

1990 Census of Population and Housing Summary Tape File S-5: Number of Workers by County of Residence by County of Work Technical Documentation

D1-D90-SFS5-14-TECH

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U.S. Census Bureau



1990 Census of
Population

Summary Tape File S-5
Number of Workers
by County of Residence
by County of Work

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1990 Census of
Population

**Summary Tape File S-5
Number of Workers
by County of Residence
by County of Work**

**TECHNICAL
DOCUMENTATION**

Issued December 1992



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For additional information concerning the files, contact Data User Services Division, Customer Services Branch, Bureau of the Census, Washington, DC 20233. Telephone: 301-763-4100.

For additional information concerning the technical documentation, contact Data User Services Division, Data Access and Use Staff, Bureau of the Census, Washington, DC 20233. Telephone: 301-763-2074.

CONTENTS

	Page
Abstract.....	1-1
User Notes	2-1

Data Dictionary	1
-----------------------	---

APPENDICES

A. Area Classifications	A-1
B. Definitions of Subject Characteristics	B-1
C. Accuracy of the Data	C-1
D. Collection and Processing Procedures.....	D-1
E. Facsimiles of Respondent Instructions and Questionnaire Pages	E-1
F. Data Products and User Assistance	F-1
G. Code List	G-1

ABSTRACT

The user should note that there are limitations to the data. Please refer to the technical documentation for a further explanation on the limitations of the data.

CONTENTS

Appendixes	1-2
Citation	1-1
File Availability	1-2
Geographic Coverage	1-1
Reference Materials	1-2
Subject Matter Description	1-1
Technical Description	1-1
Type of File	1-1
Universe Description	1-1
User Notes	1-1

CITATION

Census of Population, 1980: Summary Tape File S-5, Number of Workers by County of Residence by County of Work [machine-readable data files] / prepared by the Bureau of the Census. —Washington: The Bureau [producer and distributor], 1992.

TYPE OF FILE

Summary statistics.

UNIVERSE DESCRIPTION

All persons living in the 50 States and the District of Columbia, both civilian and members of the U.S. Armed Forces, who were 16 years old or over and who were employed and at work during the census reference week; that is, the calendar week preceding the date on which the respondents completed their questionnaires or were interviewed by enumerators.

SUBJECT MATTER DESCRIPTION

Summary Tape File S-5 (STF S-5) comprises two types of records. Record 1 provides the number of workers identified by county of residence and county of work. In the six New England States (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont), cities and towns are the unit of geography instead of counties. Record 2 correlates the metropolitan area codes used in record 1 with their alphabetic name and MSA/PMSA designation.

GEOGRAPHIC COVERAGE

Counties and equivalent entities such as parishes (Louisiana), independent cities (Virginia, Maryland,

Missouri, and Nevada), and boroughs and census areas (Alaska) in the non-New England States and the District of Columbia; cities and towns in the New England States (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont).

TECHNICAL DESCRIPTION

Data Set Name = SP400XXX.F01XXXXX
Block size = 20,000 characters
Block count = 1,109

FILE STRUCTURE: Rectangular.

FILE SIZE:

Record type	Number of logical records	Character record length
1	221,398	100
2	335	100

FILE SORT SEQUENCE:

Record type	Sort sequence
1	Record type/Residence State/county/ MCD/Work Foreign country or State/county/MCD
2	Record type/FIPS MSA or PMSA code

USER NOTES

Information about file or documentation changes sometimes becomes available after the documentation has been printed. User notes inform the user community about these changes. These are issued in a numbered series. If there are technical documentation changes, revised pages usually accompany them. The revised pages should be inserted in their proper location, but the user note cover sheet should be filed in the User Notes chapter. Technical notes, which contain file errata, also are issued by the Census Bureau. We suggest filing these following appendix G.

APPENDIXES

Detailed information on geographic areas is in appendix A followed by subject-matter definitions in appendix B. Appendix C provides detailed statistical information about the data while appendix D outlines the data collection and processing procedures. Facsimiles of both the respondent instructions and 1990 census long-form questionnaire are in appendix E.

Appendix F furnishes detailed information on all the data products of the 1990 census, as well as suggested sources of information and assistance. Appendix G contains the code list used in processing the data.

REFERENCE MATERIALS

U.S. Bureau of the Census. *Census of Population, 1990: Summary Tape File S-5, Number of Workers by*

County of Residence by County of Work Technical Documentation. The documentation contains an abstract and record layouts of the file. One copy accompanies each file order. If ordered separately, it is available for \$15 from Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233.

FILE AVAILABILITY

The file may be ordered using the order form on the following page. It is available from Customer Services, Data User Services Division, Bureau of the Census, Washington, DC 20233. Telephone: 301-763-4100.

***GRIJPS**

Please Type or Print. (Form is designed for typewriter use.) Prices include regular domestic postage and handling. International customers please add 25%.

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Each user note has a cover sheet which should be filed following this page. Technical documentation replacement pages will follow the cover sheet. These pages need to be filed in their proper location and the original pages destroyed. Replacement pages can be readily identified, since they have the user note date on the lower outside portion of each page.

USER NOTE ORDERING INFORMATION

Additional information concerning this file may be available at a later date. User notes, along with technical notes, are automatically sent to all Census Bureau data purchasers.

Users who purchase data from other sources may subscribe to the user/technical note series at a cost of \$40 annually.

Data User Services Division
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Washington, DC 20233

.....

Name of File: **Census of Population, 1990: Summary Tape File S-5, Number of Workers by County of Residence by County of Work**

Please send me any information that becomes available later concerning the file listed above.

Name:

Address:

City and State:

ZIP Code:

DATA DICTIONARY

Record Type 1 (Data Record)

Characters

1

Item Description

Record Type

- 1 Data record
- 2 Metropolitan area name record

2-3

Place of residence: FIPS State code

4-6

Place of residence: FIPS county code

7-9

Place of residence: Census minor civil division (MCD) code

Blank except for the States listed below:

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

10-13

Place of residence: FIPS metropolitan statistical area (MSA) code

Contains FIPS MSA or PMSA codes for counties (cities and towns in New England) that comprise the metropolitan areas designated June 30, 1990. Code used for nonmetropolitan areas is 9999.

14-18

Place of residence: FIPS minor civil division (MCD) code

Blank except for the States listed below:

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

19-21

Place of work: State or foreign area code (See appendix G)

22-24

Place of work: County code

- 000 Appears in conjunction with codes for worked in Puerto Rico or a foreign area

Characters	Item Description
25-27	<p>Place of work: Census minor civil division (MCD) code</p> <p>Blank except for the States listed below:</p> <p>Connecticut Maine Massachusetts New Hampshire Rhode Island Vermont</p>
28-31	<p>Place of work: FIPS metropolitan statistical area (MSA) code</p> <p>Contains FIPS MSA or PMSA codes for counties (cities and towns in New England) that comprise the metropolitan areas designated June 30, 1990. Code used for nonmetropolitan areas is 9999.</p>
32-35	<p>Place of work: FIPS minor civil division (MCD) code</p> <p>Blank except for the States listed below:</p> <p>Connecticut Maine Massachusetts New Hampshire Rhode Island Vermont</p>
37-44	<p>Number of workers (Right-justified; filled with leading blanks)</p>
45-72	<p>Place of residence: Name of county (city or town in New England) (Left-justified; truncated after 28 characters; filled with trailing blanks)</p>
73-100	<p>Place of work: Name of county (city or town in New England) Puerto Rico, or foreign area (Left-justified; truncated after 28 characters; filled with trailing blanks)</p>

**Record Type 2
(Metropolitan Area Name Record)**

Characters	Item Description
1	Record Type
	1 Data record
	2 MSA/PMSA name record
2	Blank
3-6	FIPS metropolitan statistical area (MSA) code
	This field contains the 4-digit code for MSAs and primary MSAs (PMSAs) designated June 30, 1990.
7-8	Blank
9-100	MSA/PMSA name (left-justified; filled with trailing blanks)
	This field contains the MSA or PMSA name including titled central cities, state abbreviations, and MSA or PMSA designation. Hyphens and commas are included in the name.

APPENDIX A. Area Classifications

CONTENTS

Borough (See County Subdivision)	
Borough and Census Area (Alaska) (See County)	
Boundary Changes	A-1
Census Area (Alaska) (See County)	
Census Code (See Geographic Code)	
Census Geographic Code (See Geographic Code)	
County	A-1
County Subdivision	A-1
Federal Information Processing Standards (FIPS) Code (See Geographic Code)	
Geographic Code	A-2
Gore (See County Subdivision)	
Grant (See County Subdivision)	
Independent City (See County)	
Metropolitan Area (MA)	A-3
Metropolitan Statistical Area (MSA) (See Metropolitan Area)	
Minor Civil Division (MCD) (See County Subdivision)	
Parish (Louisiana) (See County)	
Plantation (See County Subdivision)	
Primary Metropolitan Statistical Area (PMSA) (See Metropolitan Area)	
State	A-4
TIGER	A-4
Town (See County Subdivision)	
Township (See County Subdivision)	
United States	A-4
Unorganized Territory (unorg.) (See County Subdivision)	

BOUNDARY CHANGES

The boundaries of some counties, county subdivisions, American Indian and Alaska Native areas, and many incorporated places, changed between those reported for the 1980 census and January 1, 1990. Boundary changes to legal entities result from:

1. Annexations to or detachments from legally established governmental units.
2. Mergers or consolidations of two or more governmental units.
3. Establishment of new governmental units.
4. Disincorporations or disorganizations of existing governmental units.
5. Changes in treaties and Executive Orders.

The historical counts shown for counties, county subdivisions, and places are not updated for such changes, and thus reflect the population and housing units in the area as delineated at each census. Information on boundary changes reported between the 1980 and 1990 censuses for counties, county subdivisions, and incorporated places is presented in the "User Notes" section of the technical documentation of Summary Tape Files 1 and 3, and in the 1990 CPH-2,

Population and Housing Unit Counts printed reports. For information on boundary changes for such areas in the decade preceding other decennial censuses, see the *Number of Inhabitants* reports for each census. Boundary changes are not reported for some areas, such as census designated places and block groups.

COUNTY

The primary political divisions of most States are termed "counties." In Louisiana, these divisions are known as "parishes." In Alaska, which has no counties, the county equivalents are the organized "boroughs" and the "census areas" that are delineated for statistical purposes by the State of Alaska and the Census Bureau. In four States (Maryland, Missouri, Nevada, and Virginia), there are one or more cities that are independent of any county organization and thus constitute primary divisions of their States. These cities are known as "independent cities" and are treated as equivalent to counties for statistical purposes. That part of Yellowstone National Park in Montana is treated as a county equivalent. The District of Columbia has no primary divisions, and the entire area is considered equivalent to a county for statistical purposes.

Each county and county equivalent is assigned a three-digit FIPS code that is unique within State. These codes are assigned in alphabetical order of county or county equivalent within State, except for the independent cities, which follow the listing of counties.

COUNTY SUBDIVISION

County subdivisions are the primary subdivisions of counties and their equivalents for the reporting of decennial census data. They include census county divisions, census subareas, minor civil divisions, and unorganized territories.

Each county subdivision is assigned a three-digit census code in alphabetical order within county and a five-digit FIPS code in alphabetical order within State.

Census County Division (CCD)

Census county divisions (CCD's) are subdivisions of a county that were delineated by the Census Bureau, in cooperation with State officials and local census statistical areas committees, for statistical purposes. CCD's were established in 21 States where there are no legally

established minor civil divisions (MCD's), where the MCD's do not have governmental or administrative purposes, where the boundaries of the MCD's change frequently, and/or where the MCD's are not generally known to the public. CCD's have no legal functions, and are not governmental units.

The boundaries of CCD's usually are delineated to follow visible features, and in most cases coincide with census tract or block numbering area boundaries. The name of each CCD is based on a place, county, or well-known local name that identifies its location. CCD's have been established in the following 21 States: Alabama, Arizona, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Kentucky, Montana, Nevada, New Mexico, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Washington, and Wyoming. For the 1980 census, the county subdivisions recognized for Nevada were MCD's.

Census Subarea (Alaska)

Census subareas are statistical subdivisions of boroughs and census areas (county equivalents) in Alaska. Census subareas were delineated cooperatively by the State of Alaska and the Census Bureau. The census subareas, identified first in 1980, replaced the various types of subdivisions used in the 1970 census.

Minor Civil Division (MCD)

Minor civil divisions (MCD's) are the primary political or administrative divisions of a county. MCD's represent many different kinds of legal entities with a wide variety of governmental and/or administrative functions. MCD's are variously designated as American Indian reservations, assessment districts, boroughs, election districts, gores, grants, magisterial districts, parish governing authority districts, plantations, precincts, purchases, supervisors' districts, towns, and townships. In some States, all or some incorporated places are not located in any MCD and thus serve as MCD's in their own right. In other States, incorporated places are subordinate to (part of) the MCD's in which they are located, or the pattern is mixed—some incorporated places are independent of MCD's and others are subordinate to one or more MCD's.

The Census Bureau recognizes MCD's in the following 28 States: Arkansas, Connecticut, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Pennsylvania, Rhode Island, South Dakota, Vermont, Virginia, West Virginia, and Wisconsin. The District of Columbia has no primary divisions, and the entire area is considered equivalent to an MCD for statistical purposes.

The MCD's in 12 selected States (Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island,

Vermont, and Wisconsin) also serve as general-purpose local governments. The Census Bureau presents data for these MCD's in all data products in which it provides data for places.

Unorganized Territory (unorg.)

In nine States (Arkansas, Iowa, Kansas, Louisiana, Maine, Minnesota, North Carolina, North Dakota, and South Dakota), some counties contain territory that is not included in an MCD recognized by the Census Bureau. Each separate area of unorganized territory in these States is recognized as one or more separate county subdivisions for census purposes. Each unorganized territory is given a descriptive name, followed by the designation "unorg."

GEOGRAPHIC CODE

Geographic codes are shown primarily on machine-readable data products, such as computer tape and compact disc-read only memory (CD-ROM), but also appear on other products such as microfiche; they also are shown on some census maps. Codes are identified as "census codes" only if there is also a Federal Information Processing Standards (FIPS) code for the same geographic entity. A code that is not identified as either "census" or "FIPS" is usually a census code for which there is no FIPS equivalent, or for which the Census Bureau does not use the FIPS code. The exceptions, which use only the FIPS code in census products, are county, congressional district, and metropolitan area (that is, metropolitan statistical area, consolidated metropolitan statistical area, and primary metropolitan statistical area).

Census Code

Census codes are assigned for a variety of geographic entities, including American Indian and Alaska Native area, census division, census region, county subdivision, place, State, urbanized area, and voting district. The structure, format, and meaning of census codes appear in the 1990 census *Geographic Identification Code Scheme*; in the data dictionary portion of the technical documentation for summary tape files, CD-ROM's, and microfiche.

Federal Information Processing Standards (FIPS) Code

Federal Information Processing Standards (FIPS) codes are assigned for a variety of geographic entities, including American Indian and Alaska Native area, congressional district, county, county subdivision, metropolitan area, place, and State. The structure, format, and meaning of FIPS codes used in the census are

shown in the 1990 census *Geographic Identification Code Scheme*; in the data dictionary portion of the technical documentation for summary tape files, CD-ROM's, and microfiche.

The objective of the FIPS codes is to improve the use of data resources of the Federal Government and avoid unnecessary duplication and incompatibilities in the collection, processing, and dissemination of data. More information about FIPS and FIPS code documentation is available from the National Technical Information Service, Springfield, VA 22161.

United States Postal Service (USPS) Code

United States Postal Service (USPS) codes for States are used in all 1990 data products. The codes are two-character alphabetic abbreviations. These codes are the same as the FIPS two-character alphabetic abbreviations.

METROPOLITAN AREA (MA)

The general concept of a metropolitan area (MA) is one of a large population nucleus, together with adjacent communities that have a high degree of economic and social integration with that nucleus. Some MA's are defined around two or more nuclei.

The MA classification is a statistical standard, developed for use by Federal agencies in the production, analysis, and publication of data on MA's. The MA's are designated and defined by the Federal Office of Management and Budget, following a set of official published standards. These standards were developed by the interagency Federal Executive Committee on Metropolitan Areas, with the aim of producing definitions that are as consistent as possible for all MA's nationwide.

Each MA must contain either a place with a minimum population of 50,000 or a Census Bureau-defined urbanized area and a total MA population of at least 100,000 (75,000 in New England). An MA comprises one or more central counties. An MA also may include one or more outlying counties that have close economic and social relationships with the central county. An outlying county must have a specified level of commuting to the central counties and also must meet certain standards regarding metropolitan character, such as population density, urban population, and population growth. In New England, MA's are composed of cities and towns rather than whole counties.

The territory, population, and housing units in MA's are referred to as "metropolitan." The metropolitan category is subdivided into "inside central city" and "outside central city." The territory, population, and housing units located outside MA's are referred to as

"nonmetropolitan." The metropolitan and nonmetropolitan classification cuts across the other hierarchies; for example, there is generally both urban and rural territory within both metropolitan and nonmetropolitan areas.

To meet the needs of various users, the standards provide for a flexible structure of metropolitan definitions that classify an MA either as a metropolitan statistical area (MSA) or as a consolidated metropolitan statistical area (CMSA) that is divided into primary metropolitan statistical areas (PMSA's). Documentation of the MA standards and how they are applied is available from the Secretary, Federal Executive Committee on Metropolitan Areas, Population Division, U.S. Bureau of the Census, Washington, DC 20233.

Central City

In each MSA and CMSA, the largest place and, in some cases, additional places are designated as "central cities" under the official standards. A few PMSA's do not have central cities. The largest central city and, in some cases, up to two additional central cities are included in the title of the MA; there also are central cities that are not included in an MA title. An MA central city does not include any part of that city that extends outside the MA boundary.

Consolidated and Primary Metropolitan Statistical Area (CMSA and PMSA)

If an area that qualifies as an MA has more than one million persons, primary metropolitan statistical areas (PMSA's) may be defined within it. PMSA's consist of a large urbanized county or cluster of counties that demonstrates very strong internal economic and social links, in addition to close ties to other portions of the larger area. When PMSA's are established, the larger area of which they are component parts is designated a consolidated metropolitan statistical area (CMSA).

Metropolitan Statistical Area (MSA)

Metropolitan statistical areas (MSA's) are relatively freestanding MA's and are not closely associated with other MA's. These areas typically are surrounded by nonmetropolitan counties.

Metropolitan Area Title and Code

The title of an MSA contains the name of its largest central city and up to two additional city names, provided that the additional places meet specified levels of population, employment, and commuting. Generally, a city with a population of 250,000 or more is in the title, regardless of other criteria.

The title of a PMSA may contain up to three place names, as determined above, or up to three county names, sequenced in order of population. A CMSA title

also may include up to three names, the first of which generally is the most populous central city in the area. The second name may be the first city or county name in the most populous remaining PMSA; the third name may be the first city or county name in the next most populous PMSA. A regional designation may be substituted for the second and/or third names in a CMSA title if such a designation is supported by local opinion and is deemed to be unambiguous and suitable by the Office of Management and Budget.

The titles for all MA's also contain the name of each State in which the area is located. Each metropolitan area is assigned a four-digit FIPS code, in alphabetical order nationwide. If the fourth digit of the code is a "2," it identifies a CMSA. Additionally, there is a separate set of two-digit codes for CMSA's, also assigned alphabetically.

STATE

States are the primary governmental divisions of the United States. The District of Columbia is treated as a statistical equivalent of a State for census purposes. The four census regions, nine census divisions, and their component States are shown under "CENSUS REGION AND CENSUS DIVISION" in this appendix.

The Census Bureau treats the outlying areas as State equivalents for the 1990 census. The outlying areas are American Samoa, Guam, the Northern Mariana Islands, Palau, Puerto Rico, and the Virgin Islands of the United States. Geographic definitions specific to each outlying area are shown in appendix A in the data products for each area.

Each State and equivalent is assigned a two-digit numeric Federal Information Processing Standards (FIPS) code in alphabetical order by State name, followed by the outlying area names. Each State and equivalent area also is assigned a two-digit census code. This code is assigned on the basis of the geographic sequence of each State within each census division; the first digit of the code is the code for the respective division. Puerto Rico, the Virgin Islands, and the outlying areas of the

Pacific are assigned "0" as the division code. Each State and equivalent area also is assigned the two-letter FIPS/United States Postal Service (USPS) code.

In 12 selected States (Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin), the minor civil divisions also serve as general-purpose local governments. The Census Bureau presents data for these minor civil divisions in all data products in which it provides data for places.

TIGER

TIGER is an acronym for the new digital (computer-readable) geographic data base that automates the mapping and related geographic activities required to support the Census Bureau's census and survey programs. The Census Bureau developed the Topologically Integrated Geographic Encoding and Referencing (TIGER) System to automate the geographic support processes needed to meet the major geographic needs of the 1990 census; producing the cartographic products to support data collection and map publication, providing the geographic structure for tabulation and publication of the collected data, assigning residential and employer addresses to their geographic location and relating those locations to the Census Bureau's geographic units, and so forth. The content of the TIGER data base is made available to the public through a variety of "TIGER Extract" files that may be obtained from the Data User Services Division, U.S. Bureau of the Census, Washington, DC 20233.

UNITED STATES

The United States comprises the 50 States and the District of Columbia. In addition, the Census Bureau treats the outlying areas as statistical equivalents of States for the 1990 census. The outlying areas include American Samoa, Guam, the Northern Mariana Islands, Palau, Puerto Rico, and the Virgin Islands.

APPENDIX B.

Definitions of Subject Characteristics

CONTENTS

SUBJECT CHARACTERISTICS	B-1
Employment Status	B-1
Group Quarters	B-2
Institutionalized Persons (See Group Quarters)	
Journey to Work	B-8
Noninstitutionalized Group Quarters (See Group Quarters)	
Place of Work (See Journey to Work)	
Reference Week	B-11
Worker (See Employment Status, see Journey to Work)	

SUBJECT CHARACTERISTICS

EMPLOYMENT STATUS

The data on employment status were derived from answers to questionnaire items 21, 25, and 26, which were asked of a sample of persons. The series of questions on employment status was asked of all persons 15 years old and over and was designed to identify, in this sequence: (1) persons who worked at any time during the reference week; (2) persons who did not work during the reference week but who had jobs or businesses from which they were temporarily absent (excluding layoff); (3) persons on layoff; and (4) persons who did not work during the reference week, but who were looking for work during the last four weeks and were available for work during the reference week. (For more information, see the discussion under "Reference Week.")

The employment status data shown in this and other 1990 census tabulations relate to persons 16 years old and over. Some tabulations showing employment status, however, include persons 15 years old. By definition, these persons are classified as "Not in Labor Force." In the 1940, 1950, and 1960 censuses, employment status data were presented for persons 14 years old and over. The change in the universe was made in 1970 to agree with the official measurement of the labor force as revised in January 1987 by the U.S. Department of Labor. The 1970 census was the last to show employment data for persons 14 and 15 years old.

Employed—All civilians 16 years old and over who were either (1) "at work"—those who did any work at all during the reference week as paid employees, worked in their own business or profession, worked on their own farm, or worked 15 hours or more as unpaid workers on a family farm or in a family business; or (2) were "with a job but not at work"—those who did not work during the reference week but had jobs or businesses from which

they were temporarily absent due to illness, bad weather, industrial dispute, vacation, or other personal reasons. Excluded from the employed are persons whose only activity consisted of work around the house or unpaid volunteer work for religious, charitable, and similar organizations; also excluded are persons on active duty in the United States Armed Forces.

Unemployed—All civilians 16 years old and over are classified as unemployed if they (1) were neither "at work" nor "with a job but not at work" during the reference week, and (2) were looking for work during the last 4 weeks, and (3) were available to accept a job. Also included as unemployed are civilians who did not work at all during the reference week and were waiting to be called back to a job from which they had been laid off. Examples of job seeking activities are:

- Registering at a public or private employment office
- Meeting with prospective employers
- Investigating possibilities for starting a professional practice or opening a business
- Placing or answering advertisements
- Writing letters of application
- Being on a union or professional register

Civilian Labor Force—Consists of persons classified as employed or unemployed in accordance with the criteria described above.

Experienced Unemployed—These are unemployed persons who have worked at any time in the past.

Experienced Civilian Labor Force—Consists of the employed and the experienced unemployed.

Labor Force—All persons classified in the civilian labor force plus members of the U.S. Armed Forces (persons on active duty with the United States Army, Air Force, Navy, Marine Corps, or Coast Guard).

Not in Labor Force—All persons 16 years old and over who are not classified as members of the labor force. This category consists mainly of students, housewives, retired workers, seasonal workers enumerated in an off

season who were not looking for work, institutionalized persons, and persons doing only incidental unpaid family work (less than 15 hours during the reference week).

Worker—This term appears in connection with several subjects: journey-to-work items, class of worker, weeks worked in 1989, and number of workers in family in 1989. Its meaning varies and, therefore, should be determined in each case by referring to the definition of the subject in which it appears.

Actual Hours Worked Last Week—All persons who reported working during the reference week were asked to report in questionnaire item 21b the number of hours that they worked. The statistics on hours worked pertain to the number of hours actually worked at all jobs, and do not necessarily reflect the number of hours typically or usually worked or the scheduled number of hours. The concept of "actual hours" differs from that of "usual hours" described below. The number of persons who worked only a small number of hours is probably understated since such persons sometimes consider themselves as not working. Respondents were asked to include overtime or extra hours worked, but to exclude lunch hours, sick leave, and vacation leave.

Limitation of the Data—The census may understate the number of employed persons because persons who have irregular, casual, or unstructured jobs sometimes report themselves as not working. The number of employed persons "at work" is probably overstated in the census (and conversely, the number of employed "with a job, but not at work" is understated) since some persons on vacation or sick leave erroneously reported themselves as working. This problem has no effect on the total number of employed persons. The reference week for the employment data is not the same for all persons. Since persons can change their employment status from one week to another, the lack of a uniform reference week may mean that the employment data do not reflect the reality of the employment situation of any given week. (For more information, see the discussion under "Reference Week.")

Comparability—The questionnaire items and employment status concepts for the 1990 census are essentially the same as those used in the 1980 and 1970 censuses. However, these concepts differ in many respects from those associated with the 1950 and 1960 censuses.

Since employment data from the census are obtained from respondents in households, they differ from statistics based on reports from individual business establishments, farm enterprises, and certain government programs. Persons employed at more than one job are counted only once in the census and are classified according to the job at which they worked the greatest

number of hours during the reference week. In statistics based on reports from business and farm establishments, persons who work for more than one establishment may be counted more than once. Moreover, some tabulations may exclude private household workers, unpaid family workers, and self-employed persons, but may include workers less than 16 years of age.

An additional difference in the data arises from the fact that persons who had a job but were not at work are included with the employed in the census statistics, whereas many of these persons are likely to be excluded from employment figures based on establishment payroll reports. Furthermore, the employment status data in census tabulations include persons on the basis of place of residence regardless of where they work, whereas establishment data report persons at their place of work regardless of where they live. This latter consideration is particularly significant when comparing data for workers who commute between areas.

Census data on actual hours worked during the reference week may differ from data from other sources. The census measures hours actually worked, whereas some surveys measure hours paid for by employers. Comparability of census actual hours worked data may also be affected by the nature of the reference week (see "Reference Week").

For several reasons, the unemployment figures of the Census Bureau are not comparable with published figures on unemployment compensation claims. For example, figures on unemployment compensation claims exclude persons who have exhausted their benefit rights, new workers who have not earned rights to unemployment insurance, and persons losing jobs not covered by unemployment insurance systems (including some workers in agriculture, domestic services, and religious organizations, and self-employed and unpaid family workers). In addition, the qualifications for drawing unemployment compensation differ from the definition of unemployment used by the Census Bureau. Persons working only a few hours during the week and persons with a job but not at work are sometimes eligible for unemployment compensation but are classified as "Employed" in the census. Differences in the geographical distribution of unemployment data arise because the place where claims are filed may not necessarily be the same as the place of residence of the unemployed worker.

The figures on employment status from the decennial census are generally comparable with similar data collected in the Current Population Survey. However, some difference may exist because of variations in enumeration and processing techniques.

GROUP QUARTERS

All persons not living in households are classified by the Census Bureau as living in group quarters. Two general categories of persons in group quarters are

recognized: (1) institutionalized persons and (2) other persons in group quarters (also referred to as "noninstitutional group quarters").

Institutionalized Persons—Includes persons under formally authorized, supervised care or custody in institutions at the time of enumeration. Such persons are classified as "patients or inmates" of an institution regardless of the availability of nursing or medical care, the length of stay, or the number of persons in the institution. Generally, institutionalized persons are restricted to the institutional buildings and grounds (or must have passes or escorts to leave) and thus have limited interaction with the surrounding community. Also, they are generally under the care of trained staff who have responsibility for their safekeeping and supervision.

Type of Institution—The type of institution was determined as part of census enumeration activities. For institutions which specialize in only one specific type of service, all patients or inmates were given the same classification. For institutions which had multiple types of major services (usually general hospitals and Veterans' Administration hospitals), patients were classified according to selected types of wards. For example, in psychiatric wards of hospitals, patients were classified in "mental (psychiatric) hospitals"; in hospital wards for persons with chronic diseases, patients were classified in "hospitals for the chronically ill." Each patient or inmate was classified in only one type of institution. Institutions include the following types:

Correctional Institutions—Includes prisons, Federal detention centers, military stockades and jails, police lockups, halfway houses, local jails, and other confinement facilities, including work farms.

Prisons—Where persons convicted of crimes serve their sentences. In some census products, the prisons are classified by two types of control: (1) "Federal" (operated by the Bureau of Prisons of the Department of Justice) and (2) "State." Residents who are criminally insane were classified on the basis of where they resided at the time of enumeration: (1) in institutions (or hospital wards) operated by departments of correction or similar agencies; or (2) in institutions operated by departments of mental health or similar agencies.

Federal Detention Centers—Operated by the Immigration and Naturalization Service (INS) and the Bureau of Prisons. These facilities include detention centers used by the Park Police; Bureau of Indian Affairs Detention Centers; INS Centers, such as the INS Federal Allen Detention Facility; INS Processing Centers; and INS Contract Detention Centers used to detain aliens under exclusion or deportation proceedings, as well as those aliens

who have not been placed into proceedings, such as custodial required departures; and INS Detention Centers operated within local jails, and State and Federal prisons.

Military Stockades, Jails—Operated by military police and used to hold persons awaiting trial or convicted of violating military laws.

Local Jails and Other Confinement Facilities—Includes facilities operated by counties and cities that primarily hold persons beyond arraignment, usually for more than 48 hours. Also included in this category are work farms used to hold persons awaiting trial or serving time on relatively short sentences and jails run by private businesses under contract for local governments (but not by State governments).

Police Lockups—Temporary-holding facilities operated by county and city police that hold persons for 48 hours or less only if they have not been formally charged in court.

Halfway Houses—Operated for correctional purposes and include probation and restitution centers, pre-release centers, and community-residential centers.

Other Types of Correctional Institutions—Privately operated correctional facilities and correctional facilities specifically for alcohol/drug abuse.

Nursing Homes—Comprises a heterogeneous group of places. The majority of patients are elderly, although persons who require nursing care because of chronic physical conditions may be found in these homes regardless of their age. Included in this category are skilled-nursing facilities, intermediate-care facilities, long-term care rooms in wards or buildings on the grounds of hospitals, or long-term care rooms/nursing wings in congregate housing facilities. Also included are nursing, convalescent, and rest homes, such as soldiers', sailors', veterans', and fraternal or religious homes for the aged, with or without nursing care. In some census products, nursing homes are classified by type of ownership as "Federal," "State," "Private not-for-profit," and "Private for profit."

Mental (Psychiatric) Hospitals—Includes hospitals or wards for the criminally insane not operated by a prison, and psychiatric wards of general hospitals and veterans' hospitals. Patients receive supervised medical/nursing care from formally-trained staff. In some census products, mental hospitals are classified by type of ownership as "Federal," "State or local," "Private," and "Ownership not known."

Hospitals for Chronically Ill—Includes hospitals for patients who require long-term care, including those in military hospitals and wards for the chronically ill located on military bases; or other hospitals or wards for the chronically ill, which include tuberculosis hospitals or wards, wards in general and Veterans' Administration hospitals for the chronically ill, neurological wards, hospices, wards for patients with Hansen's Disease (leprosy) and other incurable diseases, and other unspecified wards for the chronically ill. Patients who had no usual home elsewhere were enumerated as part of the institutional population in the wards of general and military hospitals. Most hospital patients are at the hospital temporarily and were enumerated at their usual place of residence. (For more information, see "Wards in General and Military Hospitals for Patients Who Have No Usual Home Elsewhere.")

Schools, Hospitals, or Wards for the Mentally Retarded—Includes those institutions such as wards in hospitals for the mentally retarded, and intermediate-care facilities for the mentally retarded that provide supervised medical/nursing care from formally-trained staff. In some census products, this category is classified by type of ownership as "Federal," "State or local," "Private," and "Ownership not known."

Schools, Hospitals, or Wards for the Physically Handicapped—Includes three types of institutions: institutions for the blind, those for the deaf, and orthopedic wards and institutions for the physically handicapped. Institutions for persons with speech problems are classified with "institutions for the deaf." The category "orthopedic wards and institutions for the physically handicapped" includes those institutions providing relatively long-term care to accident victims, and to persons with polio, cerebral palsy, and muscular dystrophy. In some census products, this category is classified by type of ownership as "Public," "Private," and "Ownership not known."

Hospitals, and Wards for Drug/Alcohol Abuse—Includes hospitals, and hospital wards in psychiatric and general hospitals. These facilities are equipped medically and designed for the diagnosis and treatment of medical or psychiatric illnesses associated with alcohol or drug abuse. Patients receive supervised medical care from formally-trained staff.

Wards in General and Military Hospitals for Patients Who Have No Usual Home Elsewhere—Includes maternity, neonatal, pediatric (including wards for boarder babies), military, and surgical wards of hospitals, and wards for persons with infectious diseases.

Juvenile Institutions—Includes homes, schools, and other institutions providing care for children (short- or long-term care). Juvenile institutions include the following types:

Homes for Abused, Dependent, and Neglected Children—Includes orphanages and other institutions which provide long-term care (usually more than 90 days) for children. This category is classified in some census products by type of ownership as "Public" and "Private."

Residential Treatment Centers—Includes those institutions which primarily serve children who, by clinical diagnosis, are moderately or seriously disturbed emotionally. Also, these institutions provide long-term treatment services, usually supervised or directed by a psychiatrist.

Training Schools for Juvenile Delinquents—Includes residential training schools or homes, and industrial schools, camps, or farms for juvenile delinquents.

Public Training Schools for Juvenile Delinquents—Usually operated by a State agency (for example, department of welfare, corrections, or a youth authority). Some are operated by county and city governments. These public training schools are specialized institutions serving delinquent children, generally between the ages of 10 and 17 years old, all of whom are committed by the courts.

Private Training Schools—Operated under private auspices. Some of the children they serve are committed by the courts as delinquents. Others are referred by parents or social agencies because of delinquent behavior. One difference between private and public training schools is that, by their administrative policy, private schools have control over their selection and intake.

Detention Centers—Includes institutions providing short-term care (usually 30 days or less) primarily for delinquent children pending disposition of their cases by a court. This category also covers diagnostic centers. In practice, such institutions may be caring for both delinquent and neglected children pending court disposition.

Other Persons in Group Quarters (also referred to as "noninstitutional group quarters")—Includes all persons who live in group quarters other than institutions. Persons who live in the following living quarters are classified as "other persons in group quarters" when there are 10 or more unrelated persons living in the unit; otherwise, these living quarters are classified as housing units.

Rooming Houses—Includes persons residing in rooming and boarding houses and living in quarters with 10 or more unrelated persons.

Group Homes—Includes "community-based homes" that provide care and supportive services. Such places include homes for the mentally ill, mentally retarded, and physically handicapped; drug/alcohol halfway houses; communes; and maternity homes for unwed mothers.

Homes for the Mentally Ill—Includes community-based homes that provide care primarily for the mentally ill. In some data products, this category is classified by type of ownership as "Federal," "State," "Private," and "Ownership not known." Homes which combine treatment of the physically handicapped with treatment of the mentally ill are counted as homes for the mentally ill.

Homes for the Mentally Retarded—Includes community-based homes that provide care primarily for the mentally retarded. Homes which combine treatment of the physically handicapped with treatment of the mentally retarded are counted as homes for the mentally retarded. This category is classified by type of ownership in some census products, as "Federal," "State," "Private," or "Ownership not known."

Homes for the Physically Handicapped—Includes community-based homes for the blind, for the deaf, and other community-based homes for the physically handicapped. Persons with speech problems are classified with homes for the deaf. In some census products, this category is classified by type of ownership as "Public," "Private," or "Ownership not known."

Homes or Halfway Houses for Drug/Alcohol Abuse—Includes persons with no usual home elsewhere in places that provide community-based care and supportive services to persons suffering from a drug/alcohol addiction and to recovering alcoholics and drug abusers. Places providing community-based care for drug and alcohol abusers include group homes, detoxification centers, quarterway houses (residential treatment facilities that work closely with accredited hospitals), halfway houses, and recovery homes for ambulatory, mentally competent recovering alcoholics and drug abusers who may be re-entering the work force.

Maternity Homes for Unwed Mothers—Includes persons with no usual home elsewhere in places that provide domestic care for unwed mothers and their children. These homes may provide social services and post-natal care within the facility, or

may make arrangements for women to receive such services in the community. Nursing services are usually available in the facility.

Other Group Homes—Includes persons with no usual home elsewhere in communes, foster care homes, and job corps centers with 10 or more unrelated persons. These types of places provide communal living quarters, generally for persons who have formed their own community in which they have common interests and often share or own property jointly.

Religious Group Quarters—Includes, primarily, group quarters for nuns teaching in parochial schools and for priests living in rectories. It also includes other convents and monasteries, except those associated with a general hospital or an institution.

College Quarters Off Campus—Includes privately-owned rooming and boarding houses off campus, if the place is reserved exclusively for occupancy by college students and if there are 10 or more unrelated persons. In census products, persons in this category are classified as living in a college dormitory.

Persons residing in certain other types of living arrangements are classified as living in "noninstitutional group quarters" regardless of the number of people sharing the unit. These include persons residing in the following types of group quarters:

College Dormitories—Includes college students in dormitories (provided the dormitory is restricted to students who do not have their families living with them), fraternity and sorority houses, and on-campus residential quarters used exclusively for those in religious orders who are attending college. Students in privately-owned rooming and boarding houses off campus are also included, if the place is reserved exclusively for occupancy by college-level students and if there are 10 or more unrelated persons.

Military Quarters—Includes military personnel living in barracks and dormitories on base, in transient quarters on base for temporary residents (both civilian and military), and on military ships. However, patients in military hospitals receiving treatment for chronic diseases or who had no usual home elsewhere, and persons being held in military stockades were included as part of the institutional population.

Agriculture Workers' Dormitories—Includes persons in migratory farm workers' camps on farms, bunk-houses for ranch hands, and other dormitories on farms, such as those on "tree farms."

Other Workers' Dormitories—Includes persons in logging camps, construction workers' camps, firehouse dormitories, job-training camps, energy enclaves (Alaska only), and nonfarm migratory workers' camps (for example, workers in mineral and mining camps).

Emergency Shelters for Homeless Persons (with sleeping facilities) and Visible in Street Locations—Includes persons enumerated during the "Shelter-and-Street-Night" operation primarily on March 20-21, 1990. Enumerators were instructed not to ask if a person was "homeless." If a person was at one of the locations below on March 20-21, the person was counted as described below. (For more information on the "Shelter-and-Street-Night" operation, see Appendix D, Collection and Processing Procedures.) This category is divided into four classifications:

Emergency Shelters for Homeless Persons (with sleeping facilities)—Includes persons who stayed overnight on March 20, 1990, in permanent and temporary emergency housing, missions, hotels/motels, and flophouses charging \$12 or less (excluding taxes) per night; Salvation Army shelters, hotels, and motels used *entirely* for homeless persons regardless of the nightly rate charged; rooms in hotels and motels used *partially* for the homeless; and similar places known to have persons who have no usual home elsewhere staying overnight. If not shown separately, shelters and group homes that provide *temporary* sleeping facilities for runaway, neglected, and homeless children are included in this category in data products.

Shelters for Runaway, Neglected, and Homeless Children—Includes shelters/group homes which provide *temporary* sleeping facilities for juveniles.

Visible in Street Locations—Includes street blocks and open public locations designated before March 20, 1990, by city and community officials as places where the homeless congregate at night. All persons found at predesignated street sites from 2 a.m. to 4 a.m. and leaving abandoned or boarded-up buildings from 4 a.m. to 8 a.m. on March 21, 1990, were enumerated during "street" enumeration, except persons in uniform such as police and persons engaged in obvious money-making activities other than begging or panhandling. Enumerators were instructed not to ask if a person was "homeless."

This cannot be considered a complete count of all persons living on the streets because those who were so well hidden that local people did not know where to find them were likely to have been missed as were persons moving about or in places not identified by local officials. It is also possible that persons with homes could have been included

in the count of "visible in street locations" if they were present when the enumerator did the enumeration of a particular block.

Predesignated street sites include street corners, parks, bridges, persons emerging from abandoned and boarded-up buildings, noncommercial campsites (tent cities), all-night movie theaters, all-night restaurants, emergency hospital waiting rooms, train stations, airports, bus depots, and subway stations.

Shelters for Abused Women (Shelters Against Domestic Violence or Family Crisis Centers)—Includes community-based homes or shelters that provide domiciliary care for women who have sought shelter from family violence and who may have been physically abused. Most shelters also provide care for children of abused women. These shelters may provide social services, meals, psychiatric treatment, and counseling. In some census products, "shelters for abused women" are included in the category "other noninstitutional group quarters."

Dormitories for Nurses and Interns in General and Military Hospitals—Includes group quarters for nurses and other staff members. It excludes patients.

Crews of Maritime Vessels—Includes officers, crew members, and passengers of maritime U.S. flag vessels. All ocean-going and Great Lakes ships are included.

Staff Residents of Institutions—Includes staff residing in group quarters on institutional grounds who provide formally-authorized, supervised care or custody for the institutionalized population.

Other Nonhousehold Living Situations—Includes persons with no usual home elsewhere enumerated during transient or "T-Night" enumeration at YMCA's, YWCA's, youth hostels, commercial and government-run campgrounds, campgrounds at racetracks, fairs, and carnivals, and similar transient sites.

Living Quarters for Victims of Natural Disasters—Includes living quarters for persons temporarily displaced by natural disasters.

Limitation of the Data—Two types of errors can occur in the classification of "types of group quarters":

1. **Misclassification of Group Quarters**—During the 1990 Special Place Prellat operation, the enumerator determined the type of group quarters associated with each special place in their assignment. The enumerator used the Alphabetical Group Quarters Code List and Index to the Alphabetical Group

Quarters Code List to assign a two-digit code number followed by either an "I," for institutional, or an "N," for noninstitutional to each group quarters. In 1990, unacceptable group quarter codes were edited. (For more information on editing of unacceptable data, see Appendix C, Accuracy of the Data.)

2. *No Classification (unknowns)*—The imputation rate for type of institution was higher in 1980 (23.5 percent) than in 1970 (3.3 percent). Improvements were made to the 1990 Alphabetical Group Quarters Code List; that is, the inclusion of more group quarters categories and an "Index to the Alphabetical Group Quarters Code List." (For more information on the allocation rates for Type of Institution, see the allocation rates in 1990 CP-1, *General Population Characteristics*.)

In previous censuses, allocation rates for demographic characteristics (such as age, sex, race, and marital status) of the institutional population were similar to those for the total population. The allocation rates for sample characteristics such as school enrollment, highest grade completed, income, and veteran status for the institutional and noninstitutional group quarters population have been substantially higher than the population in households at least as far back as the 1960 census. The data, however, have historically presented a reasonable picture of the institutional and noninstitutional group quarters population.

Shelter and Street Night (S-Night)—For the 1990 census "Shelter-and-Street-Night" operation, persons well hidden, moving about, or in locations enumerators did not visit were likely to be missed. The number of people missed will never be known; thus, the 1990 census cannot be considered to include a definitive count of America's total homeless population. It does, however, give an idea of relative differences among areas of the country. Other components were counted as part of regular census procedures.

The count of persons in shelters and visible on the street could have been affected by many factors. How much the factors affected the count can never be answered definitively, but some elements include:

1. How well enumerators were trained and how well they followed procedures.
2. How well the list of shelter and street locations given to the Census Bureau by the local government reflected the actual places that homeless persons stay at night.
3. Cities were encouraged to open temporary shelters for census night, and many did that and actively encouraged people to enter the shelters. Thus,

people who may have been on the street otherwise were in shelters the night of March 20, so that the ratio of shelter-to-street population could be different than usual.

4. The weather, which was unusually cold in some parts of the country, could affect how likely people were to seek emergency shelter or to be more hidden than usual if they stayed outdoors.
5. The media occasionally interfered with the ability to do the count.
6. How homeless people perceived the census and whether they wanted to be counted or feared the census and hid from it.

The Census Bureau conducted two assessments of Shelter and Street Night: (1) the quality of the lists of shelters used for the Shelter-and-Street-Night operation, and (2) how well procedures were followed by census-takers for the street count in parts of five cities (Chicago, Los Angeles, New Orleans, New York, and Phoenix). Information about these two assessments is available from the Chief, Center for Survey Methods Research, Bureau of the Census, Washington, DC 20233.

Comparability—For the 1990 census, the definition of institutionalized persons was revised so that the definition of "care" only includes persons under organized medical or formally-authorized, supervised care or custody. As a result of this change to the institutional definition, maternity homes are classified as noninstitutional rather than institutional group quarters as in previous censuses. The following types of other group quarters are classified as institutional rather than noninstitutional group quarters: "halfway houses (operated for correctional purposes)" and "wards in general and military hospitals for patients who have no usual home elsewhere," which includes maternity, neonatal, pediatric, military, and surgical wards of hospitals, other-purpose wards of hospitals, and wards for infectious diseases. These changes should not significantly affect the comparability of data with earlier censuses because of the relatively small number of persons involved.

As in 1980, 10 or more unrelated persons living together were classified as living in noninstitutional group quarters. In 1970, the criteria was six or more unrelated persons.

Several changes also have occurred in the identification of specific types of group quarters. For the first time, the 1990 census identifies separately the following types of correctional institutions: persons in halfway houses (operated for correctional purposes), military stockades and jails, and police lockups. In 1990, tuberculosis hospitals or wards are included with hospitals for the chronically ill; in 1980, they were shown separately. For 1990, the noninstitutional group quarters category,

"Group homes" is further classified as: group homes for drug/alcohol abuse; maternity homes (for unwed mothers); group homes for the mentally ill; group homes for the mentally retarded; and group homes for the physically handicapped. Persons living in communes, foster-care homes, and job corps centers are classified with "Other group homes" only if 10 or more unrelated persons share the unit; otherwise, they are classified as housing units.

In 1990, workers' dormitories were classified as group quarters regardless of the number of persons sharing the dorm. In 1980, 10 or more unrelated persons had to share the dorm for it to be classified as a group quarters. In 1960, data on persons in military barracks were shown only for men. In subsequent censuses, they include both men and women.

In 1990 census data products, the phrase "inmates of institutions" was changed to "institutionalized persons." Also, persons living in noninstitutional group quarters were referred to as "other persons in group quarters," and the phrase "staff residents" was used for staff living in institutions.

In 1990, there are additional institutional categories and noninstitutional group quarters categories compared with the 1980 census. The institutional categories added include "hospitals and wards for drug/alcohol abuse" and "military hospitals for the chronically ill." The noninstitutional group quarters categories added include emergency shelters for homeless persons; shelters for runaway, neglected, and homeless children; shelters for abused women; and visible-in-street locations. Each of these noninstitutional group quarters categories was enumerated on March 20-21, 1990, during the "Shelter-and-Street-Night" operation. (For more information on the "Shelter-and-Street-Night" operation, see Appendix D, Collection and Processing Procedures.)

JOURNEY TO WORK

Place of Work

The data on place of work were derived from answers to questionnaire item 22, which was asked of persons who indicated in question 21 that they worked at some time during the reference week. (For more information, see discussion under "Reference Week.")

Data were tabulated for workers 16 years and over; that is, members of the Armed Forces and civilians who were at work during the reference week. Data on place of work refer to the geographic location at which workers carried out their occupational activities during the reference week. The exact address (number and street) of the place of work was asked, as well as the place (city, town, or post office); whether or not the place of work was inside or outside the limits of that city or town; and the county, State, and ZIP Code. If the

person's employer operated in more than one location, the exact address of the location or branch where the respondent worked was requested. When the number and street name were unknown, a description of the location, such as the building name or nearest street or intersection, was to be entered.

Persons who worked at more than one location during the reference week were asked to report the one at which they worked the greatest number of hours. Persons who regularly worked in several locations each day during the reference week were requested to give the address at which they began work each day. For cases in which daily work did not begin at a central place each day, the person was asked to provide as much information as possible to describe the area in which he or she worked most during the reference week.

In some tabulations, place-of-work locations may be defined as "in area of residence" and "outside area of residence." The area of residence may vary from table to table or even within a table, and refers to the particular area or areas shown. For example, in a table that provides data for counties, "in area of residence" refers to persons who worked in the same county in which they lived, while "outside area of residence" refers to persons whose workplace was located in a county different from the one in which they lived. Similarly, in a table that provides data for several types of areas, such as the State and its individual metropolitan areas (MA's), counties, and places, the place-of-work data will be variable and is determined by the geographic level (State, MA, county, or place) shown in each section of the tabulation.

In tabulations that present data for States, workplaces for the residents of the State may include, in addition to the State itself, each contiguous State. The category, "in noncontiguous State or abroad," includes persons who worked in a State that did not border their State of residence as well as persons who worked outside the United States.

In tabulations that present data for an MSA/PMSA, place-of-work locations are specified to show the main destinations of workers living in the MSA/PMSA. (For more information on metropolitan areas (MA's), see Appendix A, Area Classifications.) All place-of-work locations are identified with respect to the boundaries of the MSA/PMSA as "inside MSA/PMSA" or "outside MSA/PMSA." Locations within the MSA/PMSA are further divided into each central city, and each county or county balance. Selected large incorporated places also may be specified as places of work.

Within New England MSA/PMSA's, the places of work presented generally are cities and towns. Locations outside the MSA/PMSA are specified if they are important commuting destinations for residents of the MSA/PMSA, and may include adjoining MSA/PMSA's and their central cities, their component counties, large

incorporated places, or counties, cities, or other geographic areas outside any MA. In tabulations for MSA/PMSA's in New England; Honolulu, Hawaii; and certain other MA's, some place-of-work locations are identified as "areas" (e.g., Area 1, Area 5, Area 12, etc.). Such areas consist of groups of towns, cities, census designated places (Honolulu MSA only), or counties that have been identified as unique place-of-work destinations. When an adjoining MSA/PMSA or MSA/PMSA remainder is specified as a place-of-work location, its components are not defined. However, the components are presented in the 1990 CP-1, *General Population Characteristics for Metropolitan Areas* and the 1990 CH-1, *General Housing Characteristics for Metropolitan Areas* reports. In tabulations that present data for census tracts outside MA's, place-of-work locations are defined as "in county of residence" and "outside county of residence."

In areas where the workplace address was coded to the block level, persons were tabulated as working inside or outside a specific place based on the location of that address, regardless of the response to question 22c concerning city/town limits. In areas where it was impossible to code the workplace address to the block level, persons were tabulated as working in a place if a place name was reported in question 22b and the response to question 22c was either "Yes" or the item was left blank. In selected areas, census designated places (CDP's) may appear in the tabulations as places of work. The accuracy of place-of-work data for CDP's may be affected by the extent to which their census names were familiar to respondents, and by coding problems caused by similarities between the CDP name and the names of other geographic jurisdictions in the same vicinity.

Place-of-work data are given for selected minor civil divisions (generally, cities, towns, and townships) in the nine Northeastern States, based on the responses to the place-of-work question. Many towns and townships are regarded locally as equivalent to a place and therefore, were reported as the place of work. When a respondent reported a locality or incorporated place that formed a part of a township or town, the coding and tabulating procedure was designed to include the response in the total for the township or town. The accuracy of the place-of-work data for minor civil divisions is greatest for the New England States. However, the data for some New England towns, for towns in New York, and for townships in New Jersey and Pennsylvania may be affected by coding problems that resulted from the unfamiliarity of the respondent with the minor civil division in which the workplace was located or when a township and a city or borough of the same or similar name are located close together.

Place-of-work data may show a few workers who made unlikely daily work trips (e.g., workers who lived in New York and worked in California). This result is attributable to persons who worked during the reference

week at a location that was different from their usual place of work, such as persons away from home on business.

Comparability—The wording of the question on place of work was substantially the same in the 1990 census as it was in 1980. However, data on place of work from the 1990 census are based on the full census sample, while data from the 1980 census were based on only about one-half of the full sample.

For the 1980 census, nonresponse or incomplete responses to the place-of-work question were not allocated, resulting in the use of "not reported" categories in the 1980 publications. However, for the 1990 census, when place of work was not reported or the response was incomplete, a work location was allocated to the person based on their means of transportation to work, travel time to work, industry, and location of residence and workplace of others. The 1990 publications, therefore, do not contain a "not reported" category for the place-of-work data.

Comparisons between 1980 and 1990 census data on the gross number of workers in particular commuting flows, or the total number of persons working in an area, should be made with extreme caution. Any apparent increase in the magnitude of the gross numbers may be due solely to the fact that for 1990 the "not reported" cases have been distributed among specific place-of-work destinations, instead of tallied in a separate category as in 1980.

Limitation of the Data—The data on place of work relate to a reference week; that is, the calendar week preceding the date on which the respondents completed their questionnaires or were interviewed by enumerators. This week is not the same for all respondents because the enumeration was not completed in 1 week. However, for the majority of persons, the reference week for the 1990 census is the last week in March 1990. The lack of a uniform reference week means that the place-of-work data reported in the census will not exactly match the distribution of workplace locations observed or measured during an actual workweek.

The place-of-work data are estimates of persons 16 years old and over who were both employed and at work during the reference week (including persons in the Armed Forces). Persons who did not work during the reference week but had jobs or businesses from which they were temporarily absent due to illness, bad weather, industrial dispute, vacation, or other personal reasons are not included in the place-of-work data. Therefore, the data on place of work understate the total number of jobs or total employment in a geographic area during the reference week. It also should be noted that persons who had irregular, casual, or unstructured jobs during the reference week may have erroneously reported themselves as not working.

The address where the individual worked most often during the reference week was recorded on the census questionnaire. If a worker held two jobs, only data about the primary job (the one worked the greatest number of hours during the preceding week) was requested. Persons who regularly worked in several locations during the reference week were requested to give the address at which they began work each day. For cases in which daily work was not begun at a central place each day, the person was asked to provide as much information as possible to describe the area in which he or she worked most during the reference week.

Means of Transportation to Work

The data on means of transportation to work were derived from answers to questionnaire item 23a, which was asked of persons who indicated in question 21 that they worked at some time during the reference week. (For more information, see discussion under "Reference Week.") Means of transportation to work refers to the principal mode of travel or type of conveyance that the person usually used to get from home to work during the reference week.

Persons who used different means of transportation on different days of the week were asked to specify the one they used most often, that is, the greatest number of days. Persons who used more than one means of transportation to get to work each day were asked to report the one used for the longest distance during the work trip. The category, "Car, truck, or van," includes workers using a car (including company cars but excluding taxicabs), a truck of one-ton capacity or less, or a van. The category, "Public transportation," includes workers who used a bus or trolley bus, streetcar or trolley car, subway or elevated, railroad, ferryboat, or taxicab even if each mode is not shown separately in the tabulation. The category, "Other means," includes workers who used a mode of travel which is not identified separately within the data distribution. The category, "Other means," may vary from table to table, depending on the amount of detail shown in a particular distribution.

The means of transportation data for some areas may show workers using modes of public transportation that are not available in those areas (e.g., subway or elevated riders in an MA where there actually is no subway or elevated service). This result is largely due to persons who worked during the reference week at a location that was different from their usual place of work (such as persons away from home on business in an area where subway service was available) and persons who used more than one means of transportation each day but whose principal means was unavailable where they lived (for example, residents of nonmetropolitan areas who drove to the fringe of an MA and took the commuter railroad most of the distance to work).

Private Vehicle Occupancy

The data on private vehicle occupancy were derived from answers to questionnaire item 23b. This question was asked of persons who indicated in question 21 that they worked at some time during the reference week and who reported in question 23a that their means of transportation to work was "Car, truck, or van." (For more information, see discussion under "Reference Week.")

Private vehicle occupancy refers to the number of persons who usually rode to work in the vehicle during the reference week. The category, "Drove alone," includes persons who usually drove alone to work as well as persons who were driven to work by someone who then drove back home or to a nonwork destination. The category, "Carpooled," includes workers who reported that two or more persons usually rode to work in the vehicle during the reference week.

Persons Per Car, Truck, or Van—This is obtained by dividing the number of persons who reported using a car, truck, or van to get to work by the number of such vehicles that they used. The number of vehicles used is derived by counting each person who drove alone as one vehicle, each person who reported being in a two-person carpool as one-half vehicle, each person who reported being in a three-person carpool as one-third vehicle, and so on, and then summing all the vehicles.

Time Leaving Home to Go to Work

The data on time leaving home to go to work were derived from answers to questionnaire item 24a. This question was asked of persons who indicated in question 21 that they worked at some time during the reference week and who reported in question 23a that they worked outside their home. The departure time refers to the time of day that the person usually left home to go to work during the reference week. (For more information, see discussion under "Reference Week.")

Travel Time to Work

The data on travel time to work were derived from answers to questionnaire item 24b. This question was asked of persons who indicated in question 21 that they worked at some time during the reference week and who reported in question 23a that they worked outside their home. Travel time to work refers to the total number of minutes that it usually took the person to get from home to work during the reference week. The elapsed time includes time spent waiting for public transportation, picking up passengers in carpools, and time spent in other activities related to getting to work. (For more information, see discussion under "Reference Week.")

REFERENCE WEEK

The data on labor force status and journey to work were related to the reference week; that is, the calendar week preceding the date on which the respondents completed their questionnaires or were interviewed by enumerators. This week is not the same for all respondents since the enumeration was not completed in one week. The occurrence of holidays during the enumeration period could affect the data on actual hours worked

during the reference week, but probably had no effect on overall measurement of employment status (see the discussion below on "Comparability").

Comparability—The reference weeks for the 1990 and 1980 censuses differ in that Passover and Good Friday occurred in the first week of April 1980, but in the second week of April 1990. Many workers presumably took time off for those observances. The differing occurrence of

APPENDIX C.

Accuracy of the Data

CONTENTS

Confidentiality of the Data	C-2
Editing of Unacceptable Data	C-9
Errors in the Data	C-2
Estimation Procedures	C-5
Sample Design	C-1

INTRODUCTION

The data contained in this data product are based on the 1990 census sample. The data are estimates of the actual figures that would have been obtained from a complete count. Estimates derived from a sample are expected to be different from the 100-percent figures because they are subject to sampling and nonsampling errors. Sampling error in data arises from the selection of persons and housing units to be included in the sample. Nonsampling error affects both sample and 100-percent data, and is introduced as a result of errors that may occur during the collection and processing phases of the census. Provided below is a detailed discussion of both types of errors and a description of the estimation procedures.

SAMPLE DESIGN

Every person and housing unit in the United States was asked certain basic demographic and housing questions (for example, race, age, marital status, housing value, or rent). A sample of these persons and housing units was asked more detailed questions about such items as income, occupation, and housing costs in addition to the basic demographic and housing information. The primary sampling unit for the 1990 census was the housing unit, including all occupants. For persons living in group quarters, the sampling unit was the person. Persons in group quarters were sampled at a 1-in-6 rate.

The sample designation method depended on the data collection procedures. Approximately 95 percent of the population was enumerated by the mailback procedure. In these areas, the Bureau of the Census either purchased a commercial mailing list, which was updated by the United States Postal Service and Census Bureau field staff, or prepared a mailing list by canvassing and listing each address in the area prior to Census Day. These lists were computerized and the appropriate units

were electronically designated as sample units. The questionnaires were either mailed or hand-delivered to the addresses with instructions to complete and mail back the form.

Housing units in governmental units with a precensus (1988) estimated population of fewer than 2,500 persons were sampled at 1-in-2. Governmental units were defined for sampling purposes as all incorporated places, all counties, all county equivalents such as parishes in Louisiana, and all minor civil divisions in Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin. Housing units in census tracts and block numbering areas (BNA's) with a precensus housing unit count below 2,000 housing units were sampled at 1-in-6 for those portions not in small governmental units (governmental units with a population less than 2,500). Housing units within census tracts and BNA's with 2,000 or more housing units were sampled at 1-in-8 for those portions not in small governmental units.

In list/enumerate areas (about 5 percent of the population), each enumerator was given a blank address register with designated sample lines. Beginning about Census Day, the enumerator systematically canvassed an assigned area and listed all housing units in the address register in the order they were encountered. Completed questionnaires, including sample information for any housing unit listed on a designated sample line, were collected. For all governmental units with fewer than 2,500 persons in list/enumerate areas, a 1-in-2 sampling rate was used. All other list/enumerate areas were sampled at 1-in-6.

Housing units in American Indian reservations, tribal jurisdiction statistical areas, and Alaska Native villages were sampled according to the same criteria as other governmental units, except the sampling rates were based on the size of the American Indian and Alaska Native population in those areas as measured in the 1980 census. Trust lands were sampled at the same rate as their associated American Indian reservations. Census designated places in Hawaii were sampled at the same rate as governmental units because the Census Bureau does not recognize incorporated places in Hawaii.

The purpose of using variable sampling rates was to provide relatively more reliable estimates for small areas and decrease respondent burden in more densely populated areas while maintaining data reliability. When all sampling rates were taken into account across the

Nation, approximately one out of every six housing units in the Nation was included in the 1990 census sample.

CONFIDENTIALITY OF THE DATA

To maintain the confidentiality required by law (Title 13, United States Code), the Bureau of the Census applies a confidentiality edit to the 1990 census data to assure that published data do not disclose information about specific individuals, households, or housing units. As a result, a small amount of uncertainty is introduced into the estimates of census characteristics. The sample itself provides adequate protection for most areas for which sample data are published since the resulting data are estimates of the actual counts; however, small areas require more protection. The edit is controlled so that the basic structure of the data is preserved.

The confidentiality edit is implemented by selecting a small subset of individual households from the internal sample data files and blanking a subset of the data items on these household records. Responses to those data items were then imputed using the same imputation procedures that were used for nonresponse. A larger subset of households is selected for the confidentiality edit for small areas to provide greater protection for these areas. The editing process is implemented in such a way that the quality and usefulness of the data were preserved.

ERRORS IN THE DATA

Since statistics in this data product are based on a sample, they may differ somewhat from 100-percent figures that would have been obtained if all housing units, persons within those housing units, and persons living in group quarters had been enumerated using the same questionnaires, instructions, enumerators, etc. The sample estimate also would differ from other samples of housing units, persons within those housing units, and persons living in group quarters. The deviation of a sample estimate from the average of all possible samples is called the sampling error. The standard error of a sample estimate is a measure of the variation among the estimates from all the possible samples and thus is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples. The sample estimate and its estimated standard error permit the construction of interval estimates with prescribed confidence that the interval includes the average result of all possible samples. Described below is the method of calculating standard errors and confidence intervals for the data in this product.

In addition to the variability which arises from the sampling procedures, both sample data and 100-percent data are subject to nonsampling error. Nonsampling error may be introduced during any of the various

complex operations used to collect and process census data. For example, operations such as editing, reviewing, or handling questionnaires may introduce error into the data. A detailed discussion of the sources of nonsampling error is given in the section on "Control of Nonsampling Error" in this appendix.

Nonsampling error may affect the data in two ways. Errors that are introduced randomly will increase the variability of the data and should therefore be reflected in the standard error. Errors that tend to be consistent in one direction will make both sample and 100-percent data biased in that direction. For example, if respondents consistently tend to under-report their income, then the resulting counts of households or families by income category will tend to be understated for the higher income categories and overstated for the lower income categories. Such biases are not reflected in the standard error.

Calculation of Standard Errors

Totals and Percentages—Tables A through C in this appendix contain the information necessary to calculate the standard errors of sample estimates in this data product. To calculate the standard error, it is necessary to know the basic standard error for the characteristic (given in table A or B) that would result under a simple random sample design (of persons, households, or housing units) and estimation technique; the design factor for the particular characteristic estimated (given in table C); and the number of persons or housing units in the tabulation area and the percent of these in the sample. For machine-readable products, the percent-in-sample is included in a data matrix on the file for each tabulation area. In printed reports, the percent-in-sample is provided in data tables at the end of the statistical tables that compose the report. The design factors reflect the effects of the actual sample design and complex ratio estimation procedure used for the 1990 census. Tape purchasers will receive table C, the table of design factors, as a supplement to the technical documentation. Table C is included in this appendix for printed reports.

The steps given below should be used to calculate the standard error of an estimate of a total or a percentage contained in this product. A percentage is defined here as a ratio of a numerator to a denominator where the numerator is a subset of the denominator. For example, the proportion of Black teachers is the ratio of Black teachers to all teachers.

1. Obtain the standard error from table A or B (or use the formula given below the table) for the estimated total or percentage, respectively.
2. Find the geographic area to which the estimate applies in the appropriate percent-in-sample table or appropriate matrix, and obtain the person or housing unit "percent-in-sample" figure for this

area. Use the person "percent-in-sample" figure for person and family characteristics. Use the housing unit "percent-in-sample" figure for housing unit characteristics.

3. Use table C to obtain the design factor for the characteristic (for example, employment status, school enrollment) and the range that contains the percent-in-sample with which you are working. Multiply the basic standard error by this factor.

The unadjusted standard errors of zero estimates or of very small estimated totals or percentages will approach zero. This is also the case for very large percentages or estimated totals that are close to the size of the tabulation areas to which they correspond. Nevertheless, these estimated totals and percentages still are subject to sampling and nonsampling variability, and an estimated standard error of zero (or a very small standard error) is not appropriate. For estimated percentages that are less than 2 or greater than 98, use the basic standard errors in table B that appear in the "2 or 98" row. For an estimated total that is less than 50 or within 50 of the total size of the tabulation area, use a basic standard error of 16.

An illustration of the use of the tables is given in the section entitled "Use of Tables to Compute Standard Errors."

Sums and Differences—The standard errors estimated from these tables are not directly applicable to sums of and differences between two sample estimates. To estimate the standard error of a sum or difference, the tables are to be used somewhat differently in the following three situations:

1. For the sum of or difference between a sample estimate and a 100-percent value, use the standard error of the sample estimate. The complete count value is not subject to sampling error.
2. For the sum of or difference between two sample estimates, the appropriate standard error is approximately the square root of the sum of the two individual standard errors squared; that is, for standard errors:

$SE_{\hat{x}}$ and $SE_{\hat{y}}$ of estimates \hat{x} and \hat{y} :

$$SE_{(\hat{x} \pm \hat{y})} = SE_{(\hat{x} - \hat{y})} = \sqrt{(SE_{\hat{x}})^2 + (SE_{\hat{y}})^2}$$

This method, however, will underestimate (overestimate) the standard error if the two items in a sum are highly positively (negatively) correlated or if the two items in a difference are highly negatively (positively) correlated. This method may also be used for the difference between (or sum of) sample estimates from two censuses or from a census sample and another survey. The

standard error for estimates not based on the 1990 census sample must be obtained from an appropriate source outside of this appendix.

3. For the differences between two estimates, one of which is a subclass of the other, use the tables directly where the calculated difference is the estimate of interest. For example, to determine the estimate of non-Black teachers, one may subtract the estimate of Black teachers from the estimate of total teachers. To determine the standard error of the estimate of non-Black teachers apply the above formula directly.

Ratios—Frequently, the statistic of interest is the ratio of two variables, where the numerator is not a subset of the denominator. For example, the ratio of teachers to students in public elementary schools. The standard error of the ratio between two sample estimates is estimated as follows:

1. If the ratio is a proportion, then follow the procedure outlined for "Totals and Percentages."
2. If the ratio is not a proportion, then approximate the standard error using the formula below.

$$SE_{(\hat{x}/\hat{y})} = \frac{\hat{x}}{\hat{y}} \sqrt{\frac{(SE_{\hat{x}})^2}{\hat{x}^2} + \frac{(SE_{\hat{y}})^2}{\hat{y}^2}}$$

Medians—For the standard error of the median of a characteristic, it is necessary to examine the distribution from which the median is derived, as the size of the base and the distribution itself affect the standard error. An approximate method is given here. As the first step, compute one-half of the number on which the median is based (refer to this result as $N/2$). Treat $N/2$ as if it were an ordinary estimate and obtain its standard error as instructed above. Compute the desired confidence interval about $N/2$. Starting with the lowest value of the characteristic, cumulate the frequencies in each category of the characteristic until the sum equals or first exceeds the lower limit of the confidence interval about $N/2$. By linear interpolation, obtain a value of the characteristic corresponding to this sum. This is the lower limit of the confidence interval of the median. In a similar manner, continue cumulating frequencies until the sum equals or exceeds the count in excess of the upper limit of the interval about $N/2$. Interpolate as before to obtain the upper limit of the confidence interval for the estimated median.

When interpolation is required in the upper open-ended interval of a distribution to obtain a confidence bound, use 1.5 times the lower limit of the open-ended confidence interval as the upper limit of the open-ended interval.

Confidence Intervals

A sample estimate and its estimated standard error may be used to construct confidence intervals about the estimate. These intervals are ranges that will contain

the average value of the estimated characteristic that results over all possible samples, with a known probability. For example, if all possible samples that could result under the 1990 census sample design were independently selected and surveyed under the same conditions, and if the estimate and its estimated standard error were calculated for each of these samples, then:

1. Approximately 68 percent of the intervals from one estimated standard error below the estimate to one estimated standard error above the estimate would contain the average result from all possible samples;
2. Approximately 90 percent of the intervals from 1.645 times the estimated standard error below the estimate to 1.645 times the estimated standard error above the estimate would contain the average result from all possible samples.
3. Approximately 95 percent of the intervals from two estimated standard errors below the estimate to two estimated standard errors above the estimate would contain the average result from all possible samples.

The intervals are referred to as 68 percent, 90 percent, and 95 percent confidence intervals, respectively.

The average value of the estimated characteristic that could be derived from all possible samples is or is not contained in any particular computed interval. Thus, we cannot make the statement that the average value has a certain probability of falling between the limits of the calculated confidence interval. Rather, one can say with a specified probability of confidence that the calculated confidence interval includes the average estimate from all possible samples (approximately the 100-percent value).

Confidence intervals also may be constructed for the ratio, sum of, or difference between two sample figures. This is done by first computing the ratio, sum, or difference, then obtaining the standard error of the ratio, sum, or difference (using the formulas given earlier), and finally forming a confidence interval for this estimated ratio, sum, or difference as above. One can then say with specified confidence that this interval includes the ratio, sum, or difference that would have been obtained by averaging the results from all possible samples.

The estimated standard errors given in this appendix do not include all portions of the variability due to nonsampling error that may be present in the data. The standard errors reflect the effect of simple response variance, but not the effect of correlated errors introduced by enumerators, coders, or other field or processing personnel. Thus, the standard errors calculated represent a lower bound of the total error. As a result,

confidence intervals formed using these estimated standard errors may not meet the stated levels of confidence (i.e., 68, 90, or 95 percent). Thus, some care must be exercised in the interpretation of the data in this data product based on the estimated standard errors.

A standard sampling theory text should be helpful if the user needs more information about confidence intervals and nonsampling errors.

Use of Tables to Compute Standard Errors

The following is a hypothetical example of how to compute a standard error of a total and a percentage. Suppose a particular data table shows that for City A 9,948 persons out of all 15,888 persons age 16 years and over were in the civilian labor force. The percent-in-sample table lists City A with a percent-in-sample of 16.0 percent (Persons column). The column in table C which includes 16.0 percent-in-sample shows the design factor to be 1.1 for "Employment status."

The basic standard error for the estimated total 9,948 may be obtained from table A or from the formula given below table A. In order to avoid interpolation, the use of the formula will be demonstrated here. Suppose that the total population of City A was 21,220. The formula for the basic standard error, SE, is

$$SE(9,948) = \sqrt{5(9,948) (1 - 9,948 / 21,220)}$$

$$= 163 \text{ persons.}$$

The standard error of the estimated 9,948 persons 16 years and over who were in the civilian labor force is found by multiplying the basic standard error 163 by the design factor, 1.1 from table C. This yields an estimated standard error of 179 for the total number of persons 16 years and over in City A who were in the civilian labor force.

The estimated percent of persons 16 years and over who were in the civilian labor force in City A is 62.6. From table B, the unadjusted standard error is found to be approximately 0.85 percentage points. The standard error for the estimated 62.6 percent of persons 16 years and over who were in the civilian labor force is $0.85 \times 1.1 = 0.94$ percentage points.

A note of caution concerning numerical values is necessary. Standard errors of percentages derived in this manner are approximate. Calculations can be expressed to several decimal places, but to do so would indicate more precision in the data than is justifiable. Final results should contain no more than two decimal places when the estimated standard error is one percentage point (i.e., 1.00) or more.

In the previous example, the standard error of the 9,948 persons 16 years and over in City A who were in the civilian labor force was found to be 179. Thus, a 90

percent confidence interval for this estimated total is found to be:

$$\begin{aligned} & [9,948 - 1.645(179)] \text{ to } [9,948 + 1.645(179)] \\ & \text{or} \\ & 9,654 \text{ to } 10,242 \end{aligned}$$

One can say, with about 90 percent confidence, that this interval includes the value that would have been obtained by averaging the results from all possible samples.

The following is an illustration of the calculation of standard errors and confidence intervals when a difference between two sample estimates is obtained. For example, suppose the number of persons in City B age 16 years and over who were in the civilian labor force was 9,314 and the total number of persons 16 years and over was 16,888. Further suppose the population of City B was 25,225. Thus, the estimated percentage of persons 16 years and over who were in the civilian labor force is 55.9 percent. The unadjusted standard error determined using the formula provided at the bottom of table B is 0.86 percentage points. We find that City B had a percent-in-sample of 15.7. The range which includes 15.7 percent-in-sample in table C shows the design factor to be 1.1 for "Employment Status." Thus, the approximate standard error of the percentage (55.9 percent) is $0.86 \times 1.1 = 0.95$ percentage points.

Now suppose that one wished to obtain the standard error of the difference between City A and City B of the percentages of persons who were 16 years and over and who were in the civilian labor force. The difference in the percentages of interest for the two cities is:

$$62.6 - 55.9 = 6.7 \text{ percent.}$$

Using the results of the previous example:

$$\begin{aligned} SE(6.7) &= \sqrt{(SE(62.6))^2 + (SE(55.9))^2} = \sqrt{(0.84)^2 + (0.95)^2} \\ &= 1.34 \text{ percentage points} \end{aligned}$$

The 90 percent confidence interval for the difference is formed as before:

$$\begin{aligned} & [6.70 - 1.645(1.34)] \text{ to } [6.70 + 1.645(1.34)] \\ & \text{or} \\ & 4.50 \text{ to } 8.90 \end{aligned}$$

One can say with 90 percent confidence that the interval includes the difference that would have been obtained by averaging the results from all possible samples.

For reasonably large samples, ratio estimates are normally distributed, particularly for the census population. Therefore, if we can calculate the standard error of a ratio estimate then we can form a confidence interval around the ratio. Suppose that one wished to obtain the standard error of the ratio of the estimate of persons who were 16 years and over and who were in the civilian

labor force in City A to the estimate of persons who were 16 years and over and who were in the civilian labor force in City B. The ratio of the two estimates of interest is:

$$9948/9314 = 1.07$$

$$\begin{aligned} SE(1.07) &= \left(\frac{9948}{9314} \right) \sqrt{\frac{179^2}{(9948)^2} + \frac{188^2}{(9314)^2}} \\ &= .029 \end{aligned}$$

Using the results above, the 90 percent confidence interval for this ratio would be:

$$\begin{aligned} & [1.07 - 1.645(.029)] \text{ to } [1.07 + 1.645(.029)] \\ & \text{or} \\ & 1.02 \text{ to } 1.12 \end{aligned}$$

ESTIMATION PROCEDURE

The estimates which appear in this publication were obtained from an iterative ratio estimation procedure (iterative proportional fitting) resulting in the assignment of a weight to each sample person or housing unit record. For any given tabulation area, a characteristic total was estimated by summing the weights assigned to the persons or housing units possessing the characteristic in the tabulation area. Estimates of family or household characteristics were based on the weight assigned to the family member designated as householder. Each sample person or housing unit record was assigned exactly one weight to be used to produce estimates of all characteristics. For example, if the weight given to a sample person or housing unit had the value 6, all characteristics of that person or housing unit would be tabulated with the weight of 6. The estimation procedure, however, did assign weights varying from person to person or housing unit to housing unit. The estimation procedure used to assign the weights was performed in geographically defined "weighting areas." Weighting areas generally were formed of contiguous geographic units which agreed closely with census tabulation areas within counties. Weighting areas were required to have a minimum sample of 400 persons. Weighting areas never crossed State or county boundaries. In small counties with a sample count below 400 persons, the minimum required sample condition was relaxed to permit the entire county to become a weighting area.

Within a weighting area, the ratio estimation procedure for persons was performed in four stages. For persons, the first stage applied 17 household-type groups. The second stage used two groups: sampling rate of 1-in-2; sampling rate less than 1-in-2. The third stage used the dichotomy householders/nonhouseholders. The fourth stage applied 180 aggregate age-sex-race-Hispanic origin categories. The stages were as follows:

PERSONS

STAGE I: TYPE OF HOUSEHOLD

Group	Persons in Housing Units With a Family With Own Children Under 18
1	2 persons in housing unit
2	3 persons in housing unit
3	4 persons in housing unit
4	5 to 7 persons in housing unit
5	8 or more persons in housing unit

Persons in Housing Units With a Family Without Own Children Under 18

6-10	2 through 8 or more persons in housing unit
	Persons in All Other Housing Units
11	1 person in housing unit
12-16	2 through 8 or more persons in housing unit
	Persons in Group Quarters
17	Persons in Group Quarters

STAGE II: SAMPLING RATES

1	Sampling rate of 1-in-2
2	Sampling rate less than 1-in-2

STAGE III: HOUSEHOLDER/NONHOUSEHOLDER

1	Householder
2	Nonhouseholder

STAGE IV: AGE/SEX/RACE/HISPANIC ORIGIN

Group	White
	Persons of Hispanic Origin
	Male
1	0 to 4 years
2	5 to 14 years
3	15 to 19 years
4	20 to 24 years
5	25 to 34 years
6	35 to 54 years
7	55 to 64 years
8	65 to 74 years
9	75 years and over
	Female
10-18	Same age categories as groups 1 through 9.
	Persons Not of Hispanic Origin
19-36	Same sex and age categories as groups 1 through 18.
	Black
37-72	Same age/sex/Hispanic origin categories as groups 1 through 36.

STAGE II: SAMPLING RATES

73-108	Asian or Pacific Islander
	Same age/sex/Hispanic origin categories as groups 1 through 36.
109-144	American Indian, Eskimo, or Aleut
	Same age/sex/Hispanic origin categories as groups 1 through 36.
	Other Race (includes those races not listed above)
145-180	Same age/sex/Hispanic origin categories as groups 1 through 36.

Within a weighting area, the first step in the estimation procedure was to assign an initial weight to each sample person record. This weight was approximately equal to the inverse of the probability of selecting a person for the census sample.

The next step in the estimation procedure, prior to iterative proportional fitting, was to combine categories in each of the four estimation stages, when needed to increase the reliability of the ratio estimation procedure. For each stage, any group that did not meet certain criteria for the unweighted sample count or for the ratio of the 100-percent to the initially weighted sample count, was combined, or collapsed, with another group in the same stage according to a specified collapsing pattern. At the fourth stage, an additional criterion concerning the number of complete count persons in each race/Hispanic origin category was applied.

As the final step, the initial weights underwent four stages of ratio adjustment applying the grouping procedures described above. At the first stage, the ratio of the complete census count to the sum of the initial weights for each sample person was computed for each stage I group. The initial weight assigned to each person in a group was then multiplied by the stage I group ratio to produce an adjusted weight.

In stage II, the stage I adjusted weights were again adjusted by the ratio of the complete census count to the sum of the stage I weights for sample persons in each stage II group. Next, at stage III, the stage II weights were adjusted by the ratio of the complete census count to the sum of the stage II weights for sample persons in each stage III group. Finally, at stage IV, the stage III weights were adjusted by the ratio of the complete census count to the sum of the stage III weights for sample persons in each stage IV group. The four stages of ratio adjustment were performed two times (two iterations) in the order given above. The weights obtained from the second iteration for stage IV were assigned to the sample person records. However, to avoid complications in rounding for tabulated data, only whole number weights were assigned. For example, if the final weight of the persons in a particular group was 7.25 then 1/4 of the sample persons in this group were randomly assigned a weight of 8, while the remaining 3/4 received a weight of 7.

The ratio estimation procedure for housing units was essentially the same as that for persons, except that vacant units were treated differently. The occupied housing unit ratio estimation procedure was done in four stages, and the vacant housing unit ratio estimation procedure was done in a single stage. The first stage for occupied housing units applied 16 household type categories, while the second stage used the two sampling categories described above for persons. The third stage applied three units-in-structure categories; i.e., single units, multi-unit less than 10 and multi-unit 10 or more. The fourth stage could potentially use 200 tenure-race-Hispanic origin-value/rent groups. The stages for ratio estimation for housing units were as follows:

OCCUPIED HOUSING UNITS

STAGE I: TYPE OF HOUSEHOLD

Group	Housing Units With a Family With Own Children Under 18
1	2 persons in housing unit
2	3 persons in housing unit
3	4 persons in housing unit
4	5 to 7 persons in housing unit
5	8 or more persons in housing unit
	Housing Units With a Family Without Own Children Under 18
6-10	2 through 8 or more persons in housing unit
	All Other Housing Units
11	1 person in housing unit
12-16	2 through 8 or more persons in housing unit

STAGE II: SAMPLING RATE CATEGORY

1	Sampling rate of 1-in-2
2	Sampling rate less than 1-in-2

STAGE III: UNITS IN STRUCTURE

1	Single unit structure
2	Multi-unit structure consisting of fewer than 10 individual units
3	Multi-unit structure consisting of 10 or more individual units

STAGE IV: TENURE/RACE AND HISPANIC ORIGIN OF HOUSEHOLDER/VALUE OR RENT

Group	Owner
	White Householder
	Householder of Hispanic Origin.
	Value
1	Less than \$20,000
2	\$20,000 to \$39,999
3	\$40,000 to \$59,999
4	\$60,000 to \$79,999

STAGE IV: TENURE/RACE AND HISPANIC ORIGIN OF HOUSEHOLDER/VALUE OR RENT— Con.

5	\$80,000 to \$99,999
6	\$100,000 to \$149,999
7	\$150,000 to \$249,999
8	\$250,000 to \$299,999
9	\$300,000 or more
10	Other ¹
	Householder Not of Hispanic Origin
11-20	Same value categories as groups 1 through 10
	Black Householder
21-40	Same Hispanic origin/value categories as groups 1 through 20
	Asian or Pacific Islander Householder
41-60	Same Hispanic origin/value categories as groups 1 through 20
	American Indian, Eskimo, or Aleut Householder
61-80	Same Hispanic origin/value categories as groups 1 through 20
	Householder of Other Race
81-100	Same Hispanic origin/value categories as groups 1 through 20
	Renter
	White Householder
	Householder of Hispanic origin
	Rent
101	Less than \$100
102	\$100 to \$199
103	\$200 to \$299
104	\$300 to \$399
105	\$400 to \$499
106	\$500 to \$599
107	\$600 to \$749
108	\$750 to \$999
109	\$1,000 or more
110	No cash rent
	Householder Not of Hispanic Origin
111-120	Same rent categories as groups 101 through 110
	Black Householder
121-140	Same Hispanic origin/rent categories as groups 101 through 120

¹Value of units in this category results from other factors besides housing value alone, for example, inclusion of more than 10 acres of land, or presence of a business establishment on the premises.

**STAGE IV: TENURE/RACE AND HISPANIC ORIGIN
OF HOUSEHOLDER/VALUE OR RENT—
Con.**

	Asian or Pacific Islander Householder
141-160	Same Hispanic origin/rent categories as groups 101 through 120
	American Indian, Eskimo, or Aleut Householder
161-180	Same Hispanic origin/rent categories as groups 101 through 120
	Householder of Other Race
181-200	Same Hispanic origin/rent categories as groups 101 through 120
	Vacant Housing Units
1	Vacant for rent
2	Vacant for sale
3	Other vacant

The estimates produced by this procedure realize some of the gains in sampling efficiency that would have resulted if the population had been stratified into the ratio estimation groups before sampling, and if the sampling rate had been applied independently to each group. The net effect is a reduction in both the standard error and the possible bias of most estimated characteristics to levels below what would have resulted from simply using the initial, unadjusted weight. A by-product of this estimation procedure is that the estimates from the sample will, for the most part, be consistent with the complete count figures for the population and housing unit groups used in the estimation procedure.

Control of Nonsampling Error

As mentioned earlier, both sample and 100-percent data are subject to nonsampling error. This component of error could introduce serious bias into the data, and the total error could increase dramatically over that which would result purely from sampling. While it is impossible to completely eliminate nonsampling error from an operation as large and complex as the decennial census, the Bureau of the Census attempted to control the sources of such error during the collection and processing operations. Described below are the primary sources of nonsampling error and the programs instituted for control of this error. The success of these programs, however, was contingent upon how well the instructions actually were carried out during the census. As part of the 1990 census evaluation program, both the effects of these programs and the amount of error remaining after their application will be evaluated.

Undercoverage—It is possible for some households or persons to be missed entirely by the census. The undercoverage of persons and housing units can introduce biases into the data.

Several coverage improvement programs were implemented during the development of the census address list and census enumeration and processing to minimize undercoverage of the population and housing units. These programs were developed based on experience from the 1980 census and results from the 1990 census testing cycle. In developing and updating the census address list, the Census Bureau used a variety of specialized procedures in different parts of the country.

- In the large urban areas, the Census Bureau purchased and geocoded address lists. Concurrent with geocoding, the United States Postal Service (USPS) reviewed and updated this list. After the postal check, census enumerators conducted a dependent canvass and update operation. In the fall of 1989, local officials were given the opportunity to examine block counts of address listings (local review) and identify possible errors. Prior to mailout, the USPS conducted a final review.
- In small cities, suburban areas, and selected rural parts of the country, the Census Bureau created the address list through a listing operation. The USPS reviewed and updated this list, and the Census Bureau reconciled USPS corrections and updated through a field operation. In the fall of 1989, local officials participated in reviewing block counts of address listings. Prior to mailout, the USPS conducted a final review.
- The Census Bureau (rather than the USPS) conducted a listing operation in the fall of 1989 and delivered census questionnaires in selected rural and seasonal housing areas in March of 1990. In some inner-city public housing developments, whose addresses had been obtained via the purchased address list noted above, census questionnaires were also delivered by Census Bureau enumerators.

Coverage Improvement programs continued during and after mailout. A recheck of units initially classified as vacant or nonexistent improved further the coverage of persons and housing units. All local officials were given the opportunity to participate in a post-census local review, and census enumerators conducted an additional canvass. In addition, efforts were made to improve the coverage of unique population groups, such as the homeless and parolees/probationers. Computer and clerical edits and telephone and personal visit followup also contributed to improved coverage.

More extensive discussion of the programs implemented to improve coverage will be published by the Census Bureau when the evaluation of the coverage improvement program is completed.

Respondent and Enumerator Error—The person answering the questionnaire or responding to the questions posed by an enumerator could serve as a source of error, although the questions were phrased as clearly as possible based on precensus tests, and detailed instructions for completing the questionnaire were provided to each household. In addition, respondents' answers were edited for completeness and consistency, and problems were followed up as necessary.

The enumerator may misinterpret or otherwise incorrectly record information given by a respondent; may fail to collect some of the information for a person or household; or may collect data for households that were not designated as part of the sample. To control these problems, the work of enumerators was monitored carefully. Field staff were prepared for their tasks by using standardized training packages that included hands-on experience in using census materials. A sample of the households interviewed by enumerators for nonresponse were reinterviewed to control for the possibility of data for fabricated persons being submitted by enumerators. Also, the estimation procedure was designed to control for biases that would result from the collection of data from households not designated for the sample.

Processing Error—The many phases involved in processing the census data represent potential sources for the introduction of nonsampling error. The processing of the census questionnaires includes the field editing, followup, and transmittal of completed questionnaires; the manual coding of write-in responses; and the electronic data processing. The various field, coding and computer operations undergo a number of quality control checks to insure their accurate application.

Nonresponse—Nonresponse to particular questions on the census questionnaire allows for the introduction of bias into the data, since the characteristics of the nonrespondents have not been observed and may differ from those reported by respondents. As a result, any imputation procedure using respondent data may not completely reflect this difference either at the elemental level (individual person or housing unit) or on the average. Some protection against the introduction of large biases is afforded by minimizing nonresponse. In the census, nonresponse was reduced substantially during the field operations by the various edit and followup operations aimed at obtaining a response for every question. Characteristics for the nonresponses remaining after this operation were imputed by the computer by using reported data for a person or housing unit with similar characteristics.

EDITING OF UNACCEPTABLE DATA

The objective of the processing operation is to produce a set of data that describes the population as accurately and clearly as possible. To meet this objective, questionnaires were edited during field data collection operations for consistency, completeness, and acceptability. Questionnaires also were reviewed by census clerks for omissions, certain specific inconsistencies, and population coverage. For example, write-in entries such as "Don't know" or "NA" were considered unacceptable. For some district offices, the initial edit was automated; however, for the majority of the district offices, it was performed by clerks. As a result of this operation, a telephone or personal visit followup was made to obtain missing information. Potential coverage errors were included in the followup, as well as a sample of questionnaires with omissions and/or inconsistencies.

Subsequent to field operations, remaining incomplete or inconsistent information on the questionnaires was assigned using imputation procedures during the final automated edit of the collected data. Imputations, or computer assignments of acceptable codes in place of unacceptable entries or blanks, are needed most often when an entry for a given item is lacking or when the information reported for a person or housing unit on that item is inconsistent with other information for that same person or housing unit. As in previous censuses, the general procedure for changing unacceptable entries was to assign an entry for a person or housing unit that was consistent with entries for persons or housing units with similar characteristics. The assignment of acceptable codes in place of blanks or unacceptable entries enhances the usefulness of the data.

Another way in which corrections were made during the computer editing process was through substitution; that is, the assignment of a full set of characteristics for a person or housing unit. When there was an indication that a housing unit was occupied but the questionnaire contained no information for the people within the household or the occupants were not listed on the questionnaire, a previously accepted household was selected as a substitute, and the full set of characteristics for the substitute was duplicated. The assignment of the full set of housing characteristics occurred when there was no housing information available. If the housing unit was determined to be occupied, the housing characteristics were assigned from a previously processed occupied unit. If the housing unit was vacant, the housing characteristics were assigned from a previously processed vacant unit.

Table A. Unadjusted Standard Error for Estimated Totals

[Based on a 1-in-6 simple random sample]

Estimated Total ¹	Size of publication area ²													
	500	1,000	2,500	5,000	10,000	25,000	50,000	100,000	250,000	500,000	1,000,000	5,000,000	10,000,000	25,000,000
50	10	16	18	18	18	18	16	16	16	16	16	16	16	16
100	20	21	22	22	22	22	22	22	22	22	22	22	22	22
250	25	30	35	35	35	35	35	35	35	35	35	35	35	35
500	-	35	45	45	50	50	50	50	50	50	50	50	50	50
1,000	-	-	55	65	65	70	70	70	70	70	70	70	70	70
2,500	-	-	-	80	95	110	110	110	110	110	110	110	110	110
5,000	-	-	-	-	110	140	150	150	160	160	160	160	160	160
10,000	-	-	-	-	-	170	200	210	220	220	220	220	220	220
15,000	-	-	-	-	-	170	230	250	270	270	270	270	270	270
25,000	-	-	-	-	-	-	250	310	340	350	350	350	350	350
75,000	-	-	-	-	-	-	-	310	510	570	590	610	610	610
100,000	-	-	-	-	-	-	-	-	550	650	670	700	700	710
250,000	-	-	-	-	-	-	-	-	-	720	970	1,090	1,100	1,100
500,000	-	-	-	-	-	-	-	-	-	-	1,120	1,500	1,540	1,570
1,000,000	-	-	-	-	-	-	-	-	-	-	-	2,000	2,120	2,190
5,000,000	-	-	-	-	-	-	-	-	-	-	-	-	3,540	4,470
10,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	5,480

¹For estimated totals larger than 10,000,000, the standard error is somewhat larger than the table values. The formula given below should be used to calculate the standard error.

$$SE(\hat{Y}) = \sqrt{5\hat{Y}(1 - \frac{\hat{Y}}{N})}$$

N = Size of area

\hat{Y} = Estimate of characteristic total

²The total count of persons in the area if the estimated total is a person characteristic, or the total count of housing units in the area if the estimated total is a housing unit characteristic.

Table B. Unadjusted Standard Error in Percentage Points for Estimated Percentage

[Based on a 1-in-6 simple random sample]

Estimated Percentage	Base of percentage ¹													
	500	750	1,000	1,500	2,500	5,000	7,500	10,000	25,000	50,000	100,000	250,000	500,000	
2 or 98	1.4	1.1	1.0	0.8	0.6	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	
5 or 95	2.2	1.6	1.5	1.2	1.0	0.7	0.6	0.5	0.3	0.2	0.2	0.1	0.1	
10 or 90	3.0	2.4	2.1	1.7	1.3	0.9	0.8	0.7	0.4	0.3	0.2	0.1	0.1	
15 or 85	3.8	2.9	2.5	2.1	1.6	1.1	0.9	0.8	0.5	0.4	0.3	0.2	0.1	
20 or 80	4.0	3.3	2.8	2.3	1.8	1.3	1.0	0.9	0.6	0.4	0.3	0.2	0.1	
25 or 75	4.3	3.5	3.1	2.5	1.9	1.4	1.1	1.0	0.6	0.4	0.3	0.2	0.1	
30 or 70	4.6	3.7	3.2	2.6	2.0	1.4	1.2	1.0	0.6	0.5	0.3	0.2	0.1	
35 or 65	4.8	3.9	3.4	2.8	2.1	1.5	1.2	1.1	0.7	0.5	0.3	0.2	0.2	
50	6.0	4.1	3.5	2.9	2.2	1.6	1.3	1.1	0.7	0.6	0.4	0.2	0.2	

¹For a percentage and/or base of percentage not shown in the table, the formula given below may be used to calculate the standard error. This table should only be used for proportions, that is, where the numerator is a subset of the denominator.

$$SE(\hat{p}) = \sqrt{\frac{5}{B} \hat{p}(100 - \hat{p})}$$

B = Base of estimated percentage

\hat{p} = Estimated percentage

Table C. Standard Error Design Factors for Place of Work

(Percent of persons in sample¹)

State	Less than 15 percent ¹	15 to 30 percent ¹	30 to 45 percent ¹	45 percent or more ¹
Alabama	1.5	1.2	0.7	0.6
Alaska	1.5	1.2	0.8	0.5
Arizona	1.6	1.2	0.8	0.5
Arkansas	1.5	1.3	0.7	0.5
California	1.6	1.3	0.8	0.6
Colorado	1.4	1.2	0.6	0.6
Connecticut	1.5	1.3	0.6	0.6
Delaware	1.5	1.3	0.8	0.6
District of Columbia	1.7	1.4	0.6	0.7
Florida	1.6	1.3	0.7	0.6
Georgia	1.5	1.3	0.7	0.6
Hawaii	1.8	1.4	0.8	0.7
Idaho	1.4	1.2	0.8	0.6
Illinois	1.5	1.3	0.6	0.6
Indiana	1.4	1.2	0.8	0.6
Iowa	1.5	1.2	0.8	0.6
Kansas	1.4	1.3	0.7	0.6
Kentucky	1.4	1.2	0.7	0.6
Louisiana	1.4	1.2	0.6	0.5
Maine	1.4	1.2	0.7	0.6
Maryland	1.5	1.3	0.8	0.6
Massachusetts	1.4	1.2	0.7	0.6
Michigan	1.4	1.2	0.7	0.6
Minnesota	1.4	1.2	0.7	0.6
Mississippi	1.5	1.3	0.7	0.6
Missouri	1.5	1.3	0.7	0.6
Montana	1.5	1.2	0.8	0.6
Nebraska	1.5	1.2	0.8	0.6
Nevada	1.6	1.2	0.7	0.6
New Hampshire	1.5	1.3	0.7	0.6
New Jersey	1.5	1.3	0.7	0.6
New Mexico	1.5	1.3	0.7	0.6
New York	1.5	1.2	0.7	0.6
North Carolina	1.5	1.3	0.7	0.6
North Dakota	1.5	1.2	0.6	0.6
Ohio	1.4	1.2	0.8	0.6
Oklahoma	1.5	1.3	0.7	0.6
Oregon	1.5	1.2	0.7	0.6
Pennsylvania	1.5	1.2	0.7	0.6
Rhode Island	1.5	1.2	0.6	0.5
South Carolina	1.5	1.3	0.7	0.6
South Dakota	1.5	1.2	0.8	0.6
Tennessee	1.5	1.3	0.7	0.6
Texas	1.5	1.3	0.7	0.6
Utah	1.4	1.2	0.8	0.6
Vermont	1.4	1.2	0.8	0.6
Virginia	1.5	1.3	0.7	0.6
Washington	1.4	1.2	0.7	0.6
West Virginia	1.4	1.2	0.7	0.6
Wisconsin	1.5	1.2	0.7	0.6
Wyoming	1.5	1.3	0.8	0.6

¹Percent-in-sample information is not provided in the documentation or data files for the 1990 STF 9-5, *Number of Workers By County of Residence By County of Work*, data product. Conservative estimates of the standard errors may be calculated by using the design factors contained in the "Less than 15 percent" column in table C, above. Information on percent of persons in sample may be obtained from tables 19 and 20 in the 1990 CPH-5, *Summary Social, Economic, and Housing Characteristics*, report for each State.

APPENDIX D.

Collection and Processing Procedures

CONTENTS

Data Collection Procedures	D-2
Enumeration and Residence Rules	D-1
Processing Procedures	D-5

ENUMERATION AND RESIDENCE RULES

In accordance with census practice dating back to the first United States census in 1790, each person was to be enumerated as an inhabitant of his or her "usual residence" in the 1990 census. Usual residence is the place where the person lives and sleeps most of the time or considers to be his or her usual residence. This place is not necessarily the same as the person's legal residence or voting residence. In the vast majority of cases, however, the use of these different bases of classification would produce substantially the same statistics, although there might be appreciable differences for a few areas.

The implementation of this practice has resulted in the establishment of rules for certain categories of persons whose usual place of residence is not immediately apparent. Furthermore, this practice means that persons were not always counted as residents of the place where they happened to be staying on Census Day (April 1, 1990).

Enumeration Rules

Each person whose usual residence was in the United States was to be included in the census, without regard to the person's legal status or citizenship. In a departure from earlier censuses, foreign diplomatic personnel participated voluntarily in the census, regardless of their residence on or off the premises of an embassy. As in previous censuses, persons in the United States specifically excluded from the census were foreign travelers who had not established a residence.

Americans with a usual residence outside the United States were not enumerated in the 1990 census. United States military and Federal civilian employees, and their dependents overseas, are included in the population counts for States for purposes of Congressional apportionment, but are excluded from all other tabulations for States and their subdivisions. The counts of United States military and Federal civilian employees, and their dependents, were obtained from administrative records maintained by Federal departments and agencies. Other

Americans living overseas, such as employees of international agencies and private businesses and students, were not enumerated, nor were their counts obtained from administrative sources. On the other hand, Americans temporarily overseas were to be enumerated at their usual residence in the United States.

Residence Rules

Each person included in the census was to be counted at his or her usual residence—the place where he or she lives and sleeps most of the time or the place where the person considers to be his or her usual home. If a person had no usual residence, the person was to be counted where he or she was staying on April 1, 1990.

Persons temporarily away from their usual residence, whether in the United States or overseas, on a vacation or on a business trip, were counted at their usual residence. Persons who occupied more than one residence during the year were counted at the one they considered to be their usual residence. Persons who moved on or near Census Day were counted at the place they considered to be their usual residence.

Persons in the Armed Forces—Members of the Armed Forces were counted as residents of the area in which the installation was located, either on the installation or in the surrounding community. Family members of Armed Forces personnel were counted where they were living on Census Day (for example, with the Armed Forces person or at another location).

Each Navy ship not deployed to the 6th or 7th Fleet was attributed to the municipality that the Department of the Navy designated as its homeport. If the homeport included more than one municipality, ships berthed there on Census Day were assigned by the Bureau of the Census to the municipality in which the land immediately adjacent to the dock or pier was actually located. Ships attributed to the homeport, but not physically present and not deployed to the 6th or 7th Fleet, were assigned to the municipality named on the Department of the Navy's homeport list. These rules also apply to Coast Guard vessels.

Personnel assigned to each Navy and Coast Guard ship were given the opportunity to report a residence off the ship. Those who did report an off-ship residence in the communities surrounding the homeport were counted there; those who did not were counted as residents of

the ship. Personnel on Navy ships deployed to the 6th or 7th Fleet on Census Day were considered to be part of the overseas population.

Persons on Maritime Ships—Persons aboard maritime ships who reported an off-ship residence were counted at that residence. Those who did not were counted as residents of the ship, and were attributed as follows:

1. The port where the ship was docked on Census Day, if that port was in the United States or its territories.
2. The port of departure if the ship was at sea, provided the port was in the United States or its territories.
3. The port of destination in the United States or its territories, if the port of departure of a ship at sea was a foreign port.
4. The overseas population if the ship was docked at a foreign port or at sea between foreign ports. (These persons were not included in the overseas population for apportionment purposes.)

Persons Away at School—College students were counted as residents of the area in which they were living while attending college, as they have been since the 1950 census. Children in boarding schools below the college level were counted at their parental home.

Persons in Institutions—Persons under formally authorized, supervised care or custody, such as in Federal or State prisons; local jails; Federal detention centers; juvenile institutions; nursing, convalescent, and rest homes for the aged and dependent; or homes, schools, hospitals, or wards for the physically handicapped, mentally retarded, or mentally ill, were counted at these places.

Persons Away From Their Usual Residence on Census Day—Migrant agricultural workers who did not report a usual residence elsewhere were counted as residents of the place where they were on Census Day. Persons in worker camps who did not report a usual residence elsewhere were counted as residents of the camp where they were on Census Day.

In some parts of the country, natural disasters displaced significant numbers of households from their usual place of residence. If these persons reported a destroyed or damaged residence as their usual residence, they were counted at that location.

Persons away from their usual residence were counted by means of interviews with other members of their families, resident managers, or neighbors.

DATA COLLECTION PROCEDURES

The 1990 census was conducted primarily through self-enumeration. The questionnaire packet included general information about the 1990 census and an

instruction guide explaining how to complete the questionnaire. Spanish-language questionnaires and instruction guides were available on request. Instruction guides also were available in 32 other languages.

Enumeration of Housing Units

Each housing unit in the country received one of two versions of the census questionnaire:

1. A short-form questionnaire that contained a limited number of basic population and housing questions; these questions were asked of all persons and housing units and are often referred to as 100-percent questions.
2. A long-form questionnaire that contained the 100-percent items and a number of additional questions; a sampling procedure was used to determine those housing units that were to receive the long-form questionnaire.

Three sampling rates were employed. For slightly more than one-half of the country, one in every six housing units (about 17 percent) received the long-form or sample questionnaire. In functioning local governmental units (counties and incorporated places, and in some parts of the country, towns and townships) estimated to have fewer than 2,500 inhabitants, every other housing unit (50 percent) received the sample questionnaire in order to enhance the reliability of the sample data for these small areas. For census tracts and block numbering areas having more than 2,000 housing units in the Census Bureau's address files, one in every eight housing units (about 13 percent) received a sample questionnaire, providing reliable statistics for these areas while permitting the Census Bureau to stay within a limit of 17.7 million sample questionnaires, or a one-in-six sample, nationwide.

The mail-out/mail-back procedure was used mainly in cities, suburban areas, towns, and rural areas where mailing addresses consisted of a house number and street name. In these areas, the Census Bureau developed mailing lists that included about 88.4 million addresses. The questionnaires were delivered through the mail and respondents were to return them by mail. Census questionnaires were delivered 1 week before Census Day (April 1, 1990).

The update/leave/mail-back method was used mainly in densely populated rural areas where it was difficult to develop mailing lists because mailing addresses did not use house number and street name. The Census Bureau compiled lists of housing units in advance of the census. Enumerators delivered the questionnaires, asked respondents to return them by mail, and added housing units not on the mailing lists. This method was used mainly in the South and Midwest, and also included some high-rise, low-income urban areas. A variation of this method

was used in urban areas having large numbers of boarded-up buildings. About 11 million housing units were enumerated using this method.

The list/enumerate method (formerly called conventional or door-to-door enumeration) was used mainly in very remote and sparsely-settled areas. The United States Postal Service delivered unaddressed short-form questionnaires before Census Day. Starting a week before Census Day, enumerators canvassed these areas, checked that all housing units received a questionnaire, created a list of all housing units, completed long-form questionnaires, and picked up the completed short-form questionnaires. This method was used mainly in the West and Northeast to enumerate an estimated 8.5 million housing units.

Followup

Nonresponse Followup—In areas where respondents were to mail back their questionnaires, an enumerator visited each address from which a questionnaire was not received.

Coverage and Edit-Failure Followup—In the mail-back areas, some households returned a questionnaire that did not meet specific quality standards because of incomplete or inconsistent information, or the respondent had indicated difficulty in deciding who was to be listed on the questionnaire. These households were contacted by telephone or by personal visit to obtain the missing information or to clarify who was to be enumerated in the household. In areas where an enumerator picked up the questionnaires, the enumerator checked the respondent-filled questionnaire for completeness and consistency.

Special Enumeration Procedures

Special procedures and questionnaires were used for the enumeration of persons in group quarters, such as college dormitories, nursing homes, prisons, military barracks, and ships. The questionnaires (Individual Census Reports, Military Census Reports, and Shipboard Census Reports) included the 100-percent population questions but did not include any housing questions. In all group quarters, all persons were asked the basic population questions; in most group quarters, additional questions were asked of a sample (one-in-six) of persons.

Shelter and Street Night (S-Night)

The Census Bureau collected data for various components of the homeless population at different stages in the 1990 census. "Shelter and Street Night" (S-Night) was a special census operation to count the population in four types of locations where homeless people are

found. On the evening of March 20, 1990, and during the early morning hours of March 21, 1990, enumerators counted persons in pre-identified locations:

1. Emergency shelters for the homeless population (public and private; permanent and temporary).
2. Shelters with temporary lodging for runaway youths.
3. Shelters for abused women and their children.
4. Open locations in streets or other places not intended for habitation.

Emergency shelters include all hotels and motels costing \$12 or less (excluding taxes) per night regardless of whether persons living there considered themselves to be homeless, hotels and motels (regardless of cost) used entirely to shelter homeless persons, and pre-identified rooms in hotels and motels used for homeless persons and families. Enumeration in shelters usually occurred from 6 p.m. to midnight; street enumeration, from 2 a.m. to 4 a.m.; abandoned and boarded-up buildings from 4 a.m. to 6 a.m.; and shelters for abused women, from 6 p.m. on March 20 to noon on March 21.

Other components, which some consider as part of the homeless population, were enumerated as part of regular census operations. These include persons doubled up with other families, as well as persons with no other usual home living in transient sites, such as commercial campgrounds, maternity homes for unwed mothers, and drug/alcohol abuse detoxification centers. In institutions, such as local jails and mental hospitals, the Census Bureau does not know who has a usual home elsewhere; therefore, even though some are literally homeless, these persons cannot be identified separately as a component of the homeless population.

There is no generally agreed-upon definition of "the homeless," and there are limitations in the census count that prevent obtaining a total count of the homeless population under any definition. As such, the Census Bureau does not have a definition and will not provide a total count of "the homeless." Rather, the Census Bureau will provide counts and characteristics of persons found at the time of the census in *selected* types of living arrangements. These selected components can be used as building blocks to construct a count of homeless persons appropriate to particular purposes as long as the data limitations are taken into account.

In preparation for "Shelter-and-Street-Night" enumeration, the regional census centers (RCC's) mailed a certified letter (Form D-33 (L)) to the highest elected official of each active functioning government of the United States (more than 39,000) requesting them to identify:

1. All shelters with sleeping facilities (permanent and temporary, such as church basements, armories, public buildings, and so forth, that could be open on March 20).

2. Hotels and motels used to house homeless persons and families.
3. A list of outdoor locations where homeless persons tend to be at night.
4. Places such as bus or train stations, subway stations, airports, hospital emergency rooms, and so forth, where homeless persons seek shelter at night.
5. The specific addresses of abandoned or boarded-up buildings where homeless persons were thought to stay at night.

The letter from the ROC's to the governmental units emphasized the importance of listing night-time congregating sites. The list of shelters was expanded using information from administrative records and informed local sources. The street sites were limited to the list provided by the jurisdictions. All governmental units were eligible for "Shelter and Street Night." For cities with 50,000 or more persons, the Census Bureau took additional steps to update the list of shelter and street locations if the local jurisdiction did not respond to the certified letter. Smaller cities and rural areas participated if the local jurisdiction provided the Census Bureau a list of shelters or open public places to visit or if shelters were identified through our inventory development, local knowledge update, or during the Special Place Prelist operation.

The Census Bureau encouraged persons familiar with homeless persons and the homeless themselves to apply as enumerators. This recruiting effort was particularly successful in larger cities.

For shelters, both long- and short-form Individual Census Reports (ICR's) were distributed. For street enumeration, only short-form ICR's were used. Persons in shelters and at street locations were asked the basic population questions. Additional questions about social and economic characteristics were asked of a sample of persons in shelters only.

Enumerators were instructed *not* to ask who was homeless; rather, they were told to count all persons (including children) staying overnight at the shelters, and everyone they saw on the street except the police, other persons in uniform, and persons engaged in employment or obvious money-making activities other than begging and panhandling.

At both shelter and street sites, persons found sleeping were not awakened to answer questions. Rather, the enumerator answered the sex and race questions by observation and estimated the person's age to the best of his or her ability. In shelters, administrative records and information from the shelter operator were used, when available, for persons who were already asleep.

Less than 1 percent of shelters refused to participate in the census count at first. By the end of the census period, most of those eventually cooperated and the

number of refusals had been reduced to a few. For the final refusals, head counts and population characteristics were obtained by enumerators standing outside such shelters and counting people as they left in the morning.

The "street" count was restricted to persons who were visible when the enumerator came to the open, public locations that had been identified by local jurisdictions. Homeless persons who were well hidden, moving about, or in locations other than those identified by the local governments were likely missed. The number missed will never be known and there is no basis to make an estimate of the number missed from census data. The count of persons in open, public places was affected by many factors, including the extra efforts made to encourage people to go to shelters for "Shelter and Street Night," the weather (which was unusually cold in many parts of the country), the presence of the media, and distrust of the census. Expectations of the number of homeless persons on the street cannot be based on the number seen during the day because the night-time situation is normally very different as more homeless persons are in shelters or very well hidden.

For both "Shelter-and-Street-Night" locations, the Census Bureau assumed that the usual home of those enumerated was in the block where they were found (shelter or street).

The "Shelter-and-Street-Night" operation replaced and expanded the 1980 Mission Night (M-Night) and Casual Count operations. These two operations were aimed at counting the population who reported having no usual residence. M-Night was conducted a week after Census Day, in April 1980. Enumerators visited hotels, motels, and similar places costing \$4 or less each night; missions, flophouses, local jails and similar places at which the average length of stay was 30 days or less; and nonshelter locations, such as bus depots, train stations, and all night movie theaters. Questions were asked of everyone, regardless of age. Enumerators conducted M-Night up to midnight on April 8, 1980, and returned the next morning to collect any forms completed after midnight.

The Casual Count operation was conducted in May 1980 at additional nonshelter locations, such as street corners, pool halls, welfare and employment offices. This operation lasted for approximately 2 weeks. Casual Count was conducted during the day only in selected large central cities. Only persons who appeared to be at least 15 years of age were asked if they had been previously enumerated. Casual Count was actually a coverage-improvement operation. It was not specifically an operation to count homeless persons living in the streets. Persons were excluded if they said they had a usual home outside the city because it was not cost effective to check through individual questionnaires in another city to try to find the person.

PROCESSING PROCEDURES

Respondents returned many census questionnaires by mail to 1 of over 344 census district offices or to one of six processing offices. In these offices, the questionnaires were "checked in" and edited for completeness and consistency of the responses. After this initial processing had been performed, all questionnaires were sent to the processing offices.

In the processing offices, the household questionnaires were microfilmed and processed by the Film Optical Sensing Device for Input to Computers (FOSDIC). For most items on the questionnaire, the information supplied by the respondent was indicated by filling circles in predesignated positions. FOSDIC electronically "read" these filled circles from the microfilm copy of the questionnaire and transferred the information to computer tape. The computer tape did not include individual names, addresses, or handwritten responses.

The data processing was performed in several stages. All questionnaires were microfilmed, "read" by FOSDIC,

and transferred to computer disk. Selected written entries in the race question on both the short and long forms were keyed from the microfilm and coded using the data base developed from the 1980 census and subsequent content and operational tests. Keying of other written entries on the long forms occurred in the seven processing offices.

The information (for example, income dollar amounts or homeowner shelter costs) on these keyed files was merged with the FOSDIC data or processed further through one of three automated coding programs. The codes for industry, occupation, place-of-birth, migration, place-of-work, ancestry, language, relationship, race, and Hispanic origin were merged with the FOSDIC data for editing, weighting, and tabulating operations at Census Bureau headquarters. All responses to the questions on Individual Census Reports (ICR's), Military Census Reports (MCR's), and Shipboard Census Reports (SCR's) were keyed, not processed by microfilm or FOSDIC.

APPENDIX E. Facsimiles of Respondent Instructions and Questionnaire Pages

Your Guide for the **1990 U.S. Census Form**

This guide gives helpful information on filling out your census form. If you need more help, call the local U.S. census office. **The telephone number is on the cover of the questionnaire.** After you have filled out your form, please return it in the **envelope** we have provided.

On the inside	Page
How to fill out your census form	2
Example	2
Your answers are confidential	2
Instructions for the census questions	3-11
What the census is about	12
Why the census asks certain questions	12

CENSUS '90



U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

D-4

How to Fill Out Your Census Form

Please use a black lead pencil only. Black lead pencil is better to use than ballpoint or other pens. Most questions ask you to fill in the circle, or to print the information. See Example below.

Make sure you print answers for everyone in this household. If someone in the household, such as a roomer or boarder, does not want to give you all the information for the form, print at least the person's name and answer questions 2 and 3. A census taker will call to get the other information directly from the person.

There may be a question you cannot answer exactly. For example, you might not know the age of an elderly person or the price for which your house would sell. Ask someone else in your household; if no one knows, give your best estimate.

Instructions for individual questions begin on page 3 of this guide. They will help you to understand the questions and answer them correctly.

If you have a question about filling out the census form or need assistance, call the local U.S. census office. The telephone number is given on the cover of the questionnaire.

If you do not mail back your census form, a census taker will be sent out to assist you. But it saves time and your taxpayer dollars if you fill out the form yourself and mail it back.

Example

a. Age	b. Year of birth	a. Age	b. Year of birth
<input checked="" type="radio"/> 40	<input checked="" type="radio"/> 1949	<input checked="" type="radio"/> 09	<input checked="" type="radio"/> 1981
<input type="radio"/> 41	<input type="radio"/> 1950	<input type="radio"/> 10	<input type="radio"/> 1982
<input type="radio"/> 42	<input type="radio"/> 1951	<input type="radio"/> 11	<input type="radio"/> 1983
<input type="radio"/> 43	<input type="radio"/> 1952	<input type="radio"/> 12	<input type="radio"/> 1984
<input type="radio"/> 44	<input type="radio"/> 1953	<input type="radio"/> 13	<input type="radio"/> 1985
<input type="radio"/> 45	<input type="radio"/> 1954	<input type="radio"/> 14	<input type="radio"/> 1986
<input type="radio"/> 46	<input type="radio"/> 1955	<input type="radio"/> 15	<input type="radio"/> 1987
<input type="radio"/> 47	<input type="radio"/> 1956	<input type="radio"/> 16	<input type="radio"/> 1988
<input type="radio"/> 48	<input type="radio"/> 1957	<input type="radio"/> 17	<input type="radio"/> 1989
<input type="radio"/> 49	<input type="radio"/> 1958	<input type="radio"/> 18	<input type="radio"/> 1990
<input type="radio"/> 50	<input type="radio"/> 1959	<input type="radio"/> 19	<input type="radio"/> 1991

Your Answers Are Confidential

The law authorizing the census (Title 13, U.S. Code) also provides that your answers are confidential. No one except census workers may see your completed form and they can be fined and/or imprisoned for any disclosure of your answers. Only after 72 years can your individual census form become available to other government agencies (whether federal, state, county, or local). Until then, no other person or business can see your individual report.

The same law that protects the confidentiality of your answers requires that you provide the information asked in this census to the best of your knowledge.

Information collected from the decennial census is used for a variety of statistical purposes. Census information is used to find out where funding is most needed for schools, health centers, highways, and other services. Census results are used by members of public and private groups—including community organizations—and by businesses and industries, as well as by agencies at all levels of government.

Instructions for Questions 1a through 7

1a. List everyone who lives at this address in question 1a. If you are not sure if you should list a person, see the rules on page 1 of the census form. If you are still not sure, answer to best you can and fill in "Yes" for question H1a or H1b, as appropriate.

If there are more than seven people in your household, please list all the persons in question 1a, complete the form for seven people, and mail it back in the enclosed envelope. A census taker will call to obtain the information for the additional persons.

b. If everyone listed in question 1a usually lives at another address(es), print the address(es) in 1b.

2. Fill one circle to show how each person is related to the person in column 1.

If Other relative of the person in column 1, print the exact relationship such as son-in-law, daughter-in-law, grandparent, nephew, niece, mother-in-law, father-in-law, cousin, and so on.

If the Stepson/stepdaughter of the person in column 1 also has been legally adopted by the person in column 1, mark Stepson/stepdaughter but do not mark Natural-born or adopted son/daughter. In other words, Stepson/stepdaughter takes precedence over Adopted son/daughter.

4. Fill ONE circle for the race each person considers himself/herself to be.

If you fill the Indian (Amer.) circle, print the name of the tribe or tribes in which the person is enrolled. If the person is not enrolled in a tribe, print the name of the principal tribal.

If you fill the Other API circle (under Asian or Pacific Islander (API)), only print the name of the group to which the person belongs. For example, the Other API category includes persons who identify as Burmese, Fijian, Hmong, Indonesian, Laotian, Bangladeshi, Pakistani, Tongan, Thai, Cambodian, Sri Lankan, and so on.

If you fill the Other race circle, be sure to print the name of the race.

If the person considers himself/herself to be White, Black or Negro, Hispanic or Latine, fill one circle only. Please do not print the race in the boxes.

The Black or Negro category also includes persons who identify as African-American, Afro-American, Haitian, Jamaican, West Indian, Nigerian, and so on.

All persons, regardless of citizenship status, should answer this question.

5. Print age at last birthday in the space provided (print "00" for babies less than 1 year old). Fill in the matching circle below each box. Also, print year of birth in the space provided. Then fill in the matching circle below each box. For an illustration of how to complete question 5, see the Example on page 2 of this guide.

6. If the person's only marriage was annulled, mark Never married.

7. A person is of Spanish/Hispanic origin if the person's origin (ancestry) is Mexican, Mexican-Am., Chicano, Puerto Rican, Cuban, Argentinian, Colombian, Costa Rican, Dominican, Ecuadorian, Guatemalan, Honduran, Nicaraguan, Peruvian, Salvadoran, from other Spanish-speaking countries of the Caribbean or Central or South America, or from Spain.

If you fill the Yes, other Spanish/Hispanic circle, print one group.

A person who is not of Spanish/Hispanic origin should answer this question by filling the No (not Spanish/Hispanic) circle. Note that the term "Mexican-Am." refers only to persons of Mexican origin or ancestry.

All persons, regardless of citizenship status, should answer this question.

Instructions for Question H1a through H1b

H1a. Refer to the list of persons you entered in question 1a on page 1. If you left anyone out of your list because you were not sure if the person(s) should be listed, answer question H1a as Yes. Then enter the name(s) and reason(s) why you did not list the person(s) on the lines provided. Otherwise, answer question H1a as No.

b. If you included anyone on your list even though you were not sure that you should list the person(s), answer question H1b as Yes. Then enter the name(s) and reason(s) why you listed the person(s) on the lines provided. Otherwise, answer question H1b as No.

Instructions for Questions H2 through H7b

H2. Fill only one circle.

Count all occupied and vacant apartments in the house or building. Do not count stores or office space.

Detached means there is open space on all sides, or the house is joined only to a shed or garage. Attached means that the house is joined to another house or building by at least one wall that goes from ground to roof. An example of a one-family house attached to one or more houses is a house in a row of houses attached to one another.

A mobile home or trailer that has had one or more rooms added or built onto it should be counted as a one-family detached house; a porch or shed is not considered a room.

H3. Count only whole rooms in your house, apartment, or mobile home used for living purposes, such as living rooms, dining rooms, kitchens, bedrooms, finished recreation rooms, family rooms, etc. Do not count bathrooms, kitchenettes, strip or pullman kitchens, utility rooms, porches, halls, half-rooms, porches, balconies, unfinished attics, unfinished basements, or other unfinished space used for storage.

H4. Housing is owned if the owner or co-owner lives in it. Mark **Owned** by you or someone in this household with a mortgage or loan if the house, apartment, or mobile home is mortgaged or there is a contract to purchase. Mark **Owned** by you or someone in this household free and clear (without a mortgage) if there is no mortgage or other debt. If the house, apartment, or mobile home is owned but the land is rented, mark this question to show the status of the house, apartment, or mobile home.

Mark **Rented for cash rent** if any money rent is paid, even if the rent is paid by persons who are not members of your household, or by a federal, state, or local government agency.

Mark **Occupied without payment of cash rent** if the unit is not owned or being bought by the occupants and if money rent is not paid or contracted. The unit may be owned by friends or relatives who live elsewhere and who allow occupancy without charge. A house or apartment may be provided as part of wages or salary. Examples are: caretaker's or janitor's house or apartment; parsonages; tenant farmer or sharecropper houses for which the occupants do not pay cash rent; or military housing.

H5a. Answer H5a and H5b if you live in a one-family house or a mobile home; include only land that you own or rent.

b. A business is easily recognized from the outside; for example, a grocery store or barber shop. A medical office is a doctor's or dentist's office regularly visited by patients.

H6. If this is a house, include the value of the house, the land it is on, and any other structures on the same property. If the house is owned but the land is rented, estimate the combined value of the house and the land. If this is a condominium unit, estimate the value for your house or apartment including your share of the common elements. If this is a mobile home, include the value of the mobile home and the value of the land. If you rent the land, estimate the value of the rented land and add it to the value of the mobile home.

H7a. Report the rent agreed to or contracted for, even if the rent for your house, apartment, or mobile home is unpaid or paid by someone else.

If rent is paid:	Multiply rent by:	If rent is paid:	Divide rent by:
By the day	30	4 times a year	3
By the week	4	2 times a year	6
Every other week	2	Once a year	12

b. Answer **Yes** if meals are included in the monthly rent payment, or you must contract for meals or a meal plan in order to live in this building.

Instructions for Questions H8 through H19b

H8. The person listed in column 1 refers to the person listed in the first column on page 2. This person should be the household member (or one of the members) in whose name the house, apartment, or mobile home is owned, being bought, or rented. If there is no such person, any adult household member can be the person in column 1. Mark when this person last moved into this house, apartment, or mobile home.

H9. Include all rooms intended to be used as bedrooms in this house, apartment, or mobile home, even if they are currently being used for other purposes.

H10. Mark **Yes**, have all three facilities if you have all the facilities mentioned; all facilities must be in your house, apartment, or mobile home, but not necessarily in the same room. Consider that you have hot water even if you have it only part of the time. Mark **No** if any of the three facilities is not present.

H11. The kitchen sink, stove, and refrigerator must be located in the building but do not have to be in the same room. Portable cooking equipment is not considered as a range or cookstove.

H12. Answer **Yes** only if the telephone is located in your house, apartment, or mobile home.

H13. Count company cars (including police cars and taxicabs) and company trucks of one-ton capacity or less that are regularly kept at home and used by household members for nonbusiness purposes. Do not count cars or trucks permanently out of working order.

H14. Fill the circle for the fuel used most to heat your house, apartment, or mobile home. In buildings containing more than one apartment you may obtain this information from the owner, manager, or janitor.

Solar energy is provided by a system that collects, stores, and distributes heat from the sun. Other fuel includes any fuel not separately listed; for example, purchased steam, fuel briquettes, waste material, etc.

H15. If a well provides water for five or more houses, apartments, or mobile homes, mark **A public system**. If a well provides water for four or fewer houses, apartments, or mobile homes, fill one of the circles for **Individual well**.

Drilled wells, or small diameter wells, are usually less than 1 1/2 feet in diameter. Dug wells are generally hand dug and are larger than 1 1/2 feet wide.

H16. A public sewer may be operated by a government body or private organization. A septic tank or cesspool is an underground tank or pit used for disposal of sewage.

H17. Fill the circle corresponding to the period in which the original construction was completed, not the time of any later remodeling, additions, or conversions. In buildings containing more than one apartment, the owner, manager, or janitor may be of help in determining when the building was built.

If you live in a houseboat or a trailer or mobile home, fill the circle corresponding to the model year in which it was manufactured.

If you do not know the period when the building was first constructed, fill the circle for **Don't know**.

H18. A condominium is a type of ownership in which the apartments, houses, or mobile homes in a building or development are individually owned, but the common areas, such as lobbies, halls, etc., are jointly owned. Cooperative occupants should mark **No**.

H19a. Answer H19a and H19b if you live in a one-family house or mobile home.

b. This property is the acreage on which the house is located; it includes adjoining land you rent for your use. Report sales made in 1989 from this property by you or previous occupants.

Instructions for Questions H20 through H26

H20. If your house or apartment is rented, enter the costs for utilities and fuels only if you pay for them in addition to the rent entered in H7a.

If you live in a condominium, enter the costs for utilities and fuels only if you pay for them in addition to your condominium fee.

If your fuel and utility costs are already included in your rent or condominium fee, fill the included in rent or in condominium fee circle. Do not enter any dollar amounts.

The amounts to be reported should be the total amount for the past 12 months. Estimate as closely as possible when exact costs are not known. If you have lived in this house or apartment less than 1 year, estimate the yearly cost.

Report amounts even if your bills are unpaid or paid by someone else. If the bills include utilities or fuel used also by another apartment or a business establishment, estimate the amounts for your own house or apartment. If gas and electricity are billed together, enter the combined amount on the electricity line and bracket () the two utilities.

H21. Report taxes for all taxing jurisdictions (city or town, county, state, school district, etc.) even if they are included in your mortgage payment, not yet paid or paid by someone else, or are delinquent. Do not include taxes paid due from previous years.

H22. When premiums are paid on other than a yearly basis, convert to a yearly basis. Enter the yearly amount even if no payment was made during the past 12 months.

H23a. The word mortgage is used as a general term to indicate all types of loans that are secured by real estate.

b. Enter a monthly amount even if it is unpaid or paid by someone else. If the amount is paid on some other periodic basis, see the instructions for H7a to change it to a monthly amount.

Include payments on first mortgages and contracts to purchase only. Payments for second or junior mortgages and home equity loans should be reported in H24b.

H24a. A second or junior mortgage or home equity loan is secured by real estate.

b. Enter a monthly amount even if it is unpaid or paid by someone else. If the amount is paid on some other periodic basis, see instructions for H7a and change it to a monthly amount. Include payments on all second or junior mortgages or home equity loans.

H25. A condominium fee is normally assessed by the condominium owners' association for the purpose of improving and maintaining the common areas. Enter a monthly amount even if it is unpaid or paid by someone else. If the amount is paid on some other periodic basis, see the instructions for H7a on how to change it to a monthly amount.

H26. Report amount even if your bills are unpaid or paid by someone else. Include payments for personal property taxes, land or site rent, registration fees and license fees. Do not include real estate taxes already reported in H21. The amount to be reported should be the total amount for an entire 12-month billing period even if made in two or more installments. Estimate as closely as possible when exact costs are not known.

Instructions for Question 8

B. For persons born in the United States:

Print the name of the State in which this person was born. If the person was born in Washington, D.C., print District of Columbia. If the person was born in a U.S. territory or commonwealth, print Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, or Northern Mariana.

For persons born outside the United States:

Print the name of the foreign country or area where the person was born. Use current boundaries, not boundaries at the time of the person's birth. Specify whether Northern Ireland or the Republic of Ireland (Eire); East or West Germany; North or South Korea; England, Scotland, or Wales (not Great Britain or United Kingdom). Specify the particular country or island in the Caribbean (not, for example, West Indies).

Instructions for Questions 9 through 13

9. A person should fill the Yes, U.S. citizen by naturalization circle only if he/she has completed the naturalization process and is now a United States citizen. If the person was born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Mariana, he/she should fill the Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Mariana circle. If the person was born outside the United States (or at sea) and has at least one American parent, he/she should fill the Yes, born abroad of American parent or parents circle.

10. If the person has entered the United States (that is, the 50 states and the District of Columbia) more than once, fill the circle for the latest year he/she came to stay.

11. Do not include enrollment in a trade or business school, company training, or tutoring unless the course would be accepted for credit at a regular elementary school, high school, or college.

A public school is any school or college that is controlled and supported primarily by a local, county, State, or Federal Government. Schools are private if supported and controlled primarily by religious organizations or other private groups.

12. Mark the category for the highest grade or level of schooling the person has successfully completed or the highest degree the person received. If the person is enrolled in school, mark the category containing the highest grade completed (the grade previous to the grade in which enrolled). Schooling completed in foreign or ungraded schools should be reported on the equivalent level of schooling in the regular American school system.

Persons who completed high school by passing an equivalency test, such as the General Educational Development (GED) examination, and did not attend college, should fill the circle for high school graduate.

Do not include vocational certificates or diplomas from vocational, trade, or business schools or colleges unless they were college level associate degrees or higher.

Some examples of professional school degrees include medicine, dentistry, chiropractic, optometry, osteopathic medicine, pharmacy, podiatry, veterinary medicine, law, and theology. Do not include barber school, cosmetology, or other training for a specific trade.

Do not include honorary degrees awarded by colleges and universities to individuals for their accomplishments. Include only "earned" degrees.

13. Print the ancestry group. Ancestry refers to the person's ethnic origin or descent, "roots," or heritage. Ancestry also may refer to the country of birth of the person or the person's parents or ancestors before their arrival in the United States. All persons, regardless of citizenship status, should answer this question.

Persons who have more than one origin and cannot identify with a single ancestry group may report two ancestry groups (for example, German-Irish).

Be specific. For example, print whether West Indian, Asian Indian, or American Indian. West Indian includes persons whose ancestors came from Jamaica, Trinidad, Haiti, etc. Distinguish Cape Verdean from Portuguese; French Canadian from Canadian; and Dominican Republic from Dominica Island.

A religious group should not be reported as a person's ancestry.

Instructions for Questions 14a through 19

14a. Mark Yes if this person lived in this same house or apartment on April 1, 1985, even if he/she moved away and came back since then. Mark No if this person lived in the same building but in a different apartment (or in the same mobile home or trailer but on a different lot or trailer site).

b. If this person lived in a different house or apartment on April 1, 1985, give the location of this person's usual home at that time.

Part (1)

If the person lived in the United States on April 1, 1985, print the name of the State (or District of Columbia) where he or she lived. Continue with parts (2) through (4).

If the person lived in a U.S. territory or commonwealth, print the name of the territory or commonwealth, such as Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, or Northern Mariana. Then go to question 15a.

If the person lived outside the United States, print the name of the foreign country or area where he or she lived. Specify whether Northern Ireland or the Republic of Ireland (Eire); East or West Germany; North or South Korea; England, Scotland or Wales (not Great Britain or United Kingdom). Specify the particular country or island in the Caribbean (not, for example, West Indies). Then go to question 15a.

Part (2)

If the person lived in Louisiana, print the parish name. If the person lived in Alaska, print the borough name. If the person lived in New York city and the county name is not known, print the borough name. If the person lived in an independent city (not in any county) or in Washington, D.C., leave blank and enter the city name in part (3).

Part (3)

If the person lived in New England, print the name of the town rather than the village name, unless the name of the town is not known. If the person lived outside the limits or boundaries of any city or town, print the name of the post office or the nearest town and mark No, *lived outside the city/town limits* in part (4).

Part (4)

Mark Yes if the location is now inside the city/town limits even if it was not inside the limits on April 1, 1985; that is, if the area was annexed by the city/town since last time.

15. Mark Yes if the person sometimes or always speaks a language other than English at home.

Do not mark Yes for a language spoken only at school or if speaking is limited to a few expressions or slang.

Print the name of the language spoken at home. If this person speaks more than one non-English language and cannot determine which is spoken more often, report the first language the person learned to speak.

17a. For a person with service in the National Guard or a military reserve unit, fill one of the two Yes, *active duty* circles if and only if the person has ever been called up for active duty other than training; otherwise, mark Yes, *service in Reserves or National Guard only*. For a person whose only service was as a civilian employee or volunteer for the Red Cross, USO, Public Health Service, or War or Defense Department, mark No. Count World War II Merchant Marine Seaman service as active duty; do not count other Merchant Marine service as active duty.

18. Mark Yes to part (a) if a health condition substantially limits this person in his or her choice of occupation or if the condition limits the amount of work that can be accomplished in a given period of time. Mark Yes to part (b) if the health condition prevents this person from holding any significant employment.

19. Consider a person to have difficulty with these activities if any of the following situations apply: (1) it takes extra time or extra effort for the person to perform one or more of the activities, (2) there are times when the person cannot perform one or more of the activities, or (3) the person is completely unable to perform one or more of the activities.

Instructions for Questions 20 through 23b

20. Count all children born alive, including any who have died (even shortly after birth) or who no longer live with you. Do not include miscarriages or stillborn children or any adopted, foster, or stepchildren.

21a. Count as work — Mark Yes:

- Work for someone else for wages, salary, piece rate, commission, tips, or payments "in kind" (for example, food, lodging received as payment for work performed).
- Work in own business, professional practice, or farm.
- Any work in a family business or farm, paid or not.
- Any part-time work including babysitting, paper routes, etc.
- Active duty in Armed Forces.

Do not count as work — Mark No:

- Housework or yard work at home.
- Unpaid volunteer work.
- School work.
- Work done as a resident of an institution.

22a. Include the street type (for example, St., Road, Ave.) and the street direction (if a direction such as "North" is part of the address). For example, print 1239 N. Main St. or 1239 Main St., N.W. not just 1239 Main.

If the only known address is a post office box, give a description of the work location. For example, print the name of the building or shopping center where the person works, the nearest intersection, the nearest street where the workplace is located, etc. DO NOT GIVE A POST OFFICE BOX NUMBER.

If the person worked at a military installation or military base that has no street address, report the name of the military installation or base.

If the person worked at several locations, but reported to the same location each day to begin work, print the address of the location where he or she reported. If the person did not report to the same location each day to begin work, print the address of the location where he or she worked most last week.

If the person's employer operates in more than one location (such as a grocery store chain or public school system), print the exact address of the location or branch where the person worked. If the exact address of a school is not known, print the name of the school.

If the person worked on a college or university campus and the exact address of the workplace is not known, print the name of the building where he or she worked.

d. If the person worked in New York city and the county is not known, print the name of the borough where the person worked.

If the person worked in Louisiana, print the name of the parish where the person worked.

If the person worked in Alaska, print the name of the borough where the person worked.

e. If the person worked in a foreign country or Puerto Rico, Guam, etc., print the name of the country in 22a and leave the other parts of question 22 blank.

23a. If the person usually used more than one type of transportation to get to work (for example, rode the bus and transferred to the subway), fill the circle of the one method of transportation that he/she used for most of the distance during the trip.

b. If the person was driven to work by someone who then drove back home or to a nonwork destination, fill the circle for *Drive alone*.

DO NOT include persons who rode to school or some other nonwork destination in the count of persons who rode in the vehicle.

Instructions for Questions 24a through 30

- 24a.** Give the time of day the person usually left home to go to work. DO NOT give the time that the person usually began his or her work.
If the person usually left home to go to work sometime between 12:00 o'clock midnight and 12:00 o'clock noon, fill the a.m. circle.
If the person usually left home to go to work sometime between 12:00 o'clock noon and 12:00 o'clock midnight, fill the p.m. circle.
- b.** Travel time is from door to door. Include time taken waiting for public transportation or picking up passengers in a carpool.
- 25.** If the person works only during certain seasons or on a day-by-day basis when work is available, mark No.
- 26a.** Mark Yes if the person tried to get a job or to start a business or professional practice at any time in the last 4 weeks; for example, registered at an employment office, went to a job interview, placed or answered ads, or did anything toward starting a business or professional practice.
- b.** Mark No, already has a job if the person was on layoff or was expecting to report to a job within 30 days.
Mark No, temporarily ill if the person expects to be able to work within 30 days.
Mark No, other reasons if the person could not have taken a job because he or she was going to school, taking care of children, etc.
- 27.** Look at the instructions for question 21a to see what to count as work. Mark Never worked if the person: (1) never worked at any kind of job or business, either full or part time; (2) never did any work, with or without pay, in a family business or farm; and (3) never served in the Armed Forces.
- 28a.** If the person worked for a company, business, or government agency, print the name of the company, not the name of the person's supervisor. If the person worked for an individual or a business that had no company name, print the name of the individual worked for. If the person worked in his/her own business, print "self-employed."
- b.** Print two or more words to tell what the business, industry, or individual employer named in 28a did. If there is more than one activity, describe only the major activity at the place where the person worked. Enter what is made, what is sold, or what service is given.
Some examples of what to enter:
Enter a description like the following —
Metal furniture manufacturing
Retail grocery store
Petroleum refining
Cattle ranch
Do not enter —
Furniture company
Grocery store
Oil company
Ranch
- 29.** Print two or more words to describe the kind of work the person did. If the person was a trainee, apprentice, or helper, include that in the description. Some examples of what to enter:
Enter a description like the following —
Production clerk
Carpenter's helper
Auto engine mechanic
Registered nurse
Do not enter —
Clerk
Helper
Mechanic
Nurse
- 30.** Mark Employee of a PRIVATE NOT-FOR-PROFIT ... organization if the person worked for a cooperative, credit union, mutual insurance company, or similar organization.
Employees of foreign governments, the United Nations, and other international organizations should mark PRIVATE NOT-FOR-PROFIT ... organization.
For persons who worked at a public school, college or university, mark the appropriate government category; for example, mark State GOVERNMENT employee for a state university, or mark Local GOVERNMENT employee for a county-run community college or a city-run public school.

Instructions for Questions 31a through 32h

- 31a.** Look at the instructions for question 21a to see what to count as work.
- b.** Count every week in which the person did any work at all, even for an hour.
- 32.** Fill the Yes or No circle for each part and enter the amount received during 1989.
If income from any source was received jointly by household members, report, if possible, the appropriate share for each person; otherwise, report the whole amount for only one person and fill the No circle for the other person.
- a.** Include wages and salaries from all jobs before deductions. Be sure to include any tips, commissions, or bonuses. Owners of incorporated businesses should enter their salary here. Military personnel should include base pay plus cash housing and/or subsistence allowances, flight pay, uniform allowances, reenlistment bonuses, etc.
- b.** Include NONFARM profit (or loss) from self-employment in sole proprietorships and partnerships. Exclude profit (or loss) of incorporated businesses you own.
- c.** Include FARM profit (or loss) from self-employment in sole proprietorships and partnerships. Exclude profit (or loss) of incorporated farm businesses you own. Also exclude amounts from land rented for cash but include amounts from land rented for shares.
- d.** Include interest received or credited to checking and savings accounts, money market funds, certificates of deposit (CDs), IRAs, KEOGHs, and government bonds.
Include dividends received, credited, or reinvested from ownership of stocks or mutual funds.
Include profit (or loss) from royalties and the rental of land, buildings or real estate, or from roomers or boarders. Income received by self-employed persons whose primary source of income is from renting property or from royalties should be included in questions 32b or 32c above. Include regular payments from an estate or trust fund.
- e.** Include Social Security (and/or Railroad Retirement) payments to retired persons, to dependents of deceased insured workers, and to disabled workers before Medicare deductions.
- f.** Include Supplemental Security Income received by aged, blind, or disabled persons, Aid to Families with Dependent Children, or income from other government programs such as general or emergency assistance. Do not include assistance received from private charities. Exclude assistance to pay for heating (cooling) costs.
- g.** Include retirement, disability, or survivor benefits received from companies and unions; Federal, State, and local governments, and the U.S. military. Include regular income from annuities and IRA or KEOGH retirement plans.
- h.** Include Veterans' (VA) disability compensation and educational assistance payments (VEAP), unemployment compensation, child support or alimony, and all other regular payments such as Armed Forces transfer payments; assistance from private charities; regular contributions from persons not living in the household, etc.
Do not include the following as income in any item:
• Refunds or rebates of any kind
• Withdrawals from savings of any kind
• Capital gains or losses from the sale of homes, shares of stock, etc.
• Inheritances or insurance settlements
• Any type of loan
• Pay in-kind such as food, free rent, etc.

What the Census Is About – Some Questions and Answers

Why are we taking a census?

The most important reason for taking a decennial census is to determine how many representatives each state will have in Congress.

What does the Census Bureau do with the information you provide?

The individual information collected in the census is grouped together into statistical totals. Information such as the number of persons in a given area, their ages, educational background, the characteristics of their housing, etc., enable government, business, and industry to plan more effectively.

How long have we been taking the census?

The first census was taken in 1790 in accordance with the requirement in the first article of the constitution. A census has been taken every 10 years since. The 1990 Decennial Census marks the 200th anniversary of the census.

How are you being counted?

Census forms are delivered to all households a few days before census day. Households are requested to fill out the form and mail it back to the census office.

Why the Census Asks Certain Questions

Here are a few reasons for asking some of the questions.

It is as important to get information about people and their houses as it is to count them.

Name?

Names help make sure that everyone in a household is counted, but that no one is counted twice.

Value or rent?

Government and planning agencies use answers to these questions in combination with other information to develop housing programs to meet the needs of people at different economic levels.

Complete plumbing?

This question gives information on the quality of housing. The data are used with other statistics to show how the "level of living" compares in various areas and how it has changed over time.

Place of birth?

This question provides information used to study long-term trends as to where people move and to study migration patterns and differences in growth patterns.

Job?

Answers to the questions about the jobs people hold provide information on the extent and types of employment in different areas of the country. From this information, training programs can be developed and the need for new industries can be determined.

Income?

Income, more than anything else, determines how families or persons live. Income information makes it possible to compare the economic levels of different areas.

CENSUS '90

OFFICIAL 1990 U.S. CENSUS FORM



Thank you for taking time to complete and return this census questionnaire. It's important to you, your community, and the Nation.

The law requires answers but guarantees privacy.

By law (Title 13, U.S. Code), you're required to answer the census questions to the best of your knowledge. However, the same law guarantees that your census form remains confidential. For 72 years—or until the year 2062—only Census Bureau employees can see your form. No one else—no other government body, no police department, no court system or welfare agency—is permitted to see this confidential information under any circumstances.

How to get started—and get help.

Start by listing on the next page the names of all the people who live in your home. Please answer all questions with a black lead pencil. You'll find detailed instructions for answering the census in the enclosed guide. If you need additional help, call the toll-free telephone number to the left, near your address.

Please answer and return your form promptly.

Complete your form and return it by April 1, 1990 in the postage-paid envelope provided. Avoid the inconvenience of having a census taker visit your home.

Again, thank you for answering the 1990 Census.
Remember: Return the completed form by April 1, 1990.

Para personas de habla hispana —

(For Spanish-speaking persons)

Si usted desea un cuestionario del censo en español, llame sin cargo alguno al siguiente número: **1-800-CUENTAN**
(o sea 1-800-282-6826)

U.S. Department of Commerce
BUREAU OF THE CENSUS
FORM D-2

OMB No. 0607-0628
Approval Expires 07/31/91

The 1990 census must count every person at his or her "usual residence." This means the place where the person lives and sleeps most of the time.

1a. List on the numbered lines below the name of each person living here on Sunday, April 1, including all persons staying here who have no other home. If EVERYONE at this address is staying here temporarily and usually lives somewhere else, follow the instructions given in question 1b below.

Include

- Everyone who usually lives here such as family members, housemates and roommates, foster children, roomers, boarders, and live-in employees
- Persons who are temporarily away on a business trip, on vacation, or in a general hospital
- College students who stay here while attending college
- Persons in the Armed Forces who live here
- Newborn babies still in the hospital
- Children in boarding schools below the college level
- Persons who stay here most of the week while working even if they have a home somewhere else
- Persons with no other home who are staying here on April 1

Do NOT include

- Persons who usually live somewhere else
- Persons who are away in an institution such as a prison, mental hospital, or a nursing home
- College students who live somewhere else while attending college
- Persons in the Armed Forces who live somewhere else
- Persons who stay somewhere else most of the week while working

Print last name, first name, and middle initial for each person. Begin on line 1 with the household member (or one of the household members) in whose name this house or apartment is owned, being bought, or rented. If there is no such person, start on line 1 with any adult household member.

LAST	FIRST	INITIAL	LAST	FIRST	INITIAL
1			7		
2			8		
3			9		
4			10		
5			11		
6			12		

1b. If EVERYONE is staying here only temporarily and usually lives somewhere else, list the name of each person on the numbered lines above, fill this circle ☐ and print their usual address below. DO NOT PRINT THE ADDRESS LISTED ON THE FRONT COVER.

House number	Street or road/Rural route and box number	Apartment number
City	State	ZIP Code
County or foreign country	Name of nearest intersecting streets or roads	

NOW PLEASE OPEN THE FLAP TO PAGE 2 AND ANSWER ALL QUESTIONS FOR THE FIRST 7 PEOPLE LISTED. USE A BLACK LEAD PENCIL ONLY.

Please fill one column → for each person listed in Question 1a on page 1.	PERSON 1	PERSON 2
	Last name	Last name
	First name Middle initial	First name Middle initial
<p>2. How is this person related to PERSON 1?</p> <p>Fill ONE circle for each person.</p> <p>If Other relative of person in column 1, fill circle and print exact relationship, such as mother-in-law, grandparent, son-in-law, niece, cousin, and so on.</p>	<p>START in this column with the household member (or one of the members) in whose name the home is owned, being bought, or rented.</p> <p>If there is no such person, start in this column with any adult household member.</p>	<p>If a RELATIVE of Person 1:</p> <p><input type="radio"/> Husband/wife <input type="radio"/> Brother/sister</p> <p><input type="radio"/> Natural-born or adopted son/daughter <input type="radio"/> Father/mother</p> <p><input type="radio"/> Stepson/stepdaughter <input type="radio"/> Grandchild</p> <p><input type="radio"/> Other relative</p> <p>If NOT RELATED to Person 1:</p> <p><input type="radio"/> Roomer, boarder, or foster child <input type="radio"/> Unmarried partner</p> <p><input type="radio"/> Housemate, roommate <input type="radio"/> Other nonrelative</p>
<p>3. Sex</p> <p>Fill ONE circle for each person.</p>	<p><input type="radio"/> Male <input type="radio"/> Female</p>	<p><input type="radio"/> Male <input type="radio"/> Female</p>
<p>4. Race</p> <p>Fill ONE circle for the race that the person considers himself/herself to be.</p> <p>If Indian (Amer.), print the name of the enrolled or principal tribe.</p> <p>If Other Asian or Pacific Islander (API), print one group, for example: Filipino, Fijian, Laotian, Thai, Tongan, Pakistani, Cambodian, and so on.</p> <p>If Other race, print race.</p>	<p><input type="radio"/> White</p> <p><input type="radio"/> Black or Negro</p> <p><input type="radio"/> Indian (Amer.) (Print the name of the enrolled or principal tribe.)</p> <p><input type="radio"/> Eskimo</p> <p><input type="radio"/> Aleut</p> <p><input type="radio"/> Asian or Pacific Islander (API)</p> <p><input type="radio"/> Chinese <input type="radio"/> Japanese</p> <p><input type="radio"/> Filipino <input type="radio"/> Asian Indian</p> <p><input type="radio"/> Hawaiian <input type="radio"/> Samoan</p> <p><input type="radio"/> Korean <input type="radio"/> Guamanian</p> <p><input type="radio"/> Vietnamese <input type="radio"/> Other API</p> <p><input type="radio"/> Other race (Print race)</p>	<p><input type="radio"/> White</p> <p><input type="radio"/> Black or Negro</p> <p><input type="radio"/> Indian (Amer.) (Print the name of the enrolled or principal tribe.)</p> <p><input type="radio"/> Eskimo</p> <p><input type="radio"/> Aleut</p> <p><input type="radio"/> Asian or Pacific Islander (API)</p> <p><input type="radio"/> Chinese <input type="radio"/> Japanese</p> <p><input type="radio"/> Filipino <input type="radio"/> Asian Indian</p> <p><input type="radio"/> Hawaiian <input type="radio"/> Samoan</p> <p><input type="radio"/> Korean <input type="radio"/> Guamanian</p> <p><input type="radio"/> Vietnamese <input type="radio"/> Other API</p> <p><input type="radio"/> Other race (Print race)</p>
<p>5. Age and year of birth</p> <p>a. Print each person's age at last birthday. Fill in the matching circle below each box.</p> <p>b. Print each person's year of birth and fill the matching circle below each box.</p>	<p>a. Age</p> <p>0 0 0 0 0 0</p> <p>1 0 1 0 1 0</p> <p>2 0 2 0</p> <p>3 0 3 0</p> <p>4 0 4 0</p> <p>5 0 5 0</p> <p>6 0 6 0</p> <p>7 0 7 0</p> <p>8 0 8 0</p> <p>9 0 9 0</p> <p>b. Year of birth</p> <p>1 0 8 0 0 0 0 0</p> <p>9 0 1 0 1 0</p> <p>2 0 2 0</p> <p>3 0 3 0</p> <p>4 0 4 0</p> <p>5 0 5 0</p> <p>6 0 6 0</p> <p>7 0 7 0</p> <p>8 0 8 0</p> <p>9 0 9 0</p>	<p>a. Age</p> <p>0 0 0 0 0 0</p> <p>1 0 1 0 1 0</p> <p>2 0 2 0</p> <p>3 0 3 0</p> <p>4 0 4 0</p> <p>5 0 5 0</p> <p>6 0 6 0</p> <p>7 0 7 0</p> <p>8 0 8 0</p> <p>9 0 9 0</p> <p>b. Year of birth</p> <p>1 0 8 0 0 0 0 0</p> <p>9 0 1 0 1 0</p> <p>2 0 2 0</p> <p>3 0 3 0</p> <p>4 0 4 0</p> <p>5 0 5 0</p> <p>6 0 6 0</p> <p>7 0 7 0</p> <p>8 0 8 0</p> <p>9 0 9 0</p>
<p>6. Marital status</p> <p>Fill ONE circle for each person.</p>	<p><input type="radio"/> Now married <input type="radio"/> Separated</p> <p><input type="radio"/> Widowed <input type="radio"/> Never married</p> <p><input type="radio"/> Divorced</p>	<p><input type="radio"/> Now married <input type="radio"/> Separated</p> <p><input type="radio"/> Widowed <input type="radio"/> Never married</p> <p><input type="radio"/> Divorced</p>
<p>7. Is this person of Spanish/Hispanic origin?</p> <p>Fill ONE circle for each person.</p> <p>If Yes, other Spanish/Hispanic, print one group.</p>	<p><input type="radio"/> No (not Spanish/Hispanic)</p> <p><input type="radio"/> Yes, Mexican, Mexican-Am., Chicano</p> <p><input type="radio"/> Yes, Puerto Rican</p> <p><input type="radio"/> Yes, Cuban</p> <p><input type="radio"/> Yes, other Spanish/Hispanic (Print one group, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.)</p>	<p><input type="radio"/> No (not Spanish/Hispanic)</p> <p><input type="radio"/> Yes, Mexican, Mexican-Am., Chicano</p> <p><input type="radio"/> Yes, Puerto Rican</p> <p><input type="radio"/> Yes, Cuban</p> <p><input type="radio"/> Yes, other Spanish/Hispanic (Print one group, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.)</p>
<p>FOR CENSUS USE</p>	<p><input type="radio"/></p> <p><input type="radio"/></p>	<p><input type="radio"/></p> <p><input type="radio"/></p>

NOW PLEASE ANSWER QUESTIONS H1a--H26 FOR THIS HOUSEHOLD

PERSON 7

Last name: _____ First name: _____ Middle name: _____

Is PERSON 7:

RELATIVE of Person 1:

☐ Husband/wife ☐ Brother/sister
☐ Natural-born or adopted son/daughter ☐ Father/mother
☐ Grandchild ☐ Other relative
☐ Stepson/stepdaughter

IF NOT RELATED to Person 1:

☐ Roomer, boarder, or tenant child ☐ Unmarried partner
☐ Housemate, roommate ☐ Other nonrelative
☐ Male ☐ Female

☐ White
☐ Black or Negro
☐ Indian (Amer.) (Print the name of the extended or partial tribe) _____
☐ Eskimo
☐ Asian ☐ Asian or Pacific Islander (API)
☐ Chinese ☐ Japanese
☐ Filipino ☐ Asian Indian
☐ Hawaiian ☐ Samoan
☐ Korean ☐ German
☐ Vietnamese ☐ Other API _____
☐ Other race (Print race) _____

a. Age _____ **b. Year of birth** _____

☐ Never married ☐ Separated
☐ Widowed ☐ Never married
☐ Divorced

☐ No (not Spanish/Hispanic)
☐ Yes, Mexican, Mexican-Am., Chicano
☐ Yes, Puerto Rican
☐ Yes, Cuban
☐ Yes, other Spanish/Hispanic (Print race group, for example: Argentinian, Colombian, Dominican, Nicaraguan, Salvadoran, Spanish, and so on) _____

H1a. Did you leave anyone out of your list of persons for Question 1a on page 1 because you were not sure if the person should be listed — for example, someone temporarily away on a business trip or vacation, a newborn baby still in the hospital, or a person who stays here once in a while and has no other home?
☐ Yes, please print the name(s) and reason(s) _____
☐ No

b. Did you include anyone in your list of persons for Question 1a on page 1 even though you were not sure that the person should be listed — for example, a visitor who is staying here temporarily or a person who usually lives somewhere else?
☐ Yes, please print the name(s) and reason(s) _____
☐ No

H2. Which best describes this building? Include all apartments, flats, etc., even if vacant.
☐ A mobile home or trailer
☐ A one-family house detached from any other house
☐ A two-family house attached to one or more houses
☐ A building with 2 apartments
☐ A building with 3 or 4 apartments
☐ A building with 5 to 9 apartments
☐ A building with 10 to 19 apartments
☐ A building with 20 to 49 apartments
☐ A building with 50 or more apartments
☐ Other _____

H3. How many rooms do you have in this house or apartment? Do NOT count bedrooms, porches, balconies, lofts, bulk, or half-rooms.
☐ 1 room ☐ 4 rooms ☐ 7 rooms
☐ 2 rooms ☐ 5 rooms ☐ 8 rooms
☐ 3 rooms ☐ 6 rooms ☐ 9 or more rooms

H4. Is this house or apartment —
☐ Owned by you or someone in this household with a mortgage or loan?
☐ Owned by you or someone in this household free and clear (without a mortgage)?
☐ Rented for cash rent?
☐ Occupied without payment of cash rent?

IF THIS IS A ONE-FAMILY HOUSE —
H5a. Is this house on ten or more acres?
☐ Yes ☐ No
b. Is there a business (such as a store or barber shop) or a medical office on this property?
☐ Yes ☐ No

Answer only if you or someone in this household OWNS OR IS BUYING the house or apartment —
H6. What is the value of this property; that is, how much do you think this house and lot or condominium unit would sell for if it were for sale?
☐ Less than \$10,000 ☐ \$70,000 to \$74,999
☐ \$10,000 to \$14,999 ☐ \$75,000 to \$79,999
☐ \$15,000 to \$19,999 ☐ \$80,000 to \$89,999
☐ \$20,000 to \$24,999 ☐ \$90,000 to \$99,999
☐ \$25,000 to \$29,999 ☐ \$100,000 to \$124,999
☐ \$30,000 to \$34,999 ☐ \$125,000 to \$149,999
☐ \$35,000 to \$39,999 ☐ \$150,000 to \$174,999
☐ \$40,000 to \$44,999 ☐ \$175,000 to \$199,999
☐ \$45,000 to \$49,999 ☐ \$200,000 to \$249,999
☐ \$50,000 to \$54,999 ☐ \$250,000 to \$299,999
☐ \$55,000 to \$59,999 ☐ \$300,000 to \$399,999
☐ \$60,000 to \$64,999 ☐ \$400,000 to \$499,999
☐ \$65,000 to \$69,999 ☐ \$500,000 or more

Answer only if you PAY RENT for this house or apartment —
H7a. What is the monthly rent?
☐ Less than \$80 ☐ \$375 to \$399
☐ \$80 to \$99 ☐ \$400 to \$424
☐ \$100 to \$124 ☐ \$425 to \$449
☐ \$125 to \$149 ☐ \$450 to \$474
☐ \$150 to \$174 ☐ \$475 to \$499
☐ \$175 to \$199 ☐ \$500 to \$524
☐ \$200 to \$224 ☐ \$525 to \$549
☐ \$225 to \$249 ☐ \$550 to \$599
☐ \$250 to \$274 ☐ \$600 to \$649
☐ \$275 to \$299 ☐ \$650 to \$699
☐ \$300 to \$324 ☐ \$700 to \$749
☐ \$325 to \$349 ☐ \$750 to \$999
☐ \$350 to \$374 ☐ \$1,000 or more

b. Does the monthly rent include any meals?
☐ Yes ☐ No

FOR CENSUS USE

A. Total persons _____

B. Type of unit
 Occupied ☐ Vacant
☐ Permitted ☐ Regular
☐ Co-op's ☐ Used home elsewhere

C1. Vacancy status
☐ For rent ☐ For sale/rent/occ
☐ For sale only ☐ For migrant workers
☐ Rented or sold, not occupied ☐ Other vacant

C2. Is this unit boarded up?
☐ Yes ☐ No

D. Months vacant
☐ Less than 1 ☐ 6 up to 12
☐ 1 up to 2 ☐ 12 up to 24
☐ 2 up to 6 ☐ 24 or more

E. Complete after
 LR TC QA JC1
 RF RE UT
 NV ED EN
 PD P3 P6
 P1 P4 1A JC2
 P2 P6 SM
F. Cov.
☐ 1a ☐ 1a ☐ 7 ☐ H1

G. DO _____ **HO** _____

<p>H8. When did the person listed in column 1 on page 1 move into this house or apartment?</p> <p> <input type="radio"/> 1989 or 1990 <input type="radio"/> 1985 to 1988 <input type="radio"/> 1980 to 1984 <input type="radio"/> 1970 to 1979 <input type="radio"/> 1960 to 1969 <input type="radio"/> 1959 or earlier </p>	<p>H14. Which FUEL is used MOST for heating this house or apartment?</p> <p> <input type="radio"/> Gas from underground pipes serving the neighborhood <input type="radio"/> Gas bottled, tank, or LP <input type="radio"/> Electricity <input type="radio"/> Fuel oil, kerosene, etc. <input type="radio"/> Coal or culm <input type="radio"/> Wood <input type="radio"/> Solar energy <input type="radio"/> Other fuel <input type="radio"/> No fuel used </p>	<p>H28. What are the yearly costs of utilities and fees for this house or apartment? If you have lived here less than 1 year, estimate the yearly cost.</p> <p>a. Electricity</p> <p> <input type="text"/> \$ <input type="text"/> .00 Yearly cost — Dollars </p> <p>OR</p> <p> <input type="radio"/> Included in rent or in condominium fee <input type="radio"/> No charge or electricity not used </p>
<p>H9. How many bedrooms do you have; that is, how many bedrooms would you list if this house or apartment were on the market for sale or rent?</p> <p> <input type="radio"/> No bedroom <input type="radio"/> 1 bedroom <input type="radio"/> 2 bedrooms <input type="radio"/> 3 bedrooms <input type="radio"/> 4 bedrooms <input type="radio"/> 5 or more bedrooms </p>	<p>H15. Do you get water from —</p> <p> <input type="radio"/> A public system such as a city water department, or private company? <input type="radio"/> An individual drilled well <input type="radio"/> An individual dug well <input type="radio"/> Some other source such as a spring, creek, river, stream, etc.? </p>	<p>b. Gas</p> <p> <input type="text"/> \$ <input type="text"/> .00 Yearly cost — Dollars </p> <p>OR</p> <p> <input type="radio"/> Included in rent or in condominium fee <input type="radio"/> No charge or gas not used </p>
<p>H10. Do you have COMPLETE plumbing facilities in this house or apartment; that is, 1) hot and cold piped water, 2) a flush toilet, and 3) a bathtub or shower?</p> <p> <input type="radio"/> Yes, have all three facilities <input type="radio"/> No </p>	<p>H16. Is this building connected to a public sewer?</p> <p> <input type="radio"/> Yes, connected to public sewer <input type="radio"/> No, connected to septic tank or cesspool <input type="radio"/> No, use other means </p>	<p>c. Water</p> <p> <input type="text"/> \$ <input type="text"/> .00 Yearly cost — Dollars </p> <p>OR</p> <p> <input type="radio"/> Included in rent or in condominium fee <input type="radio"/> No charge </p>
<p>H11. Do you have COMPLETE kitchen facilities; that is, 1) a sink with piped water, 2) a range or cooktop, and 3) a refrigerator?</p> <p> <input type="radio"/> Yes <input type="radio"/> No </p>	<p>H17. About when was this building first built?</p> <p> <input type="radio"/> 1989 or 1990 <input type="radio"/> 1985 to 1988 <input type="radio"/> 1980 to 1984 <input type="radio"/> 1970 to 1979 <input type="radio"/> 1960 to 1969 <input type="radio"/> 1950 to 1959 <input type="radio"/> 1940 to 1949 <input type="radio"/> 1939 or earlier <input type="radio"/> Don't know </p>	<p>d. Oil, coal, kerosene, wood, etc.</p> <p> <input type="text"/> \$ <input type="text"/> .00 Yearly cost — Dollars </p> <p>OR</p> <p> <input type="radio"/> Included in rent or in condominium fee <input type="radio"/> No charge or these fuels not used </p>
<p>H12. Do you have a telephone in this house or apartment?</p> <p> <input type="radio"/> Yes <input type="radio"/> No </p>	<p>H18. Is this house or apartment part of a condominium?</p> <p> <input type="radio"/> Yes <input type="radio"/> No </p>	
<p>H13. How many automobiles, vans, and trucks of one-ton capacity or less are kept at home for use by members of your household?</p> <p> <input type="radio"/> None <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 or more </p>	<p>If you live in an apartment building, skip to H20.</p> <p>H19a. Is this house or less than 1 acre?</p> <p> <input type="radio"/> Yes — Skip to H20 <input type="radio"/> No </p> <p>b. In 1989, what were the actual sales of all agricultural products from this property?</p> <p> <input type="radio"/> None <input type="radio"/> \$1 to \$999 <input type="radio"/> \$1,000 to \$2,499 <input type="radio"/> \$2,500 to \$4,999 <input type="radio"/> \$5,000 to \$9,999 <input type="radio"/> \$10,000 or more </p>	

QUESTIONS FOR YOUR HOUSEHOLD

Page 5

INSTRUCTION:

Answer questions H21 TO H25. If this is a one-family house, a condominium, or a mobile home that someone in this household OWNS OR IS BUYING; otherwise, go to page 6.

H21. What were the real estate taxes on THIS property last year?

\$.00
Yearly amount — Dollars

OR

☐ None

H22. What was the annual payment for fire, hazard, and flood insurance on THIS property?

\$.00
Yearly amount — Dollars

OR

☐ None

H23a. Do you have a mortgage, deed of trust, contract to purchase, or similar debt on THIS property?

- ☐ Yes, mortgage, deed of trust, or similar debt Go to H23b
☐ Yes, contract to purchase
☐ No — Skip to H24a

b. How much is your regular monthly mortgage payment on THIS property? Include payment only on first mortgage or contract to purchase.

\$.00
Monthly amount — Dollars

OR

☐ No regular payment required — Skip to H24a

c. Does your regular monthly mortgage payment include payments for the real estate taxes on THIS property?

- ☐ Yes, taxes included in payment
☐ No, taxes paid separately or taxes not required

d. Does your regular monthly mortgage payment include payments for fire, hazard, or flood insurance on THIS property?

- ☐ Yes, insurance included in payment
☐ No, insurance paid separately or no insurance

H23a. Do you have a second or junior mortgage or a home equity loan on THIS property?

- ☐ Yes
☐ No — Skip to H25

b. How much is your regular monthly payment on all second or junior mortgages and all home equity loans?

\$.00
Monthly amount — Dollars

OR

☐ No regular payment required

Answer ONLY if this is a CONDOMINIUM —
H23. What is the monthly condominium fee?

\$.00
Monthly amount — Dollars

Answer ONLY if this is a MOBILE HOME —
H25. What was the total cost for personal property taxes, title fees, registration fees, and license fees on this mobile home and its site last year? Exclude real estate taxes.

\$.00
Yearly amount — Dollars

Please turn to page 6.

2
1
0
9
8
7
6
5
4
3
2
1
0

<p>23a. How did this person usually get to work LAST WEEK? If this person usually used more than one method of transportation during the trip, fill in the circle of the one used for most of the distance.</p> <p> <input type="radio"/> Car, truck, or van <input type="radio"/> Motorcycle <input type="radio"/> Bus or trolley bus <input type="radio"/> Bicycles <input type="radio"/> Streetscar or subway car <input type="radio"/> Walked <input type="radio"/> Subway or elevated <input type="radio"/> Worked at home — Skip to 29 <input type="radio"/> Railroad <input type="radio"/> Other method <input type="radio"/> Ferryboat <input type="radio"/> Taxicab </p> <p>If "car, truck, or van" is marked in 23a, go to 23b. Otherwise, skip to 24a.</p> <p>b. How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?</p> <p> <input type="radio"/> Drove alone <input type="radio"/> 5 people <input type="radio"/> 2 people <input type="radio"/> 6 people <input type="radio"/> 3 people <input type="radio"/> 7 to 9 people <input type="radio"/> 4 people <input type="radio"/> 10 or more people </p>	<p>22. Industry or Employer</p> <p>a. For whom did this person work? If now on active duty in the Armed Forces, fill this circle <input type="radio"/> and print the branch of the Armed Forces.</p> <p>(Name of company, business, or other employer)</p> <p>b. What kind of business or industry was this? Describe the activity at location where employed.</p> <p>(For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, retail bakery)</p> <p>c. Is this mainly — Fill ONE circle</p> <p> <input type="radio"/> Manufacturing <input type="radio"/> Other (agriculture, construction, service, government, etc.) <input type="radio"/> Wholesale trade <input type="radio"/> Retail trade </p>	<p>32. INCOME IN 1989 — Fill the "Yes" circle below for each income source received during 1989. Otherwise, fill the "No" circle. If "Yes," enter the total amount received during 1989. For income received jointly, see instruction guide. If exact amount is not known, please give best estimate. If not income was a loss, write "Loss" above the dollar amount.</p> <p>a. Wages, salary, commissions, bonuses, or tips from all jobs — Report amount before deductions for taxes, Social Security, or other items.</p> <p> <input type="radio"/> Yes — \$ _____ <input type="radio"/> No — \$ _____ Annual amount — Dollars </p> <p>b. Self-employment income from own nonfarm business, including proprietorship and partnership — Report NET income after business expenses.</p> <p> <input type="radio"/> Yes — \$ _____ <input type="radio"/> No — \$ _____ Annual amount — Dollars </p> <p>c. Farm self-employment income — Report NET income after operating expenses. Include earnings as tenant farmer or sharecropper.</p> <p> <input type="radio"/> Yes — \$ _____ <input type="radio"/> No — \$ _____ Annual amount — Dollars </p> <p>d. Interest, dividends, net rental income or royalty income, or income from estates and trusts — Report even small amounts credited to an account.</p> <p> <input type="radio"/> Yes — \$ _____ <input type="radio"/> No — \$ _____ Annual amount — Dollars </p> <p>e. Social Security or Railroad Retirement</p> <p> <input type="radio"/> Yes — \$ _____ <input type="radio"/> No — \$ _____ Annual amount — Dollars </p> <p>f. Supplemental Security Income (SSI), Aid to Families with Dependent Children (AFDC), or other public assistance or public welfare payments.</p> <p> <input type="radio"/> Yes — \$ _____ <input type="radio"/> No — \$ _____ Annual amount — Dollars </p> <p>g. Retirement, survivor, or disability pensions — Do NOT include Social Security.</p> <p> <input type="radio"/> Yes — \$ _____ <input type="radio"/> No — \$ _____ Annual amount — Dollars </p> <p>h. Any other sources of income received regularly such as Veterans' (VA) payments, unemployment compensation, child support, or alimony — Do NOT include lump-sum payments such as money from an inheritance or the sale of a home.</p> <p> <input type="radio"/> Yes — \$ _____ <input type="radio"/> No — \$ _____ Annual amount — Dollars </p>
<p>24a. What time did this person usually leave home to go to work LAST WEEK?</p> <p> <input type="radio"/> a.m. <input type="radio"/> p.m. </p> <p>b. How many minutes did it usually take this person to get from home to work LAST WEEK?</p> <p>_____ Minutes — Skip to 25</p>	<p>29. Occupation</p> <p>a. What kind of work was this person doing?</p> <p>(For example: registered nurse, personnel manager, supervisor of order department, gasoline engine assembler, cable looper)</p> <p>b. What were this person's most important activities or duties?</p> <p>(For example: patient care, directing hiring policies, supervising order clerks, assembling engines, long calls)</p>	<p>33. What was this person's total income in 1989? Add entries in questions 32a through 32h; subtract any losses. If total amount was a loss, write "Loss" above amount.</p> <p> <input type="radio"/> None OR \$ _____ Annual amount — Dollars </p>
<p>25. Was this person TEMPORARILY absent or on layoff from a job or business LAST WEEK?</p> <p> <input type="radio"/> Yes, on layoff <input type="radio"/> Yes, on vacation, temporary illness, labor dispute, etc. <input type="radio"/> No </p>	<p>30. Was this person — Fill ONE circle</p> <p> <input type="radio"/> Employee of a PRIVATE FOR-PROFIT company or business or of an individual, for wages, salary, or commission <input type="radio"/> Employee of a PRIVATE NOT-FOR-PROFIT, tax-exempt, or charitable organization <input type="radio"/> Local GOVERNMENT employee (city, county, etc.) <input type="radio"/> State GOVERNMENT employee <input type="radio"/> Federal GOVERNMENT employee <input type="radio"/> SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm <input type="radio"/> SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm <input type="radio"/> Working WITHOUT PAY in family business or farm </p>	<p>34. Last year (1989), did this person work, even for a few days, at a paid job or in a business or farm?</p> <p> <input type="radio"/> Yes <input type="radio"/> No — Skip to 32 </p> <p>b. How many weeks did this person work in 1989? Count paid vacation, paid sick leave, and military service.</p> <p>_____ Weeks</p>
<p>26a. Has this person been looking for work during the last 4 weeks?</p> <p> <input type="radio"/> Yes <input type="radio"/> No — Skip to 27 </p> <p>b. Could this person have taken a job LAST WEEK if one had been offered?</p> <p> <input type="radio"/> No, already has a job <input type="radio"/> No, temporarily ill <input type="radio"/> No, other reasons (in school, etc.) <input type="radio"/> Yes, could have taken a job </p>	<p>31a. Last year (1989), did this person work, even for a few days, at a paid job or in a business or farm?</p> <p> <input type="radio"/> Yes <input type="radio"/> No — Skip to 32 </p> <p>b. How many weeks did this person work in 1989? Count paid vacation, paid sick leave, and military service.</p> <p>_____ Weeks</p>	<p>35. What was this person's total income in 1989? Add entries in questions 32a through 32h; subtract any losses. If total amount was a loss, write "Loss" above amount.</p> <p> <input type="radio"/> None OR \$ _____ Annual amount — Dollars </p>
<p>28-30. CURRENT OR MOST RECENT JOB ACTIVITY. Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the most hours. If this person had no job or business last week, give information for his/her last job or business since 1985.</p>	<p>c. During the weeks WORKED in 1989, how many hours did this person usually work each week?</p> <p>_____ Hours</p>	<p>36. When did this person last work, even for a few days?</p> <p> <input type="radio"/> 1990 <input type="radio"/> 1980 to 1984 Skip to 32 <input type="radio"/> 1989 <input type="radio"/> 1975 or earlier <input type="radio"/> 1988 <input type="radio"/> Never worked <input type="radio"/> 1985 to 1987 </p>

Please turn the page and answer questions for Person 2 listed on page 1. If this is the last person listed in question 1a on page 1, go to the back of the form.

APPENDIX F.

Data Products and User Assistance

CONTENTS

Data Products	F-1
Geographic Products	F-3
Other Census Bureau Resources	F-5
Reference Materials	F-4
Sources of Assistance	F-4

The 1990 census data products, being released during 1991-93, are available in a variety of new and traditional media. The Census Bureau has increased the product options available to data users in an effort to meet a variety of requirements and maximize the usefulness of the data. For example, laser discs, called CD-ROM (compact disc—read-only memory), are a new data delivery medium.

The Census Bureau also has expanded services and sources of assistance available to data users. For example, the State Data Center Program has been expanded to include over 1,400 organizations to provide data and services to the public.

This appendix provides a detailed introduction to the 1990 census data products and related materials, such as maps and reference publications. It concludes by describing sources of assistance and other Census Bureau data available to the public.

DATA PRODUCTS

Printed reports and computer tape files traditionally are the most widely used products. The Census Bureau also offers data on microfiche, on CD-ROM laser discs, and through its online service, CENDATA™. These various products are described below. For information about prices and how to order, write or call Customer Services. (See the "Sources of Assistance" section for the address and phone number.)

The data products present statistics about the subjects covered in the 1990 census questionnaires. These subjects are listed in figure 1, page F-8. As the figure shows, there are 100-percent subjects (those covered in questions asked of everyone or about every housing unit) and sample subjects (those covered in questions asked at about one out of every six housing units). Generally, a data product presents either 100-percent data prepared by tabulating the responses to the 100-percent questions from all questionnaires, or sample data prepared by tabulating only the responses to the 100-percent and sample questions from the "long-form" questionnaires. Two report series, 1990 CPH-3 and 1990 CPH-4 (see figure 2, page F-9), present both 100-percent and sample data.

Printed Reports

Printed reports are the most convenient and readily available source of data for most census users. The Census Bureau releases the reports in several series (see figure 2) that are grouped under three broad titles: *1990 Census of Population and Housing* (1990 CPH), *1990 Census of Population* (1990 CP), and *1990 Census of Housing* (1990 CH). There also are reports, not reflected in figure 2, for the outlying areas of the Pacific. The reports are sold by the Superintendent of Documents, U.S. Government Printing Office. (See the "Sources of Assistance" section for the address and phone number.)

In several series, there are separate reports for each State. The geographic coverage of the State reports is listed in figure 2. The United States summaries for these report series contain, for the most part, data for the United States, regions, divisions, States, metropolitan areas (MA's), urbanized areas (UA's), counties, American Indian and Alaska Native areas, places with 10,000 or more persons, and other large substate areas (for example, county subdivisions, such as towns and townships, with 10,000 or more persons in selected States).

Report series that present data for small areas, such as census tracts, contain limited subject-matter detail (for example, counts of people by age ranges—under 5 years, 5 to 9 years, etc.—rather than by single years). Report series that include greater amounts of subject-matter detail include less geographic detail.

Computer Tape Files

The Census Bureau provides more data on tape and other machine-readable products than in printed reports. These products are sold by the Census Bureau's Customer Services. There are several general types of data files released on computer tape (available on both reels and cartridges). They are introduced below, and more information is presented in figures 3 and 4, pages F-12 through F-14.

Public Law 94-171 Data—This data file presents the counts designed and formatted for use in legislative redistricting. These counts also are available on CD-ROM and paper listings. Excerpts are available on CENDATA™. The counts, for areas as small as blocks, census tracts, and voting districts, include totals for population, race groups, persons of Hispanic origin, population 18 years and over, and housing units. (See figure 4.)

Summary Tape Files (STF's)—These computer tape files provide statistics with greater subject-matter detail than printed reports. They also present statistics for some types of areas, such as block groups and blocks, that are not included in the reports. (See figure 3.)

Here are some important features of STF's:

- Each STF presents a particular set of data tables for specific types of geographic areas.
- Each STF has three or more file types (indicated by a letter suffix attached to the STF number) that differ in the geographic levels reported, but contain the same data detail.
- STF's 1 and 2 contain 100-percent data, and STF's 3 and 4 offer sample data.
- STF's 1 and 3 report on smaller areas and offer less data detail than STF's 2 and 4.
- STF's 1 through 4 offer greater data detail than the 1980 STF's 1 through 4.

Subject Summary Tape Files (SSTF's)—These files are the source of the subject reports and provide greater subject-matter detail than the STF's. They present data for the United States, regions, and divisions, and, in some cases, also for States, counties, and large cities. (See figure 4.)

Public Use Microdata Sample (PUMS) Files—These computer tape files (see figure 4) contain data from samples of long-form housing-unit records ("microdata") for large geographic areas. Each sample housing-unit record includes essentially all the 1990 census data collected about each person in a sample household and the characteristics of the housing unit. Information that could be used to identify an individual or a housing unit is not included in the file.

Microdata files enable users to prepare customized tabulations and cross-tabulations of most items on the census questionnaire. There are two PUMS files:

- A file presenting a 5-percent sample of housing units in which each household record includes codes to let the user know in what area, such as a group of counties, a single county, or a place, the household is located. Each area identified must have a population of at least 100,000 and boundaries that do not cross State lines.
- A file presenting a 1-percent sample of housing units. Its household records include codes associating them with MA's and other large areas, the boundaries of which may cross State lines. (For the 1980 census, there were two files with 1-percent samples. The 1-percent sample showing data for selected urbanized areas and other large areas will not be produced for the 1990 census.)

Other Special Computer Tape Files—Other files include the Census/Equal Employment Opportunity (EEO) File and the County-to-County Migration File. (See figure 4.) The Census Bureau may prepare additional special files.

Microfiche

Block statistics are available on microfiche as they were for the 1980 census. The microfiche present, in table format, a subset of the tabulations for census blocks found in STF 1B (see figure 3). In the 1990 census, for the first time, the entire land area of the Nation and its possessions was block-numbered. This increased the number of blocks for which the Census Bureau provides data from 2.5 million in 1980 to 7 million for 1990. The cost and storage of block data of this magnitude would be prohibitive if the data were published in printed reports.

STF's 1A and 3A are available on microfiche, as well. As noted in figure 3, they provide data for a variety of geographic areas. Also, all printed reports are offered on microfiche from Customer Services soon after they are published.

Compact Disc—Read-Only Memory (CD-ROM)

For the 1990 census, the Public Law (P.L.) 94-171 file; an extract of STF 1B that presents selected statistics for blocks; and STF's 1A, 1C, 3A, 3B, and 3C are available on CD-ROM. The Census Bureau also offers on CD-ROM: PUMS Files, SSTF's, Census EEO File, and County-to-County Migration File. (One 4 3/4-inch CD-ROM, a type of optical or laser disc, can hold the contents of approximately 1,600 flexible diskettes, or three or four high-density computer tapes.)

Online Information Systems

The Census Bureau began CENDATA, its online information service, in 1984. CENDATA is accessible through two information vendors, CompuServe and DIALOG. A number of Census Bureau reports, in whole or in part, are offered online. For the 1990 census, CENDATA provides up-to-date information about the availability of data products and carries selections of State, county, MA, and place data from the P.L. 94-171 tape file and STF's 1 and 3. CENDATA also offers the entire Census EEO File.

Custom Data Products

These products are for users who require unique tabulations that are not included in standard products; for example, information for locally defined geographic areas. Users also can order special microdata files.

The cost of preparing custom products must be paid by the users who request them. Any data that the Census Bureau provides in these products are subject to the same standards applied to other data to ensure that confidential individual information is not revealed.

User-Defined Areas Program (UDAP) Tabulations—UDAP can provide a set of predefined data tables for locally defined areas that do not correspond to standard 1990 census geographic areas. Users identify the geographic areas of interest to them by delineating boundaries around groupings of census blocks on 1990 census County Block Maps or by electronically submitting the geographic components of their area of interest. (A contact for more information is given in the "Sources of Assistance" section.)

Special Tabulations—The Census Bureau can prepare special data tabulations for any specific geographic or subject-matter area. Users should rely on standard reports, tapes, microfiche, or user-defined area tabulations whenever possible, since special tabulations tend to be substantially more expensive and take time to arrange and produce. (Contacts for more information are given in the "Sources of Assistance" section.)

GEOGRAPHIC PRODUCTS

Maps

Census Bureau maps are necessary for virtually all uses of small-area 1990 census data. They are needed to locate the specific geographic areas for which the census provides data and to study the spatial relationship of the data for analytic purposes. The Census Bureau prepares a variety of 1990 census maps. Among the most useful are these four series:

County Block Maps—These maps show census blocks and their numbers; boundaries for statistical and governmental entities, such as census tracts and places; and physical features. The P.L. 94-171 version of these maps also shows voting district boundaries in those States that furnished them. The maps are prepared on electrostatic plotters by county (or equivalent entity) with one or more map sheets each, depending on the size and shape of the area and the density of the block pattern. An average county requires 20 map sheets. The maps may be purchased from Customer Services.

County Subdivision Outline Maps—Maps in this State-based series present the boundaries of the counties, county subdivisions, places, American Indian and Alaska Native areas (including off-reservation trust lands), tribal designated statistical areas, and tribal jurisdiction statistical areas. Electrostatic-plotter copies are available for purchase from Customer Services. Also, they appear on

multiple page-size sheets in the State reports of these series: 1990 CPH-1, 1990 CPH-2, 1990 CPH-5, 1990 CP-1, 1990 CP-2, 1990 CH-1, and 1990 CH-2.

Census Tract/Block Numbering Area (BNA) Outline Maps—Maps in this county-based series depict census tract or BNA boundaries and numbers, and the features underlying the boundaries. They also show governmental units in relation to the census tracts/BNA's. The Superintendent of Documents sells printed copies.

Voting District Outline Maps—Maps in this county-based series depict voting district boundaries (for those counties for which States furnished boundary information) and the features underlying the boundaries. They also show governmental unit boundaries in relation to the voting districts. They are prepared on electrostatic plotters and sold by Customer Services.

Geographic Publications

The *Geographic Identification Code Scheme* report in the 1990 CPH-R series shows the 1990 census geographic area codes and Federal information processing standards (FIPS) codes, as appropriate, for States, metropolitan areas, counties, county subdivisions, places, American Indian and Alaska Native areas, and other entities, along with some descriptive information about the codes. The code scheme also is offered on computer tape.

Machine-Readable Geographic Files

All 1990 census summary tape files include 1990 census geographic area codes, FIPS codes, certain area names, land and inland water area in square kilometers, geographic coordinates for an internal point for each entity, and other geographic information.

The Census Bureau developed an automated geographic data base, known as the TIGER (Topologically Integrated Geographic Encoding and Referencing) System, to produce the geographic products for the 1990 census. TIGER provides coordinate-based digital map information for the entire United States, Puerto Rico, the U.S. Virgin Islands, and the Pacific territories over which the United States has jurisdiction.

The TIGER System has significantly improved the utility of 1990 census maps and geographic reference products. Extract files generated from the TIGER System permit users, with appropriate software, to perform such tasks as linking the statistical data in the P.L. 94-171 file or the STF's and displaying selected characteristics on maps or a video display screen at different scales and with whatever boundaries they select for any geographic area of the country. For example, a map for a particular county could show the distribution of the voting age population by city block.

The first extract of selected geographic and cartographic information intended for computer applications, such as plotting maps and building geographic information systems, is called the TIGER/Line™ files. TIGER/Line™ files contain attributes for the segments of each boundary and feature (for example, roads, railroads, and rivers), including 1990 census geographic codes for adjacent areas, latitude/longitude coordinates of segment end points and the curvature of segments, the name and type of the feature, and the relevant census feature class code identifying the feature segment by category. TIGER/Line™ files also furnish address ranges and associated ZIP Codes for each side of street segments in major urban areas; provide the names of landmarks, such as lakes and golf courses; and include other information.

TIGER/Line™ files and other TIGER System extracts, such as TIGER/Boundary™ and TIGER/DataBase™, are released on computer tape and, in some cases, CD-ROM. For information on TIGER extract files, contact Customer Services.

REFERENCE MATERIALS

The Census Bureau issues several reference publications for data users. Some are sold by the Superintendent of Documents; others are distributed free by Customer Services. Addresses and phone numbers for the Superintendent of Documents and Customer Services are given in the following section.

- **1990 Census of Population and Housing, Guide.** This guide, in the 1990 CPH-R report series, provides detailed information about all aspects of the census and a comprehensive glossary of census terms. Sold by the Superintendent of Documents, U.S. Government Printing Office.
- **1990 Census of Population and Housing Tabulation and Publication Program.** A free report describing 1990 census products, comparing 1990 products with those of 1980, and more. Request from Customer Services.
- **Census '90 Basics.** A free booklet covering how the 1990 census data were collected and processed, the full range of data products, the maps and geographic files, and more, but with less detail than the Guide (above). Request from Customer Services.
- **Census ABC's—Applications in Business and Community.** A free booklet that highlights key information about the 1990 census and illustrates a variety of ways the data can be used. Request from Customer Services.
- **Strength in Numbers.** A free, tabloid-size booklet designed to assist people in using 1990 census data in redistricting. Among other features, it includes illustrations of maps and Public Law 94-171 counts. Request from Customer Services.

- **TIGER: The Coast-to-Coast Digital Map Data Base.** A free booklet describing the structure and uses of the Census Bureau's TIGER System. Request from Customer Services.

- **Census and You.** The Census Bureau's monthly newsletter for data users. It reports on the latest 1990 census developments, selected new publications and computer tape files, other censuses and surveys, developments in services to users, and upcoming conferences and training courses. Subscriptions are sold by the Superintendent of Documents, U.S. Government Printing Office.

- **Monthly Product Announcement.** A free monthly listing of all new Census Bureau publications; microfiche; maps; data files on tape, diskettes, or CD-ROM; and technical documentation. To subscribe, contact Customer Services.

- **Census Catalog and Guide.** A comprehensive annual description of data products, statistical programs, and services of the Census Bureau. It provides abstracts of the publications, data files, microfiche, maps, and items online. In addition, the Catalog/Guide offers such features as information about censuses and surveys and telephone contact lists of data specialists at the Census Bureau, the State Data Centers, and other data processing service centers. It is sold by the Superintendent of Documents, U.S. Government Printing Office.

Users also can get listings of new Census Bureau products, updated daily, by subscribing to the *Daily List*. This information and selected statistics are available online through CENDATA™, the Census Bureau's online information service. For more information, contact Customer Services.

SOURCES OF ASSISTANCE

U.S. Bureau of the Census

The Census Bureau's Customer Services sells most of the machine-readable data products, microfiche, and maps described earlier. (The 1990 census printed reports are sold by the Superintendent of Documents, as noted below.) Also, users may consult with specialists at the Census Bureau's Washington headquarters and its 12 regional offices. From time to time, the specialists also conduct workshops, seminars, and training courses.

Washington, DC, Contacts—To order products, for a telephone contacts list of Census Bureau specialists, and for general information: Customer Services, U.S. Bureau of the Census, Washington, DC 20233, telephone 301-763-4100 (FAX number, 301-763-4794).

For User-Defined Areas Program (UDAP) information: UDAP Staff, Decennial Planning Division, U.S. Bureau of the Census, Washington, DC 20233, telephone 301-763-4282.

For special tabulation information: Population—Rosemarie Cowan, Population Division, U.S. Bureau of the Census, Washington, DC 20233, telephone 301-763-5476; Housing—William Downs, Housing and Household Economic Statistics, U.S. Bureau of the Census, Washington, DC 20233, telephone 301-763-8553.

Regional Office Contacts—

Atlanta, GA	404-730-3833
Boston, MA	617-555-7078
Charlotte, NC	704-371-6144
Chicago, IL	312-853-0980
Dallas, TX	214-767-7105
Denver, CO	303-869-7750
Detroit, MI	313-354-4654
Kansas City, KS	913-236-3711
Los Angeles, CA	818-904-6339
New York, NY	212-264-4750
Philadelphia, PA	215-597-8313
Seattle, WA	206-728-5314

Superintendent of Documents, U.S. Government Printing Office

The Superintendent of Documents handles the sale of most of the Federal Government's publications, including 1990 census reports. To order reports and for information: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, telephone 202-783-8238.

Other Sources of Products and Services

State Data Centers—The Census Bureau furnishes data products, training in data access and use, technical assistance, and consultation to all States, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands. State Data Centers, in turn, offer publications for reference, printouts from computer tape, specially prepared reports, maps, and other products and assistance to data users. For a list of the State Data Centers, see the *Census Catalog and Guide* or contact Customer Services. The list also notes organizations in States participating in the Census Bureau's Business/Industry Data Center (BIDC) Program. The BIDC's help business people, economic development planners, and other data users obtain and use data.

Census Information Center (CIC)—The CIC program provides data-related services for nationally based nonprofit organizations that represent minorities or other segments of the population who have been historically undercounted in decennial censuses. The participants

include social service, business, professional, civil rights, educational, and religious groups. Through the project, five nonprofit groups now offer their clientele reports, computer tape printouts, and other information from the Census Bureau. To learn more about the program, write to the Census Information Center Branch, Data User Services Division, Bureau of the Census, Washington, DC 20233, or call 301-763-1384.

National Clearinghouse—The National Clearinghouse for Census Data Services is a listing of private companies and other organizations that offer assistance in obtaining and using data released by the Census Bureau. For a list of participants in the National Clearinghouse, see the *Census Catalog and Guide* or contact Customer Services.

Depository Libraries—There are 1,400 libraries that receive (from the Government Printing Office) Federal publications that they think their patrons will need. Often some of these publications are Census Bureau reports. The Census Bureau provides free reports to an additional 120 census depository libraries. Also, many libraries purchase census reports and maps for their areas. The *Census Catalog and Guide* includes a list of all depository libraries.

OTHER CENSUS BUREAU RESOURCES

The Census Bureau has more to offer than just the results of the census of population and housing. Through other censuses, surveys, and estimates programs, it compiles and issues (in reports, computer tape, and other media) data on subjects as diverse as appliance sales, neighborhood conditions, and exports to other countries. Here are examples of the information published about—

- **People:** Age, race, sex, income, poverty, child care, child support, fertility, noncash benefits, education, commuting habits, pension coverage, unemployment, ancestry.
- **Business and industry:** Number of employees, total payroll, sales and receipts, products manufactured or sold.
- **Housing and construction:** Value of new construction, numbers of owners and renters, property value or rent paid, housing starts, fuels used, mortgage costs.
- **Farms:** Number, acreage, livestock, crop sales.
- **Governments:** Revenues and expenditures, taxes, employment, pension funds.
- **Foreign trade:** Exports and imports, origin and destination, units shipped.

- **Other nations:** Population, birth rates, death rates, literacy, fertility.

The other censuses, such as agriculture, retail trade, manufactures, and governments, are collected for years ending in "2" and "7." Surveys and estimates programs generate results as often as every month.

Many of the monthly "economic indicators" that measure how the Nation is doing come directly or indirectly from the Census Bureau. Examples: employment and unemployment; housing starts; wholesale and retail trade; manufacturers' shipments, inventories, and orders; export and import trade; and sales of single-family homes.

The other statistical activities of the Census Bureau are described below. Data users will find more information about them and descriptions of their data products in the annual *Census Catalog and Guide*. Also, special guides and brochures are prepared for most of them. Contact the Census Bureau's Customer Services for more information.

Current Demographic and Housing Programs

Two types of current programs complement the 10-year census: population estimates and surveys. The total population of the United States is estimated monthly; the population of States, counties, and metropolitan areas is estimated annually; and the population of places and other governmental units is estimated every 2 years. Projections of future population are made at the national and State levels.

The Census Bureau's many household surveys update population and housing characteristics at the national level and sometimes for States and metropolitan areas, as well. These surveys also obtain many characteristics not included in the 10-year census. The Current Population Survey is taken monthly; the American Housing Survey national sample is taken biennially; the American Housing Survey metropolitan sample is taken in 44 areas, 11 per year in a 4-year cycle; most other surveys are annual or less frequent.

Economic Censuses and Surveys

The economic censuses provide statistics about business establishments once every 5 years, covering years ending in "2" and "7." The 1987 Economic Censuses include the censuses of retail trade, wholesale trade, service industries, transportation, manufactures, mineral industries, and construction industries. Also included are related programs, such as statistics on minority- and women-owned businesses, enterprise statistics, and censuses of economic activity in Puerto Rico and some of the outlying areas under U.S. jurisdiction.

Several key statistics are tabulated for all industries covered in the censuses. They are number of establishments, number of employees, payroll, and measure of output (sales or receipts, and value of shipments or of work done). Other items vary from sector to sector.

The Census Bureau also has programs that provide current statistics on such measures as total sales of particular kinds of businesses or production of particular products. These programs include monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Business Reports* and *Current Industrial Reports*. The County Business Patterns program offers annual statistics based on data compiled primarily from administrative records.

Agriculture Census and Surveys

The agriculture census is conducted concurrently with the economic censuses. It is the only source of uniform agriculture data at the county level. It provides data on such subjects as the number and size of farms; land use and ownership; livestock, poultry, and crops; and value of products sold.

Results of three surveys—the 1988 Farm and Ranch Irrigation Survey, 1988 Census of Horticulture Specialties, and 1988 Agricultural Economics and Land Ownership Survey—are published in conjunction with the 1987 Census of Agriculture. Also, the Census Bureau regularly issues reports from a survey on cotton ginnings.

Governments Census and Surveys

The census of governments, also for years ending in "2" and "7," covers all types of governments: Federal, State, county, municipal (place), township (county subdivision), school district, and special district. It provides data on such subjects as number of public employees, payrolls, revenue, and expenditures.

Annual and quarterly surveys cover the same principal subjects but generate data only for States and the largest local governments.

Foreign Trade Statistics

Monthly U.S. merchandise trade data compiled by the Census Bureau summarize export and import transactions and are based on the official documents filed by shippers and receivers. These figures reflect the flow of merchandise but not intangibles like services and financial commitments. The trade figures trace commodity movements out of and into the U.S. Customs jurisdiction, which includes Puerto Rico and the U.S. Virgin Islands as well as the 50 States and the District of Columbia. Data are published separately on trade between the United States and Puerto Rico, the U.S. Virgin Islands, and other U.S. possessions.

Other Statistical Activities

The Census Bureau also offers international data. It maintains an international data base which is available to the public on computer tape and is used to produce

the biennial *World Population Profile* report. It prepares studies dealing with the demographic and economic characteristics of other countries and world regions.

Statistical compendia are another important data product. These publications (sometimes also offered in machine-readable form) draw data from many sources

and reorganize them for convenient use. The most widely used compendia are the annual *Statistical Abstract of the United States*, the *County and City Data Book* (published every 5 years), and the *State and Metropolitan Area Data Book* (published approximately every 4 years).

Figure 1. 1990 Census Content

100-PERCENT COMPONENT	
Population	Housing
Household relationship	Number of units in structure
Sex	Number of rooms in unit
Race	Tenure—owned or rented
Age	Value of home or monthly rent
Marital status	Congregate housing (meals included in rent)
Hispanic origin	Vacancy characteristics
SAMPLE COMPONENT	
Population	Housing
<i>Social characteristics:</i>	Year moved into residence
Education—enrollment and attainment	Number of bedrooms
Place of birth, citizenship, and year of entry into U.S.	Plumbing and kitchen facilities
Ancestry	Telephone in unit
Language spoken at home	Vehicles available
Migration (residence in 1985)	Heating fuel
Disability	Source of water and method of sewage disposal
Fertility	Year structure built
Veteran status	Condominium status
<i>Economic characteristics:</i>	Farm residence
Labor force	Shelter costs, including utilities
Occupation, industry, and class of worker	
Place of work and journey to work	
Work experience in 1989	
Income in 1989	
Year last worked	

NOTE: Questions dealing with the subjects covered in the 100-percent component were asked of all persons and housing units. Those covered by the sample component were asked of a sample of the population and housing units.

Figure 2. 1990 Census Printed Reports

Series	Title	Report(s) Issued for	Description	Geographic areas
1990 CENSUS OF POPULATION AND HOUSING (1990 CPH)				
100-Percent Data				
1990 CPH-1	Summary Population and Housing Characteristics	U.S., States, DC, Puerto Rico, and U.S. Virgin Islands	Population and housing unit counts, and summary statistics on age, sex, race, Hispanic origin, household relationship, units in structure, value and rent, number of rooms, tenure, and vacancy characteristics	Local governmental units (i.e., counties, places, and towns and townships), other county subdivisions, and American Indian and Alaska Native areas
1990 CPH-2	Population and Housing Unit Counts	U.S., States, DC, Puerto Rico, and U.S. Virgin Islands	Total population and housing unit counts for 1990 and previous censuses	States, counties, county subdivisions, places, State component parts of metropolitan areas (MA's) and urbanized areas (UA's), and summary geographic areas (for example, urban and rural)
100-Percent and Sample Data				
1990 CPH-3	Population and Housing Characteristics for Census Tracts and Block Numbering Areas	MA's, and the nonmetropolitan balance of each State, Puerto Rico, and U.S. Virgin Islands	Statistics on 100-percent and sample population and housing subjects	In MA's: census tracts/block numbering areas (BNA's), places of 10,000 or more inhabitants, and counties. In the remainder of each State: census tracts/BNA's, places of 10,000 or more, and counties
1990 CPH-4	Population and Housing Characteristics for Congressional Districts of the 103rd Congress	States and DC	Statistics on 100-percent and sample population and housing subjects	Congressional districts (CD's) and, within CD's, counties, places of 10,000 or more inhabitants, county subdivisions of 10,000 or more inhabitants in selected States, and American Indian and Alaska Native areas
Sample Data				
1990 CPH-5	Summary Social, Economic, and Housing Characteristics	U.S., States, DC, Puerto Rico, and U.S. Virgin Islands	Statistics generally on sample population and housing subjects	Local governmental units (i.e., counties, places, and towns and townships), other county subdivisions, and American Indian and Alaska Native areas
1990 CENSUS OF POPULATION (1990 CP)				
100-Percent Data				
1990 CP-1	General Population Characteristics	U.S., States, DC, Puerto Rico, and U.S. Virgin Islands	Detailed statistics on age, sex, race, Hispanic origin, marital status, and household relationship characteristics	States, counties, places of 1,000 or more inhabitants, county subdivisions of 1,000 or more inhabitants in selected States, State parts of American Indian areas, Alaska Native areas, and summary geographic areas such as urban and rural

Figure 2. 1990 Census Printed Reports—Con.

Series	Title	Report(s) issued for	Description	Geographic areas
1990 CENSUS OF POPULATION (1990 CP)—Con.				
100-Percent Data—Con.				
1990 CP-1-1A	General Population Characteristics for American Indian and Alaska Native Areas	U.S.	Detailed statistics on age, sex, race, Hispanic origin, marital status, and house- hold relationship charac- teristics	American Indian and Alaska Native areas; i.e., American Indian reservations, off- reservation trust lands, tribal jurisdiction statistical areas (Oklahoma), tribal designated statistical areas, Alaska Native village statistical areas, and Alaska Native Regional Corporations
1990 CP-1-1B	General Population Characteristics for Metropolitan Areas	U.S.	Detailed statistics on age, sex, race, Hispanic origin, marital status, and house- hold relationship charac- teristics	Individual MA's. For MA's split by State boundaries, summaries are provided both for the parts and for the whole MA
1990 CP-1-1C	General Population Characteristics for Urbanized Areas	U.S.	Detailed statistics on age, sex, race, Hispanic origin, marital status, and house- hold relationship charac- teristics	Individual UA's. For UA's split by State boundaries, summaries are provided both for the parts and for the whole UA
Sample Data				
1990 CP-2	Social and Eco- nomic Characteris- tics	U.S., States, DC, Puerto Rico, and U.S. Virgin Islands	Statistics generally on sample population sub- jects	States (including summaries such as urban and rural), counties, places of 2,500 or more inhabitants, county sub- divisions of 2,500 or more inhabitants in selected States, Alaska Native areas, and the State portion of American Indian areas
1990 CP-2-1A	Social and Eco- nomic Characteris- tics for American Indian and Alaska Native Areas	U.S.	Statistics generally on sample population sub- jects	American Indian and Alaska Native areas, as for CP-1-1A
1990 CP-2-1B	Social and Eco- nomic Characteris- tics for Metro polit- tan Areas	U.S.	Statistics generally on sample population sub- jects	Individual MA's, as for CP-1-1B
1990 CP-2-1C	Social and Eco- nomic Characteris- tics for Urbanized Areas	U.S.	Statistics generally on sample population sub- jects	Individual UA's, as for CP-1-1C
1990 CP-3	Population Subject Reports	Selected subjects	Approximately 30 reports on population census sub- jects such as migration, education, income, the older population, and racial and ethnic groups	Generally limited to the U.S., regions, and divisions; for some reports, other highly populated areas such as States, MA's, counties, and large places

Figure 2. 1990 Census Printed Reports—Con.

Series	Title	Report(s) issued for	Description	Geographic areas
1990 CENSUS OF HOUSING (1990 CH)				
100-Percent Data				
1990 CH-1	General Housing Characteristics	U.S., States, DC, Puerto Rico, and U.S. Virgin Islands	Detailed statistics on units in structure, value and rent, number of rooms, tenure, and vacancy characteristics	States, counties, places of 1,000 or more inhabitants, county subdivisions of 1,000 or more inhabitants in selected States, State parts of American Indian areas, Alaska Native areas, and summary geographic areas such as urban and rural
1990 CH-1-1A	General Housing Characteristics for American Indian and Alaska Native Areas	U.S.	Detailed statistics on units in structure, value and rent, number of rooms, tenure, and vacancy characteristics	American Indian and Alaska Native areas; i.e., American Indian reservations, trust lands, tribal jurisdiction statistical areas (Oklahoma), tribal designated statistical areas, Alaska Native village statistical areas, and Alaska Native Regional Corporations
1990 CH-1-1B	General Housing Characteristics for Metropolitan Areas	U.S.	Detailed statistics on units in structure, value and rent, number of rooms, tenure, and vacancy characteristics	Individual MA's. For MA's split by State boundaries, summaries are provided both for the parts and for the whole MA
1990 CH-1-1C	General Housing Characteristics for Urbanized Areas	U.S.	Detailed statistics on units in structure, value and rent, number of rooms, tenure, and vacancy characteristics	Individual UA's. For UA's split by State boundaries, summaries are provided both for the parts and for the whole UA
Sample Data				
1990 CH-2	Detailed Housing Characteristics	U.S., States, DC, Puerto Rico, and U.S. Virgin Islands	Statistics generally on sample housing subjects	States (including summaries such as urban and rural), counties, places of 2,500 or more inhabitants, county subdivisions of 2,500 or more inhabitants in selected States, Alaska Native areas, and State parts of American Indian areas
1990 CH-2-1A	Detailed Housing Characteristics for American Indian and Alaska Native Areas	U.S.	Statistics generally on sample housing subjects	American Indian and Alaska Native areas, as in 1990 CH-1-1A
1990 CH-2-1B	Detailed Housing Characteristics for Metropolitan Areas	U.S.	Statistics generally on sample housing subjects	Individual MA's, as in 1990 CH-1-1B
1990 CH-2-1C	Detailed Housing Characteristics for Urbanized Areas	U.S.	Statistics generally on sample housing subjects	Individual UA's, as in 1990 CH-1-1C
1990 CH-3	Housing Subject Reports	Selected subjects	Approximately 10 reports on housing census subjects such as structural characteristics and space utilization	Generally limited to U.S., regions, and divisions; for some reports, other highly populated areas such as States, MA's, counties, and large places

Figure 3. 1990 Census Summary Tape Files

Summary Tape File (STF 1A, 1B, etc.) and data type (100 percent or sample) ¹	Geographic areas	Description
STF 1 (100 percent)	A ^{2,3}	States, counties, county subdivisions, places, census tracts/block numbering areas (BNA's), block groups (BG's). Also Alaska Native areas and State parts of American Indian areas
	B ^{2,4}	States, counties, county subdivisions, places, census tracts/BNA's, BG's, blocks. Also Alaska Native areas and State parts of American Indian areas
	C ³	U.S., regions, divisions, States (including summaries such as urban and rural), counties, places of 10,000 or more inhabitants, county subdivisions of 10,000 or more inhabitants in selected States, metropolitan areas (MA's), urbanized areas (UA's), American Indian and Alaska Native areas
	D	Congressional districts (CD's) of the 103rd Congress by State; and within each CD: counties, places of 10,000 or more inhabitants, county subdivisions of 10,000 or more inhabitants in selected States, Alaska Native areas, and American Indian areas
STF 2 (100 percent)	A	In MA's: counties, places of 10,000 or more inhabitants, and census tracts/BNA's. In the remainder of each State: counties, places of 10,000 or more inhabitants, and census tracts/BNA's
	B	States (including summaries such as urban and rural), counties, places of 1,000 or more inhabitants, county subdivisions, State parts of American Indian areas, and Alaska Native areas
	C	U.S., regions, divisions, States (including summaries such as urban and rural), counties, places of 10,000 or more inhabitants, county subdivisions of 10,000 or more inhabitants in selected States, all county subdivisions in New England MA's, American Indian and Alaska Native areas, MA's, UA's
STF 3 (Sample)	A ^{2,3}	States, counties, county subdivisions, places, census tracts/BNA's, BG's. Also Alaska Native areas and State parts of American Indian areas
	B ³	Five-digit ZIP Codes within each State
	C ³	U.S., regions, divisions, States, counties, places of 10,000 or more inhabitants, county subdivisions of 10,000 or more inhabitants in selected States, American Indian and Alaska Native areas, MA's, UA's
	D	CD's of the 103rd Congress by State; and within each CD: counties, places of 10,000 or more inhabitants, county subdivisions of 10,000 or more inhabitants in selected States

Figure 3. 1990 Census Summary Tape Files—Con.

Summary Tape File
(STF 1A, 1B, etc.)
and data type
(100 percent or
sample)¹

	Geographic areas	Description
STF 4 (Sample)	A	In MA's: counties, places of 10,000 or more inhabitants, and census tracts/ BNA's. In the remainder of each State: counties, places of 10,000 or more inhabitants, and census tracts/ BNA's
	B	State (including summaries such as urban and rural), counties, places of 2,500 or more inhabitants, county subdivisions of 2,500 or more inhabitants in selected States, all county subdivisions in New England MA's, State parts of American Indian areas, and Alaska Native areas
	C	U.S., regions, divisions, States (including urban and rural and metropolitan and nonmetropolitan components), counties, places of 10,000 or more inhabitants, county subdivisions of 10,000 or more inhabitants in selected States, all county subdivisions in New England MA's, American Indian and Alaska Native areas, MA's, UA's

Over 8,500 cells/ items of sample population and housing characteristics for each geographic area. Each of the STF 4 files will include a set of tabulations for the total population and separate presentations of tabulations by race and Hispanic origin.

Note: STF 420 Place of Work 20 Destinations File. This is a new file for 1990. Comparable data were included as part of STF 4 in 1980, but for 1990 this is a separate file and must be ordered and purchased separately from STF 4. The file contains 20 place of work destinations for each county or county equivalent, minor civil division, place of 10,000 or more persons, and census tract or block numbering area. Data are also provided for each major race and for workers of Hispanic origin cross-classified by race. The geographic level of the destinations varies. A destination may be a place, county, balance of county, metropolitan area, or balance of metropolitan area.

¹Similar STF's will be prepared for Puerto Rico and the U.S. Virgin Islands.

²Also available on microfiche. STF 1B microfiche provides only part of the data for blocks and other areas in the tape file.

³Also available on laser disc (CD-ROM). STF 1B CD-ROM presents the same file extract as STF 1B microfiche.

Figure 4. Other 1990 Census Data Products

Title	Description	Geographic areas
Subject Summary Tape Files	About 20 computer tape files used to produce the subject reports (1990 CP-3 and 1990 CH-3 series). On the average, a file is the source of two subject reports	U.S., regions, divisions, States, metropolitan areas (MA's), and large counties and places
Public Law 94-171 Data File (redistricting data)	Counts by total, race, and Hispanic origin for the total population and population 18 years old and over, and counts of housing units. Available on tape, CD-ROM, and paper listings	States, counties, county subdivisions, places, census tracts/ block numbering areas (BNA's), block groups (BG's), and blocks; voting districts where States have identified them for the Census Bureau; and American Indian and Alaska Native areas
Census/ Equal Employment Opportunity (EEO) Special File	Sample tabulations showing detailed occupations and educational attainment data by age; cross tabulated by sex, Hispanic origin, and race	Counties, MA's, places of 50,000 or more inhabitants
County-to-County Migration File	Summary statistics for all intra-state county-to-county migration streams and significant inter-state county-to-county migration streams. Each record will include codes for the geographic area of destination, and selected characteristics of the persons who made up the migration stream	States, counties
Public Use Microdata Sample (PUMS) Files	Machine-readable files containing a sample of individual long-form census records showing most population and housing characteristics but with identifying information removed	
5 Percent—PUMS Areas		County groups, counties, county subdivisions, and places with 100,000 or more inhabitants
1 Percent—Metropolitan Areas (1990)		MA's and other large areas with 100,000 or more inhabitants
User-Defined Areas Tabulations	A set of standard tabulations provided on printouts, tapes, or other products with maps and narrative (if requested)	User-defined areas created by aggregating census blocks
Special Tabulations	User-defined tabulations for specified geographic areas provided on printouts, tapes, or other products	User-defined areas or standard areas

APPENDIX G. Code List

STATE AND FOREIGN AREA CODES

This section contains the code list of U.S. States and territories, foreign countries, and other areas used to assign a three-digit code to the workplace reported by each person. The alphabetical list used in coding included abbreviations and alternate names, including some historical names for countries and names of States, provinces, counties, or other subdivisions of countries.

The following list does not include any of these alternate names, but does include continent and area names used as defaults if a specific country was not named but a broader region or work area was reported. The names for foreign countries shown on this list and in the publications reflect the most commonly used names in this country, not their official or legal names. Each entry shown on the following list has a unique code.

The U.S. States and territories were assigned their Federal Information Processing Standards (FIPS) code preceded by a zero. For foreign countries, codes were generally assigned by listing the countries or areas in alphabetical order (followed by default codes) within eight broad continent or regional areas: (1) Europe, (2) Asia, (3) North America, (4) Central America, (5) Caribbean, (6) South America, (7) Africa, and (8) Oceania. The entries for the USSR and the Baltic States are listed following the other entries for Europe for convenience in combining with either Europe or Asia. The entries for Germany also do not follow strict alphabetical order; codes 110-114 can be combined to tabulate an overall figure including Germany (not specified), East Germany, West Germany, and Berlin. The entries for the United Kingdom also do not follow strict alphabetical order; codes 138-145 can be combined to tabulate an overall figure including United Kingdom (not specified), England, Scotland, Wales, Northern Ireland, Guernsey, Jersey, and the Isle of Man. The codes for Asia also include a code for Korea (not specified) since it is often reported in that fashion.

001-059	United States	001-059	United States—Con.
001	Alabama	034	New Jersey
002-003	Alaska	035	New Mexico
004	Arizona	036	New York
005	Arkansas	037	North Carolina
006-007	California	038	North Dakota
008	Colorado	039	Ohio
009	Connecticut	040	Oklahoma
010	Delaware		
011	District of Columbia	041	Oregon
012	Florida	042-043	Pennsylvania
013-014	Georgia	044	Rhode Island
015	Hawaii	045	South Carolina
016	Idaho	046	South Dakota
017	Illinois	047	Tennessee
018	Indiana	048	Texas
019	Iowa	049	Utah
020	Kansas	050	Vermont
021	Kentucky	051-052	Virginia
022	Louisiana	053	Washington
023	Maine	054	West Virginia
024	Maryland	055	Wisconsin
025	Massachusetts	056-059	Wyoming
026	Michigan		
027	Minnesota	060-099	U.S. Outlying Areas and Puerto Rico
028	Mississippi		
029	Missouri	060-065	American Samoa
030	Montana	066	Guam
031	Nebraska	067-068	Johnston Atoll
032	Nevada	069-070	Northern Mariana Islands
033	New Hampshire	071	Midway Islands

060-099	U.S. Outlying Areas and Puerto Rico—Con.	100-199	Europe—Con.
072-075	Puerto Rico	143	Guernsey
076-077	Navassa Island	144	Jersey
078	U.S. Virgin Islands	145	Isle of Man
079-080	Wake Island	146	Vatican City
081-083	Baker Island	147	Yugoslavia
084-085	Howland Island	148	Europe, not specified
086-088	Jarvis Island	149	Central Europe, not specified
089-094	Kingman Reef	150	Eastern Europe, not specified
095	Palmyra Atoll	151	Lapland, not specified
096-099	U.S. territory, not specified	152	Northern Europe, not specified
		153	Southern Europe, not specified
100-199	Europe	154-179	Western Europe, not specified
100	Albania	180	Union of Soviet Socialist Republics (USSR)
101	Andorra	181	Baltic States, not specified
102	Austria	182	Estonia
103	Belgium	183	Latvia
104	Bulgaria	184-199	Lithuania
105	Czechoslovakia		
106	Denmark	200-299	Asia
107	Faroe Islands	200	Afghanistan
108	Finland	201	Bahrain
109	France	202	Bangladesh
110	Germany, not specified	203	Bhutan
111	West Germany	204	Brunei
112	West Berlin	205	Burma
113	East Berlin	206	Cambodia
114	East Germany	207	China
115	Gibraltar	208	Cyprus
116	Greece	209	Hong Kong
117	Hungary	210	India
118	Iceland	211	Indonesia
119	Ireland	212	Iran
120	Italy	213	Iraq
121	Jan Mayen	214	Israel
122	Liechtenstein	215	Japan
123	Luxembourg	216	Jordan
124	Malta	217	Korea, not specified
125	Monaco	218	South Korea
126	Netherlands	219	North Korea
127	Norway	220	Kuwait
128	Poland	221	Laos
129	Portugal	222	Lebanon
130	Azores Islands	223	Macau
131	Madeira Islands	224	Malaysia
132	Romania	225	Maldives
133	San Marino	226	Mongolia
134	Spain	227	Nepal
135	Svalbard	228	Oman
136	Sweden	229	Pakistan
137	Switzerland	230	Paracel Islands
138	United Kingdom, not specified	231	Philippines
139	England	232	Qatar
140	Scotland	233	Saudi Arabia
141	Wales	234	Singapore
142	Northern Ireland	235	Spratley Islands

200-299	Asia—Con.	330-374	Caribbean—Con.
236	Sri Lanka	343	Jamaica
237	Syria	344	Martinique
238	Taiwan	345	Montserrat
239	Thailand	346	Netherlands Antilles
240	Turkey	347	St. Bartholomew
241	United Arab Emirates	348	St. Kitts-Nevis
242	Vietnam	349	St. Lucia
243	Yemen, People's Democratic Republic	350	St. Vincent and the Grenadines
244	Yemen Arab Republic	351	Trinidad and Tobago
245	Asia, not specified	352	Turks and Caicos Islands
246	Asia Minor, not specified	353	Caribbean, not specified
247	East Asia, not specified	354	Antilles, not specified
248	Gaza Strip	355	British West Indies, not specified
249	Indochina, not specified	356	Latin America, not specified
250	Iraq-Saudi Arabia Neutral Zone	357	Leeward Islands, not specified
251	Mesopotamia, not specified	358	West Indies, not specified
252	Middle East, not specified	359-374	Windward Islands, not specified
253	Palestine, not specified		
254	Persian Gulf States, not specified	375-399	South America
255	Southeast Asia, not specified	375	Argentina
256-299	West Bank	376	Bolivia
		377	Brazil
300-399	America	378	Chile
300-309	North America	379	Colombia
300	Bermuda	380	Ecuador
301	Canada	381	Falkland Islands
302	Greenland	382	French Guiana
303	St. Pierre and Miquelon	383	Guyana
304-309	North America, not specified	384	Paraguay
		385	Peru
310-329	Central America	386	Suriname
310	Belize	387	Uruguay
311	Costa Rica	388	Venezuela
312	El Salvador	389-399	South America, not specified
313	Guatemala		
314	Honduras	400-499	Africa
315	Mexico	400	Algeria
316	Nicaragua	401	Angola
317	Panama	402	Bassas da India
318-329	Central America, not specified	403	Benin
		404	Botswana
330-374	Caribbean	405	British Indian Ocean Territory
330	Anguilla	406	Burkina Faso
331	Antigua and Barbuda	407	Burundi
332	Aruba	408	Cameroon
333	Bahamas	409	Cape Verde
334	Barbados	410	Central African Republic
335	British Virgin Islands	411	Chad
336	Cayman Islands	412	Comoros
337	Cuba	413	Congo
338	Dominica	414	Djibouti
339	Dominican Republic	415	Egypt
340	Grenada	416	Equatorial Guinea
341	Guadeloupe	417	Ethiopia
342	Haiti	418	Europa Island
		419	Gabon

400-499	Africa—Con.
420	Gambia
421	Ghana
422	Glorioso Islands
423	Guinea
424	Guinea-Bissau
425	Ivory Coast
426	Juan de Nova Island
427	Kenya
428	Lesotho
429	Liberia
430	Libya
431	Madagascar
432	Malawi
433	Mali
434	Mauritania
435	Mayotte
436	Morocco
437	Mozambique
438	Namibia
439	Niger
440	Nigeria
441	Reunion
442	Rwanda
443	Sao Tome and Principe
444	Senegal
445	Mauritius
446	Seychelles
447	Sierra Leone
448	Somalia
449	South Africa
450	St. Helena
451	Sudan
452	Swaziland
453	Tanzania
454	Togo
455	Tromelin Island
456	Tunisia
457	Uganda
458	Western Sahara
459	Zaire
460	Zambia
461	Zimbabwe
462	Africa, not specified
463	Central Africa, not specified
464	Eastern Africa, not specified
465	Equatorial Africa, not specified

400-499	Africa—Con.
466	French Equatorial Africa, not specified
467	French West Africa, not specified
468	North Africa, not specified
469	Western Africa, not specified
470-499	Southern Africa, not specified
500-553	Oceania
500	Ashmore and Cartier Islands
501	Australia
502	Christmas Island, Indian Ocean
503	Clipperton Island
504	Cocos Islands
505	Cook Islands
506	Coral Sea Islands
507	Fiji
508	French Polynesia
509	Kiribati
510	Marshall Islands
511	Micronesia
512	Nauru
513	New Caledonia
514	New Zealand
515	Niue
516	Norfolk Island
517	Palau
518	Papua New Guinea
519	Pitcairn Islands
520	Solomon Islands
521	Tokelau
522	Tonga
523	Tuvalu
524	Vanuatu
525	Wallis and Futuna Islands
526	Western Samoa
527	Oceania, not specified
528	Polynesia, not specified
529-549	Melanesia, not specified
550	Antarctica
551	Bouvet Island
552	French Southern and Antarctic Lands
553	Heard and McDonald Islands
554-999	At Sea/Abroad, Not Specified
554	At sea
555-999	Abroad, not specified