & stone products	9,202	8,790	1.047	1.047	1.047	0.600							
Metal industries	281,635	283,230	0.994	0.997	0.997	0.916							
Primary metal industries	221,068	223,410	0.990	0.991	0.991	0.853							
Blast furnaces, steel works, & rolling mills	145,918	144,060	1.006	1.006	1.006	0.944							
Other primary iron and steel industries	75,150	79,350	0.946	0.946	0.946	0.812							
Primary nonferrous industries	27,562	27,590	1.000	1.000	1.000	0.961							
Fabricated metal products (incl. spec. metal)	60,567	59,520	1.017	1.017	1.017	0.924							
Fabricated nonferrous metal products	54,655	54,240	1.008	1.008	1.008	0.924							
Fabricated ferrous metal products	4,912	4,840	1.016	1.016	1.016	0.927							
Machinery, except electrical	56,392	54,510	1.029	1.029	1.029	1.167							
Metal machinery, and tractors	13,255	12,630	1.049	1.049	1.049	1.223							
Office and store machines and devices	1,730	1,530	1.124	1.124	1.124	0.763							
Miscellaneous machinery	41,407	40,350	1.026	1.022	1.022	1.148							

RATIO ESTIMATES

It is possible to make an improved estimate of an absolute number based on a sample (improved in the sense that the standard error is smaller) whenever the class in question forms a part of a larger group for which an estimate based on this sample and a complete count are both available. (Complete counts for the detailed occupations appear in table A of this report and in table 124 of Volume II, Part 1.) This alternative estimate is particularly useful when the characteristic being estimated is a substantial part of the larger group; when the proportion is small, the improvement will be relatively minor. The improved estimate (usually referred to as a ratio estimate) may be obtained by multiplying a percentage based on sample data by the figure which represents the complete count of the base of the percentage. An alternative method is to multiply the sample estimate by the ratio of the complete count to the sample estimate of the larger group.

The effect of using ratio estimates of this type for data shown in this report is, in general, to reduce the relative sampling variability from that shown for an estimate of a given size in table B to that shown for the corresponding percentage in table C. Estimates of these types are not being published by the Bureau of the Census because of the much higher cost necessary for their preparation than for estimates derived by multiplying the sample results by 30.

Table B.--STANDARD ERROR OF ESTIMATED NUMBER

(Range of 2 chances out of 3)

Estimated number	Standard error	Estimated number	Standard error
100.....	60	100,000.....	1,760
500.....	120	500,000.....	3,930
1,000.....	180	1,000,000.....	5,550
2,500.....	280	5,000,000.....	12,240
5,000.....	390	10,000,000.....	17,020
10,000.....	560	25,000,000.....	25,460
25,000.....	880	50,000,000.....	32,290
50,000.....	1,240		

Table C.--STANDARD ERROR OF ESTIMATED PERCENTAGE

(Range of 2 chances out of 3)

Estimated percentage	Base of percentage							
	3,000	5,000	10,000	25,000	50,000	100,000	500,000	5,000,000
2 or 98.....	1.4	1.1	1.0	0.5	0.3	0.2	0.1	...
5 or 95.....	2.2	1.7	1.2	0.8	0.5	0.4	0.2	0.1
10 or 90.....	3.0	2.4	1.7	1.1	0.7	0.5	0.2	0.1
25 or 75.....	4.4	3.4	2.4	1.5	1.1	0.8	0.3	0.1
50.....	5.1	3.9	2.8	1.8	1.2	0.9	0.4	0.1