

**Census of Population and Housing, 1980  
(United States): Public Use Microdata Samples**

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**Codebook**

**U.S. Dept. of Commerce  
Bureau of the Census**

**ICPSR 8101,8170,8114,8210,8211,8212**

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**Inter-university Consortium for**  
**Political and Social Research**

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**Census of Population and Housing, 1980  
(United States): Public Use Microdata Samples**

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**U.S. Dept. of Commerce  
Bureau of the Census**

**ICPSR 8101, 8170, 8114, 8210, 8211, 8212**



Census of Population and Housing, 1980 [United States]:

Public Use Microdata Sample (A Sample): 5-Percent Sample  
(ICPSR 8101)  
Public Use Microdata Sample (B Sample): 1-Percent Sample  
(ICPSR 8170)  
Public Use Microdata Sample (C Sample): 1-Percent Sample  
(ICPSR 8114)  
Public Use Microdata Sample (A Sample): 1/1000 Sample  
(ICPSR 8210)  
Public Use Microdata Sample (B Sample): 1/1000 Sample  
(ICPSR 8211)  
Public Use Microdata Sample (C Sample): 1/1000 Sample  
(ICPSR 8212)

Principal Investigator

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First ICPSR Editions, 1983 and 1984



#### Acknowledgement of Assistance

All manuscripts utilizing data made available through the Consortium should acknowledge that fact as well as identify the original collector of the data. The ICPSR Council urges all users of the ICPSR Data facilities to follow some adaptation of this statement with the parentheses indicating items to be filled in appropriately or deleted by the individual user.

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U.S. Dept. of Commerce. Bureau of the Census;  
CENSUS OF POPULATION AND HOUSING, 1980 [UNITED STATES]:

PUBLIC USE MICRODATA SAMPLE (A SAMPLE): 5-PERCENT SAMPLE (ICPSR 8101)

PUBLIC USE MICRODATA SAMPLE (B SAMPLE): 1-PERCENT SAMPLE (ICPSR 8170)

PUBLIC USE MICRODATA SAMPLE (C SAMPLE): 1-PERCENT SAMPLE (ICPSR 8114)

PUBLIC USE MICRODATA SAMPLE (A SAMPLE): 1/1000 SAMPLE (ICPSR 8210)

PUBLIC USE MICRODATA SAMPLE (B SAMPLE): 1/1000 SAMPLE (ICPSR 8211)

PUBLIC USE MICRODATA SAMPLE (C SAMPLE): 1/1000 SAMPLE (ICPSR 8212)

The Public Use Microdata Samples (PUMS) from the 1980 Census contain individual and household-level information from the "long-form" questionnaires distributed to a sample of the population enumerated in the Census. Three different PUMS series have already been prepared, each containing a number of discrete physical files.

Each of the discrete PUMS files contains two types of records: "household" records and "person" records. Although the length of each of these record types is identical (193 characters), the files are hierarchical in structure; each person record has a logical and physical relationship to the household record which precedes it. Thus, software packages capable of managing hierarchical files are necessary for use with the Public Use Microdata Samples.

The A 5-Percent Sample identifies all states and various subdivisions within them, including most counties with 100,000 or more inhabitants; the B 1-Percent Sample identifies all metropolitan areas and most SMSAs individually or else groups of counties; the C 1-Percent Sample identifies regions, divisions, and most states by type of area (urban/rural). Either five or one of each one hundred long form questionnaires are included in the files. The A, B, and C 1/1000 Samples are single files extracted from the larger A, B, and C Sample files and each has one file for the entire nation.

Each file contains two types of records, each with a logical record length of 193 characters, for housing units and persons. The number of records varies with each file and unit of analysis. Class IV



CENSUS OF POPULATION AND HOUSING, 1980:

PUBLIC-USE MICRODATA SAMPLES

TECHNICAL DOCUMENTATION

Washington, D.C.

1983

U.S. DEPARTMENT OF COMMERCE

Malcolm Baldrige, Secretary  
Guy W. Fiske, Deputy Secretary  
Robert G. Dederick, Under Secretary for Economic Affairs

BUREAU OF THE CENSUS

Bruce Chapman, Director

March 1983



BUREAU OF THE CENSUS

Bruce Chapman, Director  
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DATA USER SERVICES DIVISION

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ACKNOWLEDGMENTS

This documentation was prepared by Paul T. Zeisset, assisted by Joanne C. Dickinson, James R. Clark and Kathleen A. Siemer in the Data User Services Division. Chapters on sampling were prepared in Statistical Methods Division by Henry F. Woltman and Thomas W. Harahush. Support was provided through content review by staff members from Decennial Census Division, Housing Division, and Population Division.

\* \* \* \* \*

The files should be cited as follows:

Census of Population and Housing, 1980: Public-Use Microdata Sample (A, B, or C Sample), (Name of State or other unit of issue) [machine-readable data file] / prepared by the Bureau of the Census. --Washington: The Bureau [producer and distributor], 1983.

This technical documentation should be cited as follows:

Census of Population and Housing, 1980: Public-Use Microdata Samples Technical Documentation / prepared by the Data User Services Division, Bureau of the Census. --Washington: The Bureau, 1983

\* \* \* \* \*

For additional information concerning availability or purchase of the files, contact Data User Services Division, Customer Services (Tapes), Bureau of the Census, Washington, D.C. 20233. Telephone: (301) 763-4100.

For additional information concerning the technical documentation, geographic contents, or use of the files, contact Data User Services Division, Systems and Programming Branch, Bureau of the Census, Washington, D.C. 20233. Telephone: (301) 763-5242.

For additional information concerning particular subject matter on the files, contact Population Division, (301) 763-7962, or Housing Division, (301) 763-2873, Bureau of the Census, Washington, D.C. 20233.



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### **USER NOTES**

This section is reserved for any User Notes to the Public-Use Microdata Samples published after the initial release of this documentation.

User Notes will be sent to all users who (1) purchased their files (or technical documentation) from the Census Bureau and (2) returned the original copy of the coupon located inside the front cover of this documentation.





**UNITED STATES DEPARTMENT OF COMMERCE**  
**Bureau of the Census**  
Washington, D.C. 20233

July 1983

**Census of Population and Housing, 1980:  
Public-Use Microdata Samples**

**User Note No. 1**

**Subject:** Correction of Subsample Number, Changes to Technical Documentation, Error in B Sample Division Code, and Availability of Additional Reference Materials

**Correction of Subsample Number**

Many of the A, B, and C Sample files copied prior to May 15, 1983 contained erroneous data in two fields on the housing records: Subsample Number (H18-19) and Household/GQ Person Serial Number (H20-25). The serial number is not likely to be significant to most users, but the subsample number is necessary for two purposes: 1) to allow calculation of standard errors according to the preferred "random group" method (see pp. 27-29 in the technical documentation) and 2) to allow the selection of subsamples of various sizes between 1/20 and 1/2000 from the A Sample or between 1/100 and 1/10,000 from the B or C Samples (see p. 42).

Revised files have been created which include valid subsample numbers and serial numbers. Users who received erroneous files directly from the Bureau prior to May 15, 1983 have been given the opportunity to return the original tapes and receive the revised files. Users who have obtained copies of microdata files through third parties should contact their supplier.

Some of the A and C Sample files originally issued did not require correction. These files are listed on page 4. All corrected microdata files are so identified on the external tape label (the characters "REV" appear prior to the State code in the "Data Set Name" field). If you are unsure whether files in your possession reflect the corrected data, and do not have access to tape labels, dump data from the beginning of the file. A corrected file will always contain "000001" as the serial number of the first record (characters 20 to 25) and subsequent housing records will have that number incremented by one. Check several records since even uncorrected files have valid serial numbers on the records for vacant housing units. Working with uncorrected files will not affect any tabulations of characteristics, but will affect the calculation of standard errors and selection of subsamples. Users creating tape copies or extract files for use by others are encouraged to use only the corrected files.

**Changes to the Technical Documentation**

Several updated pages are attached for insertion into your copy of the Public-Use Microdata Samples technical documentation. After inserting the updated pages, please file the remainder of this document in the User Note section of your documentation (immediately preceding the Abstract on page i).

<u>Page</u>	<u>Information Updated</u>
4	Specific reference is now made to the fact that some populations may be too small for study using microdata samples.
13	Record sequence on the nationwide 0.1% samples is now specified as Region/Division by State, rather than just by State code.
53	Item P70 is listed.
73, 74	Addition of code 3 to allocation items P155 to P161.
77	Code range changed on Ancestry-Second Entry.
94, 97	Additional codes for allocation items P159, P171, P179, and P184.
100	Typographical changes for codes 63 and 65.
112	Deletion of 'B' from Allentown City in Pennsylvania.
114 to 117	Addition of ** to SMSAs in Alabama, Georgia, Ohio, and Wisconsin, one deletion in Minnesota.
130	Codes 995 to 999 added.
133	Code 425 changed to 430.
162	Codes 905 and 909 replace code 919.

Error in B Sample Region/Division Code

Several B Sample county groups were erroneously assigned a Region/Division Code (P3) of "0" on the full sample (1-percent) files. The zero code is supposed to apply only to those county groups crossing State lines (numbered 960 to 998) which also cross division lines. The erroneous assignments are to county groups not crossing State lines which are in the same SMSA as county groups which do cross State lines.

<u>State</u>	<u>County Groups With With Incorrect Division Code 0</u>	<u>Correct Division Code</u>
Delaware	001	5
Kentucky	001	6
Minnesota	011 to 020	4
Ohio	050 to 053	3
Tennessee	001,002,025,026	6
West Virginia	009	5

The error was corrected prior to the issuance of the 1-in-1000 B Sample file. The 1-percent B Sample files involved are not being corrected since users can easily bypass the problem by treating each State file as having the same region/division code throughout.

Additional Reference Materials Becoming Available

The basic documentation package now consists of a printed document (including maps) accompanied by six microfiche providing explicit definition of the components of each A and B Sample county group. Also available for purchase is a tape containing the County Group Equivalency File, "print" files associated with the above microfiche, and the PUMS Data Dictionary file for use with CENSPAC.

Several additional references will become available during the summer of 1983. Advance orders or inquiries may be made now.

Record Counts by Area. Raw counts of microdata records of seven types are provided for each county group on the full A and B Samples, and for each State by urbanized area by type of area category on the full C Sample. The seven types of records are (1) total persons; (2) persons in group quarters; (3) total housing units; (4) vacant housing units; and (5) persons, (6) group quarters persons, and (7) housing units in the migration/place of work/travel time sample. The total record count is the sum of items (1), (2), and (3). A failure of user tallies to replicate these exact counts would indicate an error in the users' data processing. Microfiche copies of these record counts will be available from Customer Services without charge to microdata purchasers.

Nationwide Tabulations from the 1-in-1000 A Sample. Frequency distributions for each category of almost every microdata item have been prepared from the 0.1-percent A Sample. These frequency distributions, mostly one-dimensional, can be helpful in planning microdata tabulations, particularly when using variables like ancestry where there are no published census tabulations of comparable detail. These tabulations identify each category only by code, but provide the actual frequency on the nationwide file as well as a percent distribution. The tabulations will become available from Customer Services on 3 microfiche priced at \$10.

Wall-Size County Group Maps. The maps shown in page-sized sections in appendixes L and N are now available as single nationwide sheets, 30" x 42", with county group numbers and boundaries shown in green, and county names and outlines shown in black. In eastern areas with small counties and county groups, the two-color printing makes county names and county group numbers much easier to read. The two maps, one each for the A and B Sample, are sold together for \$5 from Customer Services. Maps will be sent folded flat unless you request that they be rolled in a map tube.

Information on Allocation Procedures. A draft chapter from the forthcoming History of the 1980 Census of Population and Housing describes editing and allocation procedures for each subject item. For information on its availability, contact Dr. Fred Bohme, Chief, Census History Staff, Data User Services Division, Bureau of the Census, Washington, D.C. 20233. (301/763-7936).

Audio-Visual Materials. Conferences on the microdata files are being held in several locations across the country in 1983. These conferences feature five slide-lecture presentations--an overview, microdata geography, subject matter, data processing, and accuracy. Slides, text, and hardcopy of the slide artwork for each of the five sessions will be made available for the use of others who wish to make presentations on the microdata files. If sufficient interest is expressed these presentations may also be made available on videotape. For information on availability and cost of reproduction, contact Ms. Patricia Kelly, User Training Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233. (301/763-2370).

Public-Use Microdata Sample Files  
Not Requiring Correction

A Sample

1-in-1000 Sample:  
Nationwide File

5-Percent Sample:

Alabama  
Alaska  
Arizona  
Delaware  
District of Columbia  
Georgia  
Hawaii  
Idaho  
Indiana  
Iowa  
Kentucky  
Louisiana  
Maine  
Maryland  
Massachusetts  
Missouri  
Nevada  
South Carolina  
Utah

B Sample

1-in-1000 Sample:  
Nationwide File

1-Percent Sample:

None

1-in-1000 Sample:  
Nationwide File

1-Percent Sample:

Alabama  
Colorado  
Georgia  
Indiana  
Louisiana  
Michigan  
Mississippi  
Ohio  
Oklahoma  
South Carolina  
Tennessee  
Washington  
West Virginia  
Maine/New Hampshire/Vermont  
Massachusetts/Rhode Island  
Idaho/Montana/Wyoming  
Nevada/Utah  
Arizona/New/Mexico  
Alaska/Hawaii



UNITED STATES DEPARTMENT OF COMMERCE  
Bureau of the Census  
Washington, D.C. 20233

March 1988

CENSUS OF POPULATION AND HOUSING, 1980:  
PUBLIC-USE MICRODATA SAMPLES

USER NOTE NO. 2 \*

Subject: Missing State Codes on B Sample and Erroneous Owner-Costs Recode

B Sample State Codes

All 1-percent B Sample files have "00" instead of a valid FIPS State code or "99" in the State code field (character locations H4-5). These files are not being recreated to correct the problem since the user can retrieve the applicable State code from the tape label instead. Generally, 1-percent B Sample files are sold by the Bureau containing data for only one state. Labeled tapes include the FIPS State code at the end of the data set name. Users of 1-percent samples on unlabeled tapes should refer to the computer-generated tape document supplied with tape orders from the Bureau to determine the sequence of files on a multi-file tape. There will be a tape mark after each separate file.

The 1-in-1,000 B Sample as issued in 1983 also suffered from missing State codes. This file was recreated. Users who received this file directly from the Bureau in 1983 were given the opportunity to return the original tape and receive the revised file. The data set name on the corrected file is PUMSBXXX.USXXREV2.

Selected Monthly Owner Costs

In a small proportion of cases, Selected Monthly Owner Costs (H95-98) has not been correctly computed on the A, B, and C Samples. Erroneous figures appear whenever the unit is mortgaged (H87=1 or 2, or H88=1) but there is no regular monthly payment (H89-92=0000), in which case Selected Monthly Owner Costs is shown as 2,000, i.e., \$2,000 or more. While this error is likely to affect only about 1-percent of the applicable universe, users are best advised to recompute Selected Monthly Owner Costs from other information on the file whenever the above conditions occur. This recomputation should not be made for other cases since the existing recode made use of raw figures prior to topcoding and combination.

USER NOTE NO. 2  
Page 2

Components necessary for the calculation of Selected Monthly Owner Costs are as follows:

ELECCOST	H67-69	Monthly Cost of Electricity
GASCOST	H71-73	Monthly Cost of Gas
*WTRCOST	H75-77	Yearly Cost of Water
FUEL COST	H79-82	Yearly Cost of Oil, Coal, Kerosene, Wood, etc.
TAXINSUR	H83-86	Real Estate Taxes Last Year and Yearly Property Insurance Premiums Combined
MORTGAG1	H87	Mortgage Status
MORTGAG2	H88	Second or Junior Mortgage
MORTGAG3	H89-92	Total Monthly Payment to Lender
TAXINCL	H93	Inclusion of Real Estate Taxes in Payment to Lender
INSINCL	H94	Inclusion of Insurance Premiums in Payment to Lender

The recalculation should be made only if the following condition is true (MORTGAG1=1 or MORTGAG1=2 or MORTGAG2=1) and MORTGAG3=0000.

First, sum yearly amounts, including real estate taxes and insurance premiums if not included in the payment to lender, and divide the result by 12 to get a monthly average amount. Then add in the monthly amounts. If the result is over 2,000, recode to 2,000. The algorithm can be defined as follows:

```
IF TAXINCL = 2 or INSINCL = 2
THEN YEARLY = WTRCOST + FUEL COST + TAXINSUR
ELSE YEARLY = WTRCOST + FUEL COST
OWNERCST = (YEARLY/12) + ELECCOST + GASCOST + MORTGAG3
IF OWNERCST > 2,000, SET OWNERCST = 2,000
```

- \* It has come to our attention that many users never received "USER NOTE 2". While those users who purchased files directly from the Bureau were apprised of these problems, other users were not. We, therefore, are reissuing this note.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Bureau of the Census**  
Washington, D.C. 20233

March 1988

**CENSUS OF POPULATION AND HOUSING, 1980:  
PUBLIC-USE MICRODATA SAMPLES**

**USER NOTE NO. 3**

**Subject: Correction of the 1980 Michigan "A" and "B" Sample File**

The 1980 "A" and "B" Sample files for Michigan were produced originally in 1982. Early in 1985 a coding discrepancy was uncovered with the "place of work" variable for areas around Detroit. When the county groups were defined for Michigan, they were done so along "State Planning Regions" lines in order to improve data for local areas. Our algorithm for coding "place of work" did not recognize some of those areas properly, resulting in several of those areas being coded to "balance of county." The problem only occurred in Michigan's files and only affected the use of that variable.

We corrected the problem and replaced the Michigan State Data Center's files in August 1985. The Census Bureau's policy is to replace defective tapes or erroneous files sold by us to users. Any other user interested in obtaining a copy of the revised files can purchase a copy from the Census Bureau at a cost of \$175 per reel or contact their third party supplier.



## ABSTRACT

Census of Population and Housing, 1980:  
Public-Use Microdata Samples [machine-readable data] /  
conducted by the U.S. Bureau of the Census.--Washington:  
Bureau of the Census [producer and distributor], 1982.

### TYPE OF FILE:

Microdata

### UNIVERSE DESCRIPTION:

All persons and housing units in the United States.

### SUBJECT-MATTER DESCRIPTION:

These files contain stratified 5-percent, 1-percent or 0.1-percent samples of housing units and the persons in them, as enumerated in the 1980 census: All files have the same subject content (with minor exceptions). Items on the housing unit and person records include:

<u>Housing Unit Record</u>	<u>Person Record</u>
Tenure	Relationship
Vacancy Status and Type	Sex
Condominium Status	Age
Units in Structure	Marital Status
Access	Race
Year Structure Built	Spanish Origin
Stories in Structure and Elevator	Ancestry
Rooms	Place of Birth
Bedrooms	Citizenship
Plumbing Facilities	Year of Immigration
Kitchen Facilities	Language Spoken at Home
Bathrooms	Ability to Speak English
Source of Water	Children Ever Born
Sewage Disposal	Marital History
Air Conditioning	School Enrollment and Type of School
Heating Equipment	Highest Year of School Attended
Fuels Used	Activity in 1975
Vehicles Available	Migration/Place of Work/ Travel Time Weight
Telephone in Housing Unit	Residence in 1975
Year Householder Moved into Unit	Place of Work
Farm Status and Sales of Farm Products	Travel Time to Work
Value	Means of Transportation to Work
Cost of Utilities	Carpooling
Real Estate Taxes and Yearly Insurance Premiums Combined	Disability Status
Mortgage Status and Selected Monthly Owner Costs	Veteran Status and Period of Service
Contract Rent	Industry
Gross Rent	Occupation
Household Type	Class of Worker
Presence and Age of Own Children	Work and Unemployment in 1979
Number of Subfamilies in Family	Weeks Worked in 1979
Household Income in 1979	Income in 1979 by Type
Family Income in 1979	Poverty Status in 1979
Allocation Flags for Housing Items	Allocation Flags for Population Items

**TECHNICAL DESCRIPTION:****FILE SIZE:**

The 5-percent A Sample includes a separate file for each State. The 1-percent B Sample has a file for each State and an additional file for those county groups which cross State lines. The 1-percent C Sample has a file for each of 27 States, D.C., and 8 groups of States identified. The 0.1-percent subsamples from the A, B, and C Samples constitute one file each. Each file contains 193-character logical records of two types: housing units and persons. The block size for the files varies with user specifications. A printout listing the block size and record count is sent with each file.

**FILE SORT SEQUENCE:**

The files are sorted by identified geographic area. See "Record Sequence," p. 13.

**GEOGRAPHIC AREAS:**

There are three separate public-use microdata samples, each featuring a different geographic scheme on the individual records. (For more detail see page 5.)

The A Sample (5-percent or 0.1-percent) identifies every State, and various subdivisions of States termed 'county groups,' each with 100,000 or more inhabitants. These units include many individual large counties and cities. Many SMSAs are also identifiable.

The B Sample (1-percent or 0.1-percent) identifies most individual SMSAs with 100,000 or more inhabitants and identifies all other SMSAs in pairs so that metropolitan and nonmetropolitan territory can be studied nationwide. County groups are frequently defined differently for the B Sample than for the A Sample. Most States cannot be identified in their entirety.

The C Sample identifies census regions, divisions, 27 individual States, D.C., and 8 groups of the remaining States. Four types of area are shown: in central cities of urbanized areas, urban fringe, other urban and rural, as are 73 individual urbanized areas.

**REFERENCE MATERIALS:**

U.S. Bureau of the Census. Census of Population and Housing, 1980: Public-Use Microdata Samples Technical Documentation (this document). The documentation includes descriptions of geographic information on the files, subject content, technical conventions and file structure, sample design and accuracy of the data; a data dictionary (record layout); glossary; and maps. Supplements to be issued include control counts by geographic area. One copy of the documentation accompanies each file order. When ordered separately, the documentation is available for \$5.00 from Data User Services Division, Customer Services (Tapes), Bureau of the Census, Washington, D.C. 20233.

"Public-Use Microdata Samples from the 1980 Census," by Paul T. Zeisset. This paper describes sampling, contents, geography, and file structure; and includes a list of items on the files. Free from Data User Services Division, Customer Services (Tapes), Bureau of the Census, Washington, D.C. 20233.

PHC80-R1. Users' Guide. This publication is a comprehensive guide to 1980 census data. It covers 1980 census subject content, procedures, geography, statistical products, limitations of the data, sources of user assistance, notes on data use, a glossary of terms, and guides for locating data in reports and tape files. The guide is issued in loose-leaf form and sold in parts (R1-A, -B, etc.) as they are prepared. Parts A and B Text are currently available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (Part A. Text: S/N 003-024-03625-8, price \$5.50; Supplement 1, including Part B, Glossary: S/N 003-024-05004-8, price \$6.00.)

Monthly Product Announcement (MPA). New Census Bureau products released each month are listed in the MPA. These products include publications, technical documentation, data files, published maps, and microfiche. For instance, a given issue might list specific State files of the public-use microdata samples issued during the period. To be added to the mailing list, contact: Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, D.C. 20233.

#### RELATED PRINTED REPORTS:

See figure 5, page 16.

#### RELATED MACHINE-READABLE FILES:

County Group Equivalency File. This file includes a record for each county; identifying the county group of which the county is a part on the A and B Samples. Also included are records for places and, in 10 States, towns or townships, as necessary to define subcounty units separately identified. A sorted version of the file lists the components of each A Sample or B Sample county group.

Public-Use Microdata Samples Data Dictionary. This file corresponds to the record layout information found in chapter 5 of the documentation, and several of the appendices, designed for use by CENSPAC, but also adaptable for other software. Available on the same tape with the County Group Equivalency File.

#### FILE AVAILABILITY:

Each 5-percent or 1-percent sample is issued by State, or for selected States on the C Sample, by State group. The B Sample includes a separate file for those county groups in the nation that cross State lines. Each one-in-one thousand (0.1 percent) sample is issued as a single nationwide file. (For more information on units of issue, see chapter 2.)

Tapes are available at 1600 bpi or 6250 bpi, 9-track, EBCDIC or ASCII, labelled or unlabelled, at a cost of \$140 per reel. If data for more than one State are stacked on a single reel at a customer's request, the cost is \$165 per reel. For information on the number of reels and release date for each State, see the Monthly Product Announcement (see above). Once files are available, information on the number of tapes required for a given set of files stacked together can be obtained from Customer Services (301) 763-4100.

Microdata files can be ordered using the Customer Services order form for tapes. When ordering from the Bureau please refer to file number. Please indicate the name of the unit of issue when ordering files.

## CHAPTER 1. INTRODUCTION

### Overview

Public-use microdata samples are computer tapes which contain records for a sample of housing units, with information on the characteristics of each unit and the people in it. In order to protect the confidentiality of respondents, the Bureau excludes identifying information from the records. Within the limits of the sample size and geographic detail provided, these tapes permit users with special needs to prepare virtually any tabulations of the data they may desire.

Three separate public-use microdata samples are available, each representing five percent or one percent of the population and housing of the United States:

- o A Sample, 5%, identifying all States and various subdivisions within them, including most counties with 100,000 or more inhabitants;
- o B Sample, 1%, identifying all metropolitan territory and most SMSAs individually, and groups of counties elsewhere;
- o C Sample, 1%, identifying regions, divisions, and most States by type of area (urban/rural).

Three 1-in-1,000 samples are also prepared, one each extracted from the A, B, and C Samples.

### Comparison Of Summary Data And Microdata

Figure 1 illustrates the basic distinctions between summary data and microdata. Summary data are the type of data found in census printed reports, summary tape files, microfiche, and most special tabulations. In summary data, the basic unit of analysis is a specific geographic area (for example, a census tract, county, or State) for which counts of persons or housing units in particular categories are provided. In microdata, the basic unit is an individual housing unit and the persons who live in it.

There are two types of microdata: confidential microdata and public-use microdata. Confidential microdata include the census basic record tapes, computerized versions of the questionnaires collected from households, as coded and edited during census processing. The Census Bureau tabulates these confidential microdata in order to produce the summary data that go into the various reports, summary tape files (STFs), and special tabulations. Public-use microdata samples are extracts from the confidential microdata taken in a manner that avoids disclosure of information about identifiable households or individuals.

**Figure 1. Comparison of Summary Data With Information on Microdata Files**

## SUMMARY DATA

- Basic unit is an identified geographic area
  - Data summarized on people and housing in areas
  - Available for small areas

### **Illustrative Summary Data**

City	Total Pop.	Occupied Housing Units	Number of Persons Per Unit	Renter Occupied Units	Gross Rent		
					Under \$80	\$80 - 99	\$100 - 149
Weston City	110,938	49,426	2.2	31 447	858	3,967	13,282
Smithville	21,970	7,261	3.1	2,492	37	190	1,766
Junction	17,152	5,494	2.7	822	11	29	238

## PUBLIC-USE MICRODATA

- Basic unit is an unidentified housing unit and its occupants
  - Unaggregated data to be summarized by the user
  - Allows detailed study of relationships among characteristics
  - Not available for small areas

### Illustrative Microdata\*

	<i>State of Residence</i>	<i>Metro/ nonmetro</i>	<i>Persons in household</i>	<i>Telephone</i>	<i>Plumbing</i>	<i>Rent</i>	<i>Automobiles</i>	<i>Household type</i>	
Housing Unit #1	Virginia	Metro	3	Yes	Yes	\$325	2	Married-couple family	F

	<i>Relationship</i>	<i>Sex</i>	<i>Age</i>	<i>Race</i>	<i>Place of Birth</i>	<i>Years of School</i>	<i>Occupation</i>	<i>Earnings</i>
Person a	Householder	M	37	W	Kansas	12	Plumber	\$22,100
Person b	Spouse	F	35	W	Virginia	12		
Person c	Child	M	6	W	Virginia	1		

Housing Unit # 2 Virginia Nonmetro 1 Yes Yes \$150 1 Nonfamily householder

Person a	Householder	F	62	B	Alabama	16	Elementary teacher	\$15,300	Id
----------	-------------	---	----	---	---------	----	--------------------	----------	----

Housing Unit #3	Virginia	Metro	0	N/A	Yes	\$205	N/A	Vacant	
-----------------	----------	-------	---	-----	-----	-------	-----	--------	--

\*Public-use microdata samples do not actually contain alphabetic information. Such information is converted to numeric codes; for example, the State of Virginia has a numeric code of 51.

### Protecting Confidential Information

Records on public-use microdata samples contain no names or addresses. Also, the Bureau limits the detail on place of residence, place of work, high incomes, and selected other items to further protect the confidentiality of the records. Microdata records identify no geographic area with fewer than 100,000 inhabitants. Microdata samples include only a small fraction of the population, drastically limiting the chance that the record of a given individual is even contained in a microdata file, much less identifiable.

### Uses Of Microdata Files

Public-use microdata files essentially make possible "do-it-yourself" special tabulations. The 1980 files furnish nearly all of the detail recorded on long-form questionnaires in the census. Subject to the limitations on sample size and geographic identification, it is possible for the user to construct a seemingly infinite variety of tabulations interrelating any desired set of variables. Users have the same freedom to manipulate the data that they would have if they had collected the data in their own sample survey, yet these files offer the precision of census data collection techniques and sample sizes larger than would be feasible in most independent sample surveys.

Microdata samples will be useful to users (1) who are doing research that does not require the identification of specific small geographic areas or detailed cross tabulations for small populations, and (2) who have access to programming and computer time needed to process the samples. Microdata users frequently study relationships among census variables not shown in existing census tabulations, or concentrate on the characteristics of certain specially defined populations, such as unemployed homeowners or families with four or more children.

### Sample Design And Size

Each microdata file is a stratified sample of the population, actually a sub-sample of the full census sample (19.4% of all households) that received census long-form questionnaires. Sampling was done household-by-household in order to allow study of family relationships and housing unit characteristics. Sampling of persons in institutions and other group quarters was done on a person-by-person basis. Vacant units were also sampled.

There are three independently drawn samples, designated "A," "B," and "C," each featuring a different geographic scheme, as discussed below. The B and C Samples each contain 1 percent, i.e., one household for every one hundred households in the Nation. Samples from the 1970 and 1960 censuses also employed a 1-percent sample size. New for 1980 is a 5-percent sample, designated the A Sample, which includes over one-fourth of the households that received the census long-form questionnaire. Nationwide, the A Sample gives the user records for over 11 million persons and over 4 million housing units. (One could even use the A, B, and C Samples together, if there were an advantage in having a 7-percent sample, since there is negligible overlap among the samples.) On the other hand, since processing a smaller sample is less expensive, some users will

be interested in one of the the one-in-a-thousand samples (extracts of the 1-percent and 5-percent samples) which are also available from the Census Bureau. Sample design is discussed more thoroughly in chapter 4.

The samples are self-weighting. The user can estimate the frequency of a particular characteristic for the entire population by tallying records from the microdata files and multiplying the result by the inverse of the sampling rate, e.g., multiplying raw counts from the 5-percent A Sample by 20. A section of chapter 2 discusses the preparation and verification of estimates (see page 14).

Reliability improves with increases in sample size, so the choice of sample size must represent a balance between the level of precision desired and the resources available for working with microdata files. By using tables provided in chapter 3 (see page 20), one can estimate the degree to which sampling error will affect any specific number prepared from a microdata file of a particular sample size. (It is also possible to estimate sampling error using 100 "random groups" identified on sample records, see page 27). Users of microdata files for State or SMSA estimates would normally use a 1- or 5-percent sample, while users concerned only with national figures can frequently get by with a 0.1 percent (one-in-a-thousand) sample. Even national users may need a 1-percent or 5-percent sample if they contemplate extremely detailed tabulations or are concerned with very small segments of the population, for example, males 65 years old or over of Italian ancestry. One of the examples in chapter 3 discusses the selection of appropriate sample size for a particular study. The procedures discussed in Chapter 3 may also indicate that even a 5-percent sample does not provide sufficient cases for the study of certain very small populations, for example, detailed race groups within a small State.

#### Subject Content

With only minor exceptions, microdata files contain the full range of population and housing information collected in the 1980 census: 503 occupation categories, age by single years up to 90, income by \$10 intervals up to \$75,000, and so forth. Because the samples provide data for all persons living in a sampled household, users can study how characteristics of household members are interrelated (for example, income and educational attainment of husbands and wives).

Information for each housing unit in the sample appears on a 193-character record with geographic and housing items, followed by a variable number of 193-character records with person information, one record for each member of the household. Items on the housing record are listed beginning on page 52; items on the population record are listed beginning on page 53. Each of the items is further defined in the glossary (reprinted from the 1980 Census Users' Guide), presented as Appendix K to this document.

Data users will frequently want to generate additional variables or otherwise recode these items. For instance, a user desiring data on years of school completed must construct this variable from the item included on highest grade attended--reducing that value by one year for all persons who had not finished that grade, as shown in another item on the record. Transformations such as this, as well as corrections that apply to certain subjects, are discussed in Appendix J.

There are no "missing data" categories in most items on these files. Substitutions or allocations have been made for any missing data resulting from incomplete questionnaires, inconsistent information or equipment malfunction. "Allocation flags" appear at the end of each record indicating each item which has been allocated. Thus, a user desiring to tabulate only actually observed values can eliminate those cases with allocated values. Allocation flags are discussed further on page 33.

#### Geographic Identification

The A, B, and C Samples each feature a different geographic scheme:

- o The A Sample, 5-percent size, identifies every State and most individual counties with 100,000 or more inhabitants (350 in all, see Appendix B.2). In many cases individual cities (see Appendix B.3) or groups of places with 100,000 or more inhabitants are also identified.

Counties with populations under 100,000 have been grouped into analytic units proposed by State Data Centers. These frequently follow SMSA or State planning district boundaries. (Those SMSAs shown on the A Sample are listed in Appendix B.1.) In New England, areas are defined in terms of cities and towns rather than counties.

The term "county group" is used loosely to apply to each of the areas identified on these files. A 3-digit number, unique within State, identifies each area.

- o The B Sample identifies 282 SMSAs of 100,000 or more inhabitants. The remaining 36 SMSAs are paired together so that metropolitan and non-metropolitan territory can be separately analyzed. (SMSAs not shown separately are footnoted in Appendix B.1.) Thirty-one States are not separately identified because they contain SMSAs which cross State boundaries and have fewer than 100,000 persons within a State (See Appendix C). Many large cities, groups of cities, and counties are identified within large SMSAs. (See Appendixes B.2 and B.3.) Outside SMSAs, counties are grouped according to State planning district or into other reasonable analytic units with populations of 100,000 or more.
- o The C Sample identifies 27 States and the District of Columbia. The remaining States are shown in eight groups, none of which crosses a census region or division boundary (see Appendix A). Four type-of-area categories are shown throughout: central cities of urbanized areas, urban fringe (i.e., the remainder of urbanized areas outside central cities), other urban, and rural. Seventy-three individual urbanized areas are shown (see Appendix D), all of which have at least 100,000 inhabitants in the central city and another 100,000 in the urban fringe. This happens to include every urbanized area with a total population over 800,000, and roughly half of the urbanized areas between 200,000 and 800,000.

The characteristics of the three different geographic schemes are compared in figure 2.

Figure 2. Comparison of Features on 1980 and 1970 Public-Use Microdata Samples

	-----1980 Samples-----			-----1970 Samples-----		
	A	B	C	State	County Group	Neigh Chars
<u>Sample Size</u>	5% 0.1%	1% 0.1%	1% 0.1%	1-2% 0.1%	1-2% 0.1%	1-2% 0.1%
<u>Areas Identified</u>						
Divisions	X	-	X	X	-	X
States	51	20	28	51	4	-
SMSAs of 100,000+	180	282	-	-	125	-
Counties of 100,000+	350	236	-	-	104	-
Places of 100,000+	123	135	58	-	12	5
County Groups	1154	1258	-	-	409	-
Urbanized Areas	-	-	73	-	-	6
Metro/Nonmetro	-	X	-	23 States	-	-
Urban/Rural	-	-	X	42 States	-	X
<u>Neighborhood Characteristics</u>	-	-	-	-	-	X

Maps of county groups shown on the A and B Samples are included as appendixes L and N, respectively. Where county group boundaries subdivide a county, as in the identification of a city, lists of subcounty units in appendixes M and O supplement the maps. The maps are also available as single nationwide sheets, 30° x 42°, with county group boundaries shown in color. Comprehensive listings of county group components, illustrated in figure 3, are available on microfiche. The components of each county group are also derivable from a computerized County Group Equivalency File available separately.

The 1-in-1,000 samples (0.1%) extracted from the A, B, and C Samples have the same geography as the parent files.

#### Migration And Place-of-Work Data

The A and B Sample county groups apply not only to 1980 residence, but also to place of work in 1980 and to place of residence in 1975. This makes possible the detailed analysis of migration and commuting patterns in terms of origin and destination. For instance, one can examine immigrants to an area (i.e., people who lived in a different area in 1975) in terms of the States or metropolitan areas from which they came. Further, if one purchases data for the entire U.S., one can also examine the characteristics of outmigrants (i.e., persons who lived in a particular county group in 1975 who resided elsewhere in 1980). Similarly one can look at the characteristics of the work force in an area using the county group of work, irrespective of whether workers reside in the same area.

Figure 3.

## COMPONENTS OF A SAMPLE COUNTY GROUPS

STATE: 27 COUNTY GROUP: 010 SMSA: 0000 TOTAL POPULATION: 118125  
 TYPE OF AREA: NONMETROPOLITAN AREA

NAME	POPULATION	ST	COU	MCD	PL	SMSA
BLUE EARTH COUNTY	52314	27	013			
LE SUEUR COUNTY	23434	27	079			
NICOLLET COUNTY	26929	27	103			
SIBLEY COUNTY	15448	27	143			

STATE: 27 COUNTY GROUP: 011 SMSA: 0000 TOTAL POPULATION: 112744  
 TYPE OF AREA: NONMETROPOLITAN AREA

NAME	POPULATION	ST	COU	MCD	PL	SMSA
FREEBORN COUNTY	36329	27	047			
RICE COUNTY	46087	27	131			
STEELE COUNTY	30328	27	147			

STATE: 27 COUNTY GROUP: 012 SMSA: 0000 TOTAL POPULATION: 126958  
 TYPE OF AREA: NONMETROPOLITAN AREA

NAME	POPULATION	ST	COU	MCD	PL	SMSA
FILLMORE COUNTY	21930	27	045			
HOUSTON COUNTY	18382	27	055			
HOWER COUNTY	40390	27	099			
WINONA COUNTY	46256	27	169			

STATE: 27 COUNTY GROUP: 013 SMSA: 9999 TOTAL POPULATION: 164863  
 TYPE OF AREA: SMSA COMBINED WITH NONMETROPOLITAN AREA

NAME	POPULATION	ST	COU	MCD	PL	SMSA
DODGE COUNTY	14773	27	039			
GOODHUE COUNTY	38749	27	049			
OLMSTED COUNTY	92006	27	109			6820
WABASHA COUNTY	19335	27	157			

STATE: 27 COUNTY GROUP: 014 SMSA: 5120 TOTAL POPULATION: 370951  
 TYPE OF AREA: SMSA CENTRAL CITY

NAME	POPULATION	ST	COU	MCD	PL	SMSA
MINNEAPOLIS CITY	370951	27	053			2585 5120

STATE: 27 COUNTY GROUP: 015 SMSA: 5120 TOTAL POPULATION: 122676  
 TYPE OF AREA: SMSA, EXCLUDING CENTRAL CITY

NAME	POPULATION	ST	COU	MCD	PL	SMSA
BROOKLYN CENTER CITY	31230	27	053			0460 5120
CRYSTAL CITY	25543	27	053			0870 5120
GOLDEN VALLEY CITY	22775	27	053			1495 5120
NEW HOPE CITY	23087	27	053			2770 5120
ROBBINSDALE CITY	14422	27	053			3230 5120
ST. ANTHONY CITY	5619	27	053			3360 5120

Migration, place of work, and travel time to work appear on these files only for one-half of the sampled households. (Due to budgetary limitations, only part of the questionnaires could be coded.) Thus, the 5-percent sample includes only a 2½-percent sample for migration and place of work. Therefore, the user must double the normal weights to derive estimates, as discussed further in chapter 2.

#### Corresponding Microdata From Earlier Censuses

The Census Bureau created six separate 1-percent (one-in-a-hundred) samples from the 1970 census, three based on the 15-percent versions of the 1970 questionnaire, and three based on the 5-percent version. Geographic areas identified on 1970 and earlier microdata files were required to have at least 250,000 inhabitants. One geographic scheme employed in 1970 identified States, a second identified SMSAs with 250,000 or more inhabitants and similarly large county groups elsewhere, and the third identified only very large areas but included records for 'neighborhood characteristics.' A single one-in-a-hundred sample, identifying States, is available from the 1960 census. Characteristics of these 1970 geographic schemes are summarized in figure 2.

The files from 1960 and 1970 use basically similar formats. The 1980 microdata record layouts differ from their 1960 and 1970 counterparts; but, since most of the 1980 items were also included in the 1970 and 1960 censuses, these microdata files represent a rich resource for analysis of trends. Items which were added, dropped, or substantially changed between 1970 and 1980 are listed in figure 4. The glossary, presented as Appendix K to this document, discusses historical comparability of 1980 data items in greater detail.

Geographic comparability is a larger problem. States can be identified on microdata from each census (the 1960 and 1970 State samples and the 1980 A Sample). Regions and divisions by type-of-area are derivable from the 1980 C Sample and the 1970 'neighborhood characteristics' samples. Many, but far from all, counties of 250,000 or more population in 1970 are identified on the 1970 'County Group' Samples. These large counties typically are also shown on the 1980 A Sample (and frequently also the B Sample). Counties identified in both 1980 and 1970 are asterisked in Appendix B.2.

SMSAs are not always directly comparable between 1970 and 1980, however, since roughly half of the SMSAs identified in 1970 files changed boundaries prior to the 1980 census. In other words, a 1970 SMSA identified as a county group may not match the corresponding 1980 SMSA shown on the B Sample. No individual place or place group was shown prior to 1980. Outside identified SMSAs there is almost no commonality between 1970 and 1980 county groups. 1970 county groups were based on 'functional economic areas' defined by the Bureau of Economic Analysis. These frequently crossed State lines and involved grouping criteria unrelated to the administrative and local interest factors that contributed to the definition of county groups in 1980.

**Figure 4. 1970-1980 Subject Comparability**

**1980 Items Not on 1970 Files:**

Ancestry  
 Boarded-up vacant unit  
 Carpooling  
 Condominium  
 Language spoken at home and ability to speak English  
 Hours usually worked per week last year  
 Public transportation disability  
 Selected monthly owner costs  
 Travel time to work (shown only for half of the sample)  
 Vans or light trucks available  
 Weeks unemployed last year

**Concepts Substantially Changed:**

Farm definition - old definition can be reconstructed  
 "Householder" replaces household head concept  
 Industry - many code changes; classification system changed somewhat  
 Occupation - classification system and codes substantially changed  
 Poverty definition - minor modifications; the old definition could be  
     reconstructed if necessary  
 Race - several categories added; revised classification rules affect White and Other  
 Residence in 1975/Place of work - broad categories in 1970, but coded to  
     county group in 1980 on the A and B Samples (shown only for half of the  
     sample)  
 Telephone in unit - narrower than telephone availability in 1970  
 Work disability - not counted for 1980 if it has lasted less than six months

**1970 Items Not On 1980 Files:**

Basement  
 Battery radio  
 Birthplace of parents (allowing identification of "foreign stock")  
 Clothes dryer  
 Clothes washing machine  
 Dishwasher  
 Duration of disability  
 Home food freezer  
 Industry and occupation 5 years ago  
 Mother tongue  
 Owner-occupied cooperative/condominium  
 Second home  
 Television  
 Vocational training  
 Year moved into unit (retained for householders, deleted for other persons)

Further information on the 1970 microdata files is contained in Public-Use Samples of Basic Records From the 1970 Census: Description and Technical Documentation and its three supplements, available for \$5 from Customer Services. A map, 22 by 32 inches, defining areas identified on the 1970 County Group Samples is included with the documentation. Documentation for the 1960 microdata file is also available for \$5.

Public-use microdata samples are being created from manuscript records of the 1940 and 1950 censuses, and will probably be available in late 1983.

## CHAPTER 2. PROCESSING THE DATA

### Technical Conventions

A printout included with each tape copy purchased from the Census Bureau includes the following information, some of which document options selected by the purchaser:

Recording Language (ASCII or EBCDIC)  
Density (1600 bpi or 6250 bpi)  
Labelling (Label or no label)  
Block Length (Any multiple of 193, up to 32617)  
Record Length (193)  
Record Count

### Units of Issue

A total of 142 files are available in the A, B, and C Samples:

o A Sample = 5 percent: 51 files

One file for each State and the District of Columbia

0.1 percent: 1 nationwide file

o B Sample = 1 percent: 52 files

One file for each State and the District of Columbia,  
exclusive of all county groups crossing State lines

One file for all county groups in the nation crossing State  
lines (listed in Appendix C)

0.1 percent: 1 nationwide file

o C Sample = 1 percent: 36 files

One file for each of the 27 States separately identified  
and 1 for the District of Columbia

One file for each of the 8 groups of the remaining States  
specified in Appendix A.

0.1 percent: 1 nationwide file

Each of these files may be purchased separately. Single file tapes are priced at \$140 per reel (as of January 1, 1983). Most files are sufficiently small so that more than one can be accommodated on a single reel. Tapes with more than one file copied onto them are priced at \$165 per reel. Purchasers of the B Sample for any of the 31 States which include area in a county group crossing State lines may want to request that the 'State Code 99' file be stacked onto a tape being purchased. Estimates of the number of tapes required for specified groups of files at a given density and blocking factor are available on request from Customer Services.

### File Structure

Each file consists of a series of 193-character logical records of two types-- housing and persons. Each housing unit record is followed by a variable number of person records, one for each member of the household or none if vacant, as illustrated in figure 1 on page 2. Each person in group quarters has two records--a dummy 'housing unit' record (most nongeographic fields are not applicable), as well as a person record.

In the text of this document, the numeric identification of a particular data item is the same as its character location within a record. Items on the housing record are prefixed with an H, population items with a P. For instance, Race, item P12-13, is a two-digit code beginning in character 12 of the person record. (The data dictionary, or record layout, also introduces mnemonic identifiers; see p. 54.)

Geographic identifiers, subsample identification and serial numbers appear only on the housing unit record. Thus, most tabulations of person characteristics require manipulation of both housing and person records. An item on the housing record indicates the exact number of person records following before the next housing record (H26-27). This feature allows a program to anticipate what type of record will appear next, if necessary.

In order to use many software packages (e.g., BMD), users need to create rectangular files, i.e., extract files with any desired household data repeated with each person's record. While this imposes an intermediate processing step on the user of such software, it will benefit those users who are able to reduce significantly the size of the file. The Census Bureau's CENSPAC system can be used to generate rectangular extract files.

Alternatively, users may obtain a software package capable of handling the hierarchical structure or prepare their own software. The Census Bureau offers such a software package called COCENTS, and others are available from commercial sources (for example, SAS). Descriptions of CENSPAC and COCENTS are available upon request from Customer Services.

All fields are numeric, except for the Record Type which uses "H" and "P."

File Size

A printout included with each tape copy purchased from the Census Bureau includes the total record count. A future supplement to this document will contain record counts for each area identified. In the absence of those counts, the number of 193-character records can be estimated as follows: Sum the total number of persons, the total number of housing units and the number of persons in group quarters(for whom there is a dummy housing unit record); multiply that sum by the sampling rate. For example; the number of records on the 5-percent A Sample nationwide can be estimated as 226,545,805 (persons) + 88,411,263 (housing units) + 5,714,931 (persons in group quarters) = 320,671,999; x .05 = 16,033,600.

Record Sequence

Records on these files are sorted by geographic area. On the A and B Samples, all households sampled within a particular county group appear together. County groups are sequenced in ascending order within State. On the 0.1% nationwide files, States are sequenced by Region/Division code and by State code within division. (On the B Sample, this means that the 17 county groups with State code suppressed (i.e., shown as 99) and which cross division lines (i.e., Region/Division code is 0) appear at the beginning of the nationwide file; the 22 county groups with State code suppressed but with division identifiable appear with other records for that division.)

On the C Sample, records are sequenced by urbanized area code by type of area code within State or State group. Thus, households outside an identified urbanized area (i.e., UA code 0000) appear first, further grouped by type-of-area code, followed by data for each identified UA in ascending code sequence, central city households preceding urban fringe households. On the 0.1% sample, States and State groups appear in code sequence within Region/Division.

The sequence of households within each identified geographic area has been scrambled to avoid any implication of geographic information beyond that which meets Census Bureau disclosure rules for public-use microdata.

Person records within household are sequenced by relationship code (P2). Thus, for example; the record for the householder always immediately follows the housing unit record for an occupied unit. This feature simplifies tabulation of households or families by race of householder, ancestry of householder, and even poverty status--characteristics not included on the housing unit record--since the desired indicators are always on the first person record. Where the household contains more than one person of a given relationship, person records appear in sequence of decreasing age (P8-9).

Persons sampled from within the same group quarters are not identifiable as such, since each has an independent dummy housing unit record.

Machine-Readable Documentation

The "data dictionary" or record layout which appears on pages 55 to 99 was generated from a machine-readable file which is sold as part of the CENSPAC system (\$140) or may be obtained in conjunction with the County Group Equivalency File (see below). Using that file it is possible to automatically generate hard copy documentation for extract files or labels for tabulations created with CENSPAC. With some adaptation, the data dictionary file can also be used by other software packages or user programs to automatically specify the layout of the microdata files.

Also available in machine-readable form is the County Group Equivalency File (\$140), a list of counties (and places or MCDs where applicable) and their assigned county group codes for the A and B samples. The printout in figure 3 was generated from a resorted version of this file.

### Handling Invalid Codes

The data dictionary shows each category as having a unique representation. It is possible, however, that certain variables may have a small number of cases outside the intended range. Standard census practice is to assign invalid codes to the next lower numbered valid category. For example, on an allocation flag with valid codes 0, 2 and 3, a 1 would be counted with code 0, and a code of 4 or more would be counted with 3. Exceptions to this rule occur in occupation and industry codes, where invalid codes are assigned to the next higher valid category.

### Preparing and Verifying Tabulations

**Estimation of totals** - Estimates of complete-count census figures may be made from tabulations of public-use microdata samples by using a simple inflation estimate - that is, by multiplying the sample tally by the reciprocal of the sampling rate. For example, to estimate the total number of persons with a certain population characteristic from a one-in-one-hundred sample, multiply the sample total by 100; from a 5-percent sample, multiply by 20. To estimate the number of persons who lived in a different county in 1975, data for which only one-half of the sample is available, multiply an A Sample table by 40 (i.e., the reciprocal of 1/2 of 5-percent). Persons in the migration/place work/travel time sample carry a weight of 2 in character P46; all others carry a weight of 0.

**Estimation of percentages** - Percentages are estimated by simply dividing the weighted estimate of persons or housing units with a given characteristic by the weighted sample estimate for the base. Normally, this yields the same as would be obtained if one made the computation using sample tallies rather than weighted estimates. For example, the percentage of housing units with air conditioning in a one-in-one-hundred sample can be obtained by simply dividing the tally of sample housing units with air conditioning by the total number of sample housing units. When working with migration, place of work or travel time to work figures, one must either take care to determine both the numerator and base of the percentage from the 1/2 sample, or must use weighted estimates in calculations rather than simple tallies.

**Verifying tabulations** - The 1980 public-use microdata samples have been constructed so that it should not be difficult to obtain desired tabulations. File structure and coding of items is straightforward. There are no missing data (see the section on allocations, page 33). Records not applicable for each item are assigned to specific 'NA' categories, and it is frequently not necessary determine in a separate operation whether a record is in the universe or not. A user must, however, anticipate the possibility of errors in his or her own processing. Thus, user tabulations should be verified against other available tallies. Two ways for the user to verify estimates follow:

### 1. Using control tabulations from the samples

As each public-use microdata sample was produced, counts of persons, housing units, vacant housing units, and group quarters persons selected into the sample were tallied within each identified geographic area. These control counts will be published as a supplement to this documentation. (In the interim, counts for specific areas may be requested from Customer Services.) A failure of user tallies to replicate these exact counts would indicate an error in the user's data processing.

### 2. Using published data from the 1980 census

Tabulations from the 1980 census data base are available in the printed census publications and on summary tape files. The tabulations provide an opportunity to check the reasonableness of statistics derived from public-use microdata samples. A familiarity with summary data already available may also facilitate planning of tabulations to be made from microdata. Those publication series likely to be of greatest use for this purpose are listed in figure 5.

In comparing sample tabulations with published data one must carefully note the universe of the published tabulation. For instance, on microdata records, Industry (P87-89) is reported for the civilian labor force and for persons not in the labor force who reported having worked 1975 or later. Industry tabulations in 1980 census publications are presented only for the employed population or the experienced civilian labor force. Thus, a tally of industry for all persons for whom industry is reported on microdata records would not correspond directly to any published tabulation. A user should always pay particular attention to concept definitions as presented in the glossary.

One cannot, of course, expect exact agreement between census publications (which are based on the complete census count, full sample estimates, or a subsample of the census sample) and user estimates based on tallies of a 5-percent or smaller sample. They will inevitably differ to some extent due to chance in selection of actual cases for public-use microdata samples. Since the amount of likely chance variation for a given statistic can be measured, any discrepancy beyond a certain level can be identified as a likely error in programming. Chapter 3 discusses sampling variability and its measurement.

User experience has indicated that careful verification of sample tabulations is essential -- so important that it may frequently be advisable to include additional cells in a tabulation for no other reason than to provide counts or to yield marginal totals not otherwise available, which may be verified against other available tabulations.

Figure 5. Selected 1980 Census Publications  
Useful In Verifying Microdata Tabulations

PHC80-S2	Advance Estimates of Social Economic and Housing Characteristics	
	Basic distributions for most census items, for States, counties, places of 25,000 or more inhabitants; issued by State.	
PC80-1-B	General Population Characteristics	
HC80-1-A	General Housing Characteristics	
PC80-1-C	General Social and Economic Characteristics	(mid 1983)
HC80-1-B	Detailed Housing Characteristics	(mid 1983)
	Distributions in somewhat greater detail than PHC80-S2, many also shown for race and Spanish origin groups (PC80-1-C also features characteristics for ancestry groups); for States, SMSAs, urbanized areas, counties, places of 2,500 or more inhabitants. Characteristics by type of area (as in C Sample) are also shown at the State level. All issued by State.	
PC80-1-D	Detailed Population Characteristics	(late 1983)
HC80-2	Metropolitan Housing Characteristics	(late 1983)
	Crosstabulations of characteristics, some in considerable detail.	
	PC80-1-D reports, issued by State, show the State and and SMSAs with 250,000 or more inhabitants. The HC80-2 series includes a report for each SMSA regardless of size, as well as a report for each State.	
PC80-2	Population Subject Reports	(1983-1984)
HC80-3	Housing Subject Reports	(1983-1984)
	Very detailed cross tabulations, most shown only at the national level. A series of nationwide reports issued by Subject.	

These publications are available for sale through the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

## CHAPTER 3. ACCURACY OF THE MICRODATA SAMPLE ESTIMATES

### Introduction

The data summarized from a public-use microdata sample not only describe the particular set of households in the sample, but are primarily used to estimate what data would have been obtained if a complete census count of the variables of interest were available. These estimates can be expected to vary from the complete-count result, because they are subject to two basic types of error --- sampling and nonsampling. The sampling error in the data arises from the selection of persons and housing units to be included in both the census sample and the microdata samples. The nonsampling error, which affects both sample and complete count data, is the result of all other errors that may occur during the collection and processing phases of the census. A more detailed discussion of both sampling and nonsampling error is given in this chapter. Chapter 4 describes the method used to select the microdata samples.

### Errors in the Data

Since the estimates that users produce are based on a sample, the data may differ somewhat from complete-count 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. In addition, if one were able to select all possible samples, the estimates from each sample would differ, but the average of these estimates would approximate the complete-count figure. The deviation of a particular sample estimate from the average value obtainable from all possible samples is called the sampling error. The standard error of a survey estimate is a measure of the variation among the estimates from 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 user to construct an interval estimate having prescribed confidence that the interval includes the average result of all possible samples. The method of calculating standard errors and confidence intervals for the estimates produced from the microdata samples is given below.

In addition to the variability which arises from the sampling procedures, both sample data and complete-count data are subject to nonsampling error. Nonsampling error may be introduced during each of the many extensive and 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. 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 complete-count data biased in that direction. For example, if respondents consistently tend to underreport their income, then the resulting counts of households or families by income category will be skewed toward the low income categories. Such biases are not reflected in the standard error. A more detailed discussion of the sources of nonsampling error is given in the section 'Control of Nonsampling Error' in this chapter.

### Calculation of Standard Errors Using Tables

Two methods are presented for calculating standard errors of estimated totals and percentages. (The procedures for estimating totals and percentages themselves were given in the previous chapter (page 14).) The first method, described below, uses tabulated figures or simple formulas and produces an approximate standard error quickly and inexpensively. The second method (presented on page 27) requires extra tabulations by the user during the processing of the microdata file, but it produces more precise standard errors and is the preferred method. There are, of course, situations where it is not feasible to do the extra tabulations required by the second method, for instance, when one is trying to determine, prior to purchase, whether a one-percent sample will yield estimates of adequate precision for a given study or whether it is necessary to use the 5-percent sample instead. For these purposes the method described in this section should produce an acceptable approximation. On the other hand, for many statistics, particularly from detailed crosstabulations, standard errors using the second method should be substantially better. The second method is also applicable to a wider variety of statistics, e.g., means and ratios.

Tables A through G in this chapter contain the information necessary to calculate an approximate standard error of sample estimates. In order to perform this calculation, one obtains (1) the unadjusted standard error for the characteristic that would result under a simple random sample design (of persons, families, or housing units) and estimation technique; and (2) an adjustment factor, which partially reflects the effects of the actual sample design and estimation procedure used for the 1980 census public-use microdata samples, for the particular characteristic estimated. The adjustment factors provided in this chapter are based on computations from the full census sample and as such do not reflect the additional stratification used in the selection of the public-use microdata samples (see chapter 4). Thus, in general, these factors will provide conservative estimates of the standard error. In addition, these factors only pertain to individual data items (e.g., years of school completed, labor force status) and as such are not entirely appropriate for use with detailed cross-tabulated data.

To calculate the approximate standard error of a 5-percent, 1-percent, or 0.1-percent sample estimate follow the steps given below:

- a. Obtain the unadjusted standard error for the sampling rate to be used from Table A, C, or E for estimated totals or from Table B, D, or F for estimated percentages. Alternately, the formula given at the bottom of each table may be used to calculate the unadjusted standard error. (For sample sizes, other than 5, 1, or 0.1 percent see page 26).

In using tables A, C, or E or corresponding formulas for estimated totals use weighted figures rather than raw sample counts to select the applicable row. To select the applicable column for person characteristics, use the total population in the area being tabulated (not just the total of the universe being examined), or use the total count of housing units if the estimated total is a housing characteristic. Similarly in using Tables B, D, or F or the corresponding formula for estimated percentages, use inflated figures to select the appropriate column.

- b. Use table G to obtain the factor for the characteristic (e.g., work disability, years of school completed). If the estimate is a cross-tabulation of more than one characteristic scan Table G for each applicable factor and use the largest factor. Multiply the unadjusted standard error from step a. by the factor obtained in step b.

Example 1: Standard error of a total - suppose we tally a 1% public-use micro-data sample for Alaska and find 358 persons in the sample who are 18 years and over and speak a language other than English at home. Therefore, the weighted number of persons who are 18 years and over and speak a language other than English at home is  $358 \times 100 = 35,800$ .

The unadjusted standard error for the estimated total is obtained from Table C or from the formula below Table C. In order to avoid interpolation, the use of the formula will be demonstrated here. The formula for the unadjusted standard error,  $Se$ , is

$$Se(\hat{Y}) = \sqrt{99\hat{Y}(1-\hat{Y}/N)}$$

$$Se(35,800) = \sqrt{99(35,800)\left(1 - \frac{35,800}{401,851}\right)} = 1,797 \text{ persons.}$$

Note, in this example the complete census count of persons in Alaska of 401,851 was used. The standard error of the estimated 35,800 persons 18 years and over who speak a language other than English at home is found by multiplying the unadjusted standard error, 1,797, by the appropriate adjustment factor. The adjustment factor for 'Language Usage and the Ability to speak English' given in table G is 1.5. Thus, the estimated standard error is  $1,797 \times 1.5$  or 2,696.

Example 2: Standard error of a percent - To illustrate the calculation of the standard error of a percent, suppose the estimated percent of persons 18 years and over who speak a language other than English at home who speak English 'not well' or 'not at all' is 12.7 (the estimated total persons 18 years and over who speak a language other than English at home used as the base is 35,800). Using Table D, and interpolating among the nearest figures, the unadjusted standard error is found to be approximately 0.53 and using the same adjustment factor, the standard error for the estimated 12.7 percent is  $0.53 \times 1.5 = 0.795$  percentage points.

A note of caution concerning numerical values is necessary. Standard errors derived in this manner are approximate. Calculations could be expressed to several decimal places, but to do so would suggest more precision in the data than is justifiable. One useful rule of thumb is to round standard error estimates to two significant digits. Thus 2,696 would be rounded to 2,700 and 0.795 percentage points would be rounded to 0.80 percentage points.

Table A - Unadjusted Standard Errors for Estimated Totals, 5 Percent Sample

Estimated Total <sup>1</sup>	Size of Geographic Area Tabulated <sup>2</sup>							
	50,000	100,000	250,000	500,000	1 Million	3 Million	10 Million	25 Million
1,000	140	140	140	140	140	140	140	140
2,500	210	220	220	220	220	220	220	220
5,000	290	300	310	310	310	310	310	310
10,000	390	410	430	430	430	440	440	440
15,000	450	490	520	530	530	530	530	530
25,000	490	600	650	670	680	690	690	690
75,000	-	600	1,000	1,100	1,150	1,180	1,190	1,190
100,000	-	-	1,070	1,230	1,310	1,360	1,370	1,380
250,000	-	-	-	1,540	1,890	2,120	2,150	2,170
500,000	-	-	-	-	2,180	2,920	3,000	3,050
1,000,000	-	-	-	-	-	3,900	4,140	4,270
5,000,000	-	-	-	-	-	-	6,890	8,720
10,000,000	-	-	-	-	-	-	-	10,680

<sup>1</sup>For 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.

$$\text{Se}(\hat{Y}) = \sqrt{\frac{19}{N} \left(1 - \frac{\hat{Y}}{N}\right)} \quad \text{Where:}$$

$\hat{Y}$  = Estimate of characteristic total  
 $N$  = Size of area

<sup>2</sup>Total count of persons, housing units, or families in area if the estimated total is a person, housing unit, or family characteristic, respectively.

Table B - Unadjusted Standard Error for Estimated Percentages, 5 Percent Sample  
(Standard errors expressed in percentage points)

Estimated Percent	Base (weighted total) of percentage <sup>1</sup>										
	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	1.9	1.6	1.2	0.9	0.7	0.6	0.4	0.3	0.2	0.1	0.1
5 or 95	3.0	2.4	1.9	1.3	1.1	1.0	0.6	0.4	0.3	0.2	0.1
10 or 90	4.1	3.4	2.6	1.8	1.5	1.3	0.8	0.6	0.4	0.3	0.2
15 or 85	4.9	4.0	3.1	2.2	1.8	1.6	1.0	0.7	0.5	0.3	0.2
20 or 80	5.5	4.5	3.5	2.5	2.0	1.7	1.1	0.8	0.6	0.3	0.2
25 or 75	6.0	4.9	3.8	2.7	2.2	1.9	1.2	0.8	0.6	0.4	0.3
30 or 70	6.3	5.2	4.0	2.8	2.3	2.0	1.3	0.9	0.6	0.4	0.3
35 or 65	6.6	5.4	4.2	2.9	2.4	2.1	1.3	0.9	0.7	0.4	0.3
50	6.9	5.6	4.4	3.1	2.5	2.2	1.4	1.0	0.7	0.4	0.3

<sup>1</sup>For a percentage and/or base of percentage not shown in the table, the formula given below may be used to calculate the standard error.

$$\text{Se}(\hat{p}) = \sqrt{\frac{19}{B} \hat{p}(100-\hat{p})} \quad \text{Where:}$$

$B$  = Base of estimated percentage (weighted total)  
 $\hat{p}$  = Estimated percentage

Table C - Unadjusted Standard Errors for Estimated Totals, 1 Percent Sample

Estimated Total <sup>1</sup>	Size of Geographic Area Tabulated <sup>2</sup>							
	50,000	100,000	250,000	500,000	1 Million	5 Million	10 Million	25 Million
1,000	310	310	310	310	310	310	310	310
2,500	480	490	500	500	500	500	500	500
5,000	670	690	700	700	700	700	700	700
10,000	890	940	970	980	990	990	990	990
15,000	1,020	1,120	1,180	1,200	1,210	1,220	1,220	1,220
25,000	1,110	1,360	1,490	1,530	1,550	1,570	1,570	1,570
75,000	-	1,360	2,280	2,510	2,620	2,700	2,710	2,720
100,000	-	-	2,440	2,810	2,980	3,110	3,130	3,140
250,000	-	-	-	3,520	4,310	4,850	4,910	4,950
500,000	-	-	-	-	4,970	6,670	6,860	6,960
1,000,000	-	-	-	-	-	8,900	9,440	9,750
5,000,000	-	-	-	-	-	-	15,730	19,900
10,000,000	-	-	-	-	-	-	-	24,370

<sup>1</sup>For 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.

$$Se(\hat{Y}) = \sqrt{99\hat{Y} \left(1 - \frac{\hat{Y}}{N}\right)}$$

Where:  
 $N$  = Size of area  
 $\hat{Y}$  = Estimate of characteristic total

<sup>2</sup>Total count of persons, housing units, or families in area if the estimated total is a person, housing unit, or family characteristic, respectively.

Table D - Unadjusted Standard Error for Estimated Percentages, 1 Percent Sample  
(Standard errors expressed in percentage points)

Estimated Percent	Base (weighted total) of percentage <sup>1</sup>										
	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	4.4	3.6	2.8	2.0	1.6	1.4	0.9	0.6	0.4	0.3	0.2
5 or 95	6.9	5.6	4.3	3.1	2.5	2.2	1.4	1.0	0.7	0.4	0.3
10 or 90	9.4	7.7	6.0	4.2	3.4	3.0	1.9	1.3	0.9	0.6	0.4
15 or 85	11.2	9.2	7.1	5.0	4.1	3.6	2.2	1.6	1.1	0.7	0.5
20 or 80	12.6	10.3	8.0	5.6	4.6	4.0	2.5	1.8	1.3	0.8	0.6
25 or 75	13.6	11.1	8.6	6.1	5.0	4.3	2.7	1.9	1.4	0.9	0.6
30 or 70	14.4	11.8	9.1	6.4	5.3	4.6	2.9	2.0	1.4	0.9	0.6
35 or 65	15.0	12.8	9.5	6.7	5.5	4.7	3.0	2.1	1.5	0.9	0.7
50	15.8	12.8	9.9	7.0	5.7	5.0	3.1	2.2	1.6	1.0	0.7

<sup>1</sup>For a percentage and/or base of percentage not shown in the table, the formula given below may be used to calculate the standard error.

$$Se(\hat{p}) = \sqrt{\frac{99}{B} \hat{p}(100-\hat{p})}$$

Where:  
 $B$  = Base (weighted total) of estimated percentage  
 $\hat{p}$  = Estimated percentage

Table E - Unadjusted Standard Errors for Estimated Totals, 0.1 Percent Sample

Estimated Total <sup>1</sup>	Size of Geographic Area Tabulated <sup>2</sup>								in 25 Million
	50,000	100,000	250,000	500,000	1 Million	5 Million	10 Mil		
1,000	990	990	1,000	1,000	1,000	1,000	1,000	1,00	1,100
2,500	1,540	1,560	1,570	1,580	1,580	1,580	1,580	1,580	1,580
5,000	2,120	2,180	2,210	2,220	2,230	2,230	2,230	2,230	2,230
10,000	2,830	3,000	3,100	3,130	3,140	3,160	3,160	3,160	3,160
15,000	3,240	3,570	3,750	3,810	3,840	3,870	3,870	3,870	3,870
25,000	3,530	4,330	4,740	4,870	4,930	4,980	4,980	5,000	5,000
75,000	-	4,330	7,240	7,980	8,330	8,590	8,590	8,640	8,640
100,000	-	-	7,740	8,940	9,480	9,890	9,890	9,970	9,970
250,000	-	-	-	11,170	13,690	15,400	15,400	15,720	15,720
500,000	-	-	-	-	15,300	21,200	21,200	22,120	22,120
1,000,000	-	-	-	-	-	28,270	28,270	30,970	30,970
5,000,000	-	-	-	-	-	-	46,770	63,210	63,210
10,000,000	-	-	-	-	-	-	-	77,420	77,420

<sup>1</sup>For 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.

$$Se(\hat{Y}) = \sqrt{\frac{999\hat{Y}}{N}(1 - \frac{\hat{Y}}{N})} \quad \text{Where:}$$

$\hat{Y}$  = Estimate of characteristic total  
 $N$  = Size of area

<sup>2</sup>Total count of persons, housing units, or families in area if the estimated total is a person, housing unit, or family characteristic, respectively.

Table F - Unadjusted Standard Error for Estimated Percentages, 0.1 Percent Sample  
(Standard errors expressed in percentage points)

Estimated Percent	Base (weighted total) of percentage <sup>1</sup>									
	1,500	2,500	5,000	7,500	10,000	25,000	50,000	100,000	200,000	500,000
2 or 98	11.4	8.8	6.3	5.1	4.4	2.8	2.0	1.4	0.9	0.6
5 or 95	17.8	13.8	9.7	8.0	6.9	4.4	3.1	2.2	1.4	1.0
10 or 90	24.5	19.0	13.4	10.9	9.5	6.0	4.2	3.0	1.9	1.3
15 or 85	29.1	22.6	16.0	13.0	11.3	7.1	5.0	3.6	2.3	1.6
20 or 80	32.6	25.3	17.9	14.6	12.6	8.0	5.7	4.0	2.5	1.8
25 or 75	35.3	27.4	19.4	15.8	13.7	8.7	6.1	4.3	2.7	1.9
30 or 70	37.4	29.0	20.5	16.7	14.5	9.2	6.5	4.5	2.9	2.0
35 or 65	38.9	31.2	21.3	17.4	15.1	9.5	6.7	4.8	3.0	2.1
50	40.8	31.6	22.3	18.2	15.8	10.0	7.1	5.0	3.2	2.2

<sup>1</sup>For a percentage and/or base of percentage not shown in the table, the formula given below may be used to calculate the standard error.

$$Se(\hat{p}) = \sqrt{\frac{999}{B}\hat{p}(100-\hat{p})} \quad \text{Where:}$$

$B$  = Base of estimated percentage (weighted total)  
 $\hat{p}$  = Estimated percentage

**TABLE G: Standard Error Adjustment Factors**

Characteristic	Factor	Characteristic	Factor
<b>POPULATION</b>		<b>HOUSING</b>	
Urban and Rural	1.0	Occupancy and Vacancy	
Age, Sex, Race, and Spanish Origin	1.2	Status	1.1
Household Type	1.1	Tenure	1.1
Household Relationship	1.3	Units in Structure	1.1
Household Size	1.1	Stories in Structure	1.0
Marital Status	1.0	Passenger Elevator	1.0
Language Usage and Ability to Speak English	1.5	Source of Water	1.1
Ancestry	1.7	Sewage Disposal	1.1
Type of Group Quarters	0.9	Year Structure Built	1.1
Citizenship, Place of Birth, and Year of Immigration	2.1	Year Householder Moved	
Residence in 1975	3.6	Into Housing Unit	1.1
Place of Work	2.2	Heating Equipment and Fuels	1.2
Travel Time to Work	1.8	Kitchen or Plumbing	
Means of Transportation to Work and Private Vehicle Occupancy	1.3	Facilities	1.1
School Enrollment	1.5	Number of Rooms, Bedrooms, or Bathrooms	1.1
Years of School Completed	1.2	Telephone in Housing Unit	1.1
Veteran Status and Period of Service	1.1	Air Conditioning	1.1
Work & Public Transportation Disability	1.2	Vehicles Available	1.1
Labor Force Status	1.3	Gross Rent, Contract Rent, or Value	1.1
Hours Worked Per Week and Weeks Worked in 1979	1.2	Inclusion of Utilities in Rent	1.1
Unemployment in 1979	1.2	Mortgage Status and Selected Monthly Owner Costs	1.1
Industry and Occupation	1.2		
Class of Worker	1.3		
Household Income	1.1		
Income Type	1.3		
Family Income	1.1		
Unrelated Individual Income	1.2		
Workers in Family	1.3		
Poverty Status - Family	1.1		
Poverty Status - Persons	2.0		
Poverty Status - Unrelated Individuals	1.2		

### Confidence Intervals And Inferences Based On The Sample

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, with a known probability, the value of the estimated characteristic that would be obtained by averaging the estimates from all possible samples. For example, if all possible samples that could result under the 1980 public-use microdata 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; and
- (2) 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 and 95-percent confidence intervals, respectively.

One may be tempted to think of a confidence interval in terms such as these: that the number we are trying to estimate, the average value calculated over all possible samples, has a given probability of falling between the upper and lower limits of that interval. Actually this is not technically correct, since the average estimate from all possible samples already exists, though its value is unknown, and it remains the same regardless of which of the possible samples we select. Rather, it is the confidence interval which varies from sample to sample. Thus, one can say, with a specified probability or level of confidence, that the confidence interval, as calculated from the particular sample selected, includes the average estimate from all possible samples.

Confidence intervals may also be constructed for the difference between two sample figures. This is done by computing the difference between these figures, obtaining the standard error of the difference and then forming a confidence interval for this estimated difference as above. For the difference between two sample estimates (totals or percentages), the standard error is approximately the square root of the sum of the standard errors for each estimate squared; that is for standard errors  $Se(\hat{x})$  and  $Se(\hat{y})$  of estimated totals  $\hat{x}$  and  $\hat{y}$ , the standard error of the differences between  $\hat{x}$  and  $\hat{y}$  is:

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

The formula for the standard error between two percentages is similarly defined.

This method will, however, overestimate the standard error if the two estimates ( $\hat{x}$  and  $\hat{y}$ ) are positively correlated, or underestimate the standard error if they are negatively correlated.

Example 3: Confidence interval for a total - To illustrate the calculation of a confidence interval consider the previous example, where the standard error of the estimated 35,800 persons in Alaska who were 18 years and over who speak a language other than English was found to be 2,700. An approximate 95-percent

confidence interval for this estimated total is obtained by adding and subtracting twice the standard error from the estimated total. In this example the 95-percent confidence interval is:

$$35,800 - 2 (2,700) \text{ to } 35,800 + 2 (2,700)$$

-or-

$$30,400 \text{ to } 41,200.$$

One can say with about 95-percent confidence that this interval includes the value that would have been obtained by averaging the estimates obtainable from all possible samples.

Selecting an appropriate sample size - One virtue in the use of tables A to G for calculating standard errors and confidence intervals is that this method can be employed prior to making any sample tabulations, and thus can help the user decide prior to purchase whether a 5-percent, 1-percent or 0.1-percent sample size is most appropriate for a proposed study. Suppose that, in the foregoing example, the 35,800 figure was a guess, perhaps based on published data. The confidence interval could be calculated as above. In this case, it is apparent that tabulating a 1-percent sample for this particular characteristic would result in a rather broad confidence interval: 30,400 to 41,200. On the other hand, if one assumed that tabulations will be made using a 5-percent sample instead, the confidence interval could be recalculated using table A, and found to be to 33,000 to 38,200, a much narrower range. There is no particular rule of thumb that dictates how large a confidence interval is acceptable: this depends on the relative precision necessary for a particular application as balanced against the relative cost of tabulating microdata samples of the various sizes.

Example 4: Confidence interval for a difference -The use of standard errors and confidence intervals can also be illustrated for a difference of two estimated percentages. Suppose that, from a 1% microdata sample for Hawaii, we tally 1,997 persons 18 years and over who speak a language other than English at home, of whom 395 speak English 'not well' or 'not at all'. Thus the percentage of persons 18 years and over who speak a language other than English at home who speak English 'not well' or 'not at all' is 19.8 percent. The unadjusted standard error interpolated from Table D (using 199,700 as the base of the percentage) is 0.96 percent. The adjustment factor is 1.5 for 'Language Usage and the Ability to Speak English' and the approximate standard error of the percentage (19.8 percent) is  $0.96 \times 1.5 = 1.4$  percentage points.

The difference between the percentages of persons in Alaska and Hawaii who are 18 years and over who speak a language other than English at home, who speak English 'not well' or 'not at all' is

$$19.8 - 12.7 = 7.1 \text{ percent.}$$

The standard error of the difference,  $Se(7.1)$ , is

$$\begin{aligned} Se(7.1) &= \sqrt{(Se(19.8))^2 + (Se(12.7))^2} \\ &= \sqrt{(1.4)^2 + (0.80)^2} \\ &\approx 1.6 \text{ percent.} \end{aligned}$$

The 95-percent confidence interval for the difference is formed as before and is

$$7.1 - 2(1.6) \text{ to } 7.1 + 2(1.6)$$

-or-

$$3.9 \text{ to } 10.3.$$

One can say with 95-percent confidence that the interval includes the difference that would have been obtained by averaging the results from all possible samples. When, as in this example, the interval does not include zero, one can conclude, again with 95-percent confidence, that the difference observed between the two States on this characteristic is greater than can be attributed to sampling error.

#### Adjusting Tables A Through F For Other Sample Sizes

Tables A through F may also be used to approximate the unadjusted standard errors for other sample sizes by adjusting for the sample size desired. The adjustment for sample size is obtained as follows:

Let:

$f_1$  be the sampling rate shown in any of Tables A through F.  
 $f_2$  be the sampling rate for the sample size to be used.

Then the adjustment for sample size can be read from the following table.

$f_2$	Sample Size Adjustment Factor
0.07	0.84
0.06	0.91
0.04	1.12
0.03	1.30
0.02	1.61
0.009	1.06
0.007	1.20
0.005	1.42
0.003	1.83
0.002	2.25
0.0009	1.05
0.0005	1.41
0.0001	3.16

Multiply the standard errors in tables A or B (where  $f_1 = 0.05$ ) by this factor.

Multiply the standard errors in tables C or D (where  $f_1 = 0.01$ ) by this factor.

Multiply the standard errors in tables E or F (where  $f_1 = 0.001$ ) by this factor.

For example, if the user were to select a subsample of one half of a one-percent sample, i.e.,  $f_2 = 0.005$ , then the standard errors shown in Table C or D for a one-percent sample must be multiplied by 1.42 to obtain the standard errors for a 0.005 sample. The factor of 1.42 shows that the standard errors increase by 42 percent when the sample size is halved. (Although migration, place of work and travel time data are available only for one half of the sample, it is not necessary to multiply standard errors for those figures by 1.42, since the sample reduction is already reflected in the factors in Table G).

The principle is also applicable when combining microdata samples to achieve a sample size larger than five percent. If, for instance, all three samples are combined for the same area, the standard errors for this sample size (i.e. seven percent) can be obtained by multiplying those shown in Tables A and B by 0.84. Thus the increase from a 5-percent to a 7-percent sample reduces the standard error by approximately sixteen percent.

Alternatively, the user may wish to use the following formulas to directly calculate the unadjusted standard errors.

For estimated totals, calculate

$$Se(\hat{Y}) = \sqrt{\left(\frac{1}{f_2} - 1\right) \hat{Y} (1-\hat{Y}/N)}$$

where:

$N$  = size of area tabulated

$\hat{Y}$  = estimate (weighted) of characteristic total

For estimated percentages, calculate

$$Se(\hat{p}) = \sqrt{\left(\frac{1}{f_2} - 1\right) \frac{\hat{p}(100-\hat{p})}{B}}$$

where:

$\hat{p}$  = estimated percentage

$B$  = base of estimated percentage (weighted estimate)

### Estimation Of Standard Errors Directly From The Microdata Samples

Use of tables or formulas to derive approximate standard errors as discussed above is simple, inexpensive, and does not complicate processing. Nonetheless, a more accurate estimate of the standard error can be obtained from the samples themselves using the random group method. Using this method it is also possible to compute standard errors for means, ratios, indexes, correlation coefficients, or other statistics for which the tables or formulas presented earlier do not apply.

The random group method does increase processing costs somewhat since it requires that the statistic of interest, for example a total, be computed separately for each of up to 100 random groups. The variability of that statistic for the sample as a whole is estimated from the variability of the statistic among the various random groups within the sample. The procedure for calculating a standard error by the random group method for various statistics is given below.

Totals - to obtain the standard errors of estimated totals the following method should be used.

Let  $\hat{x} = \frac{1}{f} \cdot (x)$  be the estimated total

Where:

$f$  = the sampling fraction for the sample size used  
(e.g.,  $f = .05$  for a 5 percent sample); and

$(x)$  = the unweighted microdata sample total of the characteristic of interest.

Then the random groups estimate of the variance of  $\hat{x}$  is given by

$$\text{Var}(\hat{x}) = \left( \frac{t}{t-1} \right) \left( \frac{1}{f} \right)^2 \sum_{g=1}^t [x_g - 1/t (\sum_{g=1}^t x_g)]^2$$

Where:

$t$  = the number of random groups selected; and

$x_g$  = the unweighted microdata sample total of the characteristic of interest  
from the  $g^{\text{th}}$  random group.

The standard error of the estimated total = the square root of the estimated variance.

It is suggested that  $t=100$  for estimating the standard error of a total since, as discussed in chapter 4, each of the A, B and C Sample records was assigned a two-digit subsample number consecutively from 00 to 99. This two-digit number can be used to form the 100 random groups. For example all sample cases with 01 as the two-digit number will be in random group 1, all sample cases with 02 as the two-digit number will be in random group 2, etc., up to 00 as the one-hundredth random group. Use of  $t = 100$  will also provide maximum reliability of the estimated standard errors.

Percentages, Ratios and Means - to obtain the estimated standard error of a percent, ratio, or mean, the following method should be used.

Let  $\hat{r} = \hat{x}/\hat{y}$  be the estimated percent, ratio, or mean

Where:

$\hat{x}$  and  $\hat{y}$  = the estimated totals as defined above for the  $x$  and  $y$  characteristics.

For the case where both numerator and denominator are obtained from the full microdata sample (i.e., all data items except place of work, travel time to work and migration) or from the migration/place of work half sample, the random groups estimate of the variance of  $\hat{r}$  is given by

$$\text{Var}(\hat{r}) = \left( \frac{t}{t-1} \right) \left( \frac{1}{y} \right)^2 \sum_{g=1}^t (x_g - \hat{r}y_g)^2$$

Where:

$t$  and  $x_g$  are as defined above,

$y$  = the unweighted full microdata sample total for the  $y$  characteristic; and

$y_g$  = the corresponding unweighted total for the  $g^{\text{th}}$  random group.

If the percentage, ratio, or mean is estimated by using the migration/place of work half sample for the numerator characteristic, and the full microdata sample for the denominator characteristic, then the random group variance estimator is as follows:

$$\text{Var}(\hat{r}) = \left( \frac{t}{t-1} \right) \left( \frac{1}{y} \right)^2 \sum_{g=1}^t (2x_g - \hat{ry}_g)^2$$

Where:

All terms are as previously defined--again, use of  $t = 100$  is recommended.

#### Correlation Coefficients, and Regression Coefficients and Other Complex Statistics

Statistics - The random group method for computing the variance of correlation coefficients, regression coefficients, and other complex nonlinear statistics can be expressed as:

$$\text{Var}(\hat{\theta}) = \frac{1}{t(t-1)} \sum_{g=1}^t (\hat{\theta}_g - \hat{\theta})^2$$

Where:

$\hat{\theta}_g$  = the weighted estimate (at the tabulation area level) of the statistic of interest computed from the  $g$ th random group; and  
 $\hat{\theta}$  = corresponding weighted estimate computed from the full microdata sample.

Care must be exercised when using this variance estimator for complex nonlinear statistics as its properties have not been fully explored for such statistics. In particular, the choice of the number of random groups to be used must be considered more carefully. When using the 5 percent sample, use of  $t=100$  for all areas tabulated is recommended. When using the 1-percent sample or samples having a smaller sampling fraction, the user should consider using a smaller number of random groups to insure that each random group contains at least 25 records. Fewer than 100 random groups can be formed by appropriate combination of the two digit subsample numbers. For example, to construct fifty random groups assign all records in which the subsample number is 01 or 51 to the first random group; all records in which the subsample number is 02 or 52 to the second random group etc. Finally, assign all records in which the subsample number is 00 or 50 to random group 50. Ten random groups can be constructed by including all records having subsample numbers with the same 'units' digit in a particular random group. For example, subsample numbers 00,10,20,...,90 would form one random group; subsample numbers 01,11,...,91 would form a second random group etc. A more extensive discussion of the considerations leading to the proper choice of the number and size of the random groups is given in Hansen, Hurwitz and Madow, Sample Surveys Methods and Theory, Vol. 1, Chapter 10, section 16, page 440 ff.

Medians - The random group method given above is not applicable to a sample median. Assuming the user has calculated the median from the individual sample observations, an approximate 95-percent confidence interval can be obtained by counting  $\sqrt{n}$  observations to the left and right of the sample median value,

Where:

$n$  = the raw sample count of the number of observations on which the median is based; and,  
median = the value of the  $n/2$  observation.

Thus, the upper and lower limits of the confidence interval are the values for the  $(n/2 + \sqrt{n})$  observation and  $(n/2 - \sqrt{n})$  observation.

Additional Notes On Standard Errors

Two additional points concerning the standard errors calculated by the random group method presented in this section are important. First, the estimated standard errors obtained from this procedure do not include all portions of the variability due to nonsampling error that may be present in the data. Thus, the calculated standard errors 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 (e.g., 68 or 95-percent). Thus, some care must be exercised in the analysis of the microdata sample data based on the estimated standard errors from the random groups procedure.

Second, percentage estimates of zero and estimated totals of zero are subject to both sampling and nonsampling error. While the magnitude of the error is difficult to quantify, the user should be aware that such estimates are nevertheless subject to both sampling and nonsampling error even though in the case of zero estimates the corresponding random groups estimate of the standard error will be zero.

Control of Nonsampling Error

As mentioned above, nonsampling error is present in both sample and complete-count data. If left unchecked, this error could introduce serious bias into the data, the variability of which 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 1980 census, the Bureau of the Census attempted to control the sources of such error during the collection and processing operations. The primary sources of nonsampling error and the programs instituted for control of this error are described below. The success of these programs, however, was contingent upon how well the instructions were actually carried out during the census. To the extent possible, both the effects of these programs and the amount of error remaining after their application will be evaluated.

**Undercoverage**--It is possible for some housing units or persons to be entirely missed by the census. This undercoverage of persons and housing units can introduce biases into the data. Several extensive programs were developed to focus on this important problem.

- The Postal Service reviewed mailing lists and reported housing unit addresses which were missing, undeliverable, or duplicated in the listings.
- The purchased commercial mailing list was updated and corrected by a complete field review of the list of housing units during a precanvass operation.
- A record check was performed to reduce the undercoverage of individual persons in selected areas. Independent lists of persons, such as driver's license holders, were matched with the household rosters in the census listings. Persons not matched to the census rosters were followed up and added to the census counts if they were found to have been missed.
- A recheck of housing units initially classified as vacant or non-existent was utilized to further reduce the undercoverage of persons.

More extensive discussions of programs developed to reduce undercoverage will be published as the analyses of those programs are 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 by offering incorrect or incomplete information. To reduce this source of error, questions were phrased as clearly as possible based on precensus tests, and detailed instructions for completing the questionnaire were provided to each housing unit. In addition, respondents' answers were edited for completeness and consistency and followed up as necessary. For example, if labor force items were incomplete for a person 15 years and over, long-form field edit procedures would recognize the situation and a followup attempt to obtain the information would be made.

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 housing unit; or may collect data for housing units that were not designated as part of the sample. To control these problems, the work of enumerators was carefully monitored. Field staff were prepared for their tasks by using standardized training packages which included experience in using census materials. A sample of the housing units 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 housing units not designated for the sample.

**Processing Error** - The many phases of processing the census 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 allocation procedure using respondent data may not completely reflect this difference either at the element 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 substantially reduced during the field operations by the various edit and followup operations aimed at obtaining a response for every question. Characteristics of the nonresponses remaining after this operation were allocated by computer as discussed below.

#### Editing of Unacceptable Data

The objective of the processing operation is to produce a set of statistics that describes the population as accurately and clearly as possible. To meet this objective, certain unacceptable entries were edited.

In the field, questionnaires were reviewed for omissions and certain inconsistencies by a census clerk or an enumerator and, if necessary, a followup was made to obtain missing information. In addition, a similar review of questionnaires was done in the central processing offices. As a rule, however, editing was performed by hand only when it could not be done effectively by machine.

As one of the first steps in editing, the configuration of marks on the questionnaire column was scanned electronically to determine whether it contained information for a person or merely spurious marks. If the column contained entries for at least two of the basic characteristics (relationship, sex, race, age, marital status, Spanish origin), the inference was made that the marks represented a person. In cases in which two or more basic characteristics were available for only a portion of the people in the unit, other information on the questionnaire provided by an enumerator was used to determine the total number of persons. Names were not used as a criterion of the presence of a person because the electronic scanning did not distinguish any entry in the name space.

If any characteristics for a person were still missing when the questionnaires reached the central processing offices, they were supplied by allocation. Allocations, or assignments of acceptable codes in place of unacceptable entries, were needed most often when the entry for the given item is lacking or when the information reported for a person on that item was inconsistent with entries for other persons with similar characteristics. Thus, a person who was reported as a 20-year-old son of the householder, but for whom marital status was not reported, was assigned the same marital status as that of the last son processed in the same age group. The assignment of acceptable codes in place of blanks or unacceptable entries, it is believed, enhances the usefulness of the data.

The 1980 census data on the economic questions such as industry, occupation, class of worker, work experience, and income were processed using an allocation system which assigned values to missing entries in these questions, as necessary, from a single respondent with similar socioeconomic characteristics. In the 1970 census, allocation of each of the economic items was conducted separately; thus, assigned values could come from more than one respondent.

Prior to the allocation of all economic variables, the computer records were sorted according to such characteristics as sex, race and ethnicity, household relationship, years of school completed, and geographic area. The actual allocation operation was implemented in the following manner:

1. The computer stored, in a series of matrices, reported economic information of persons by selected characteristics such as age, disability status, presence of children, veteran's status, employment status, occupation, industry, class of worker status, work experience in 1979, level of earnings in 1979, and value of property or monthly rent.
2. The stored entries in the various matrices were retained in the computer only until a succeeding person having the same set of characteristics was processed through the computer. Then the economic question responses of the succeeding person were stored in place of those previously stored.

3. When one or more of the economic questions was not reported, or the entry was unacceptable, the variables assigned to this person were those stored in the appropriate matrix for the last person who otherwise had the same set of characteristics.

The use of this single allocation system ensured that the distribution of economic variable assignments would correspond closely to the entries of persons who had actually reported in the census.

Specific tolerances were established for the number of computer allocations and substitutions that would be permitted. If the number of corrections was beyond tolerance, the questionnaires in which the errors occurred were clerically reviewed. If it was found that the errors resulted from damaged questionnaires, from improper microfilming, from faulty reading by FOSDIC of undamaged questionnaires, or from other types of machine failure, the questionnaires were reprocessed.

The impact of the editing performed on 1980 census data can be gauged by reviewing allocation tables in selected reports based on the complete count--PC80-1-B tables B-1 to B-4 and HC80-1-A tables A-1 and A-2-- and from the full census sample--PC80-1-C tables C-1 to C-5 and HC80-1-B tables B-1 and B-2. Most of these tables provide rates of allocation for the various items. Two tables (PC80-1-B:B-1 and PC80-1-C:C-2) allow comparison of simple distributions as published (i.e., 'after allocation') with corresponding distributions where missing values were not imputed (i.e., 'before allocation'). An additional editing process, substitution, referred to in the complete-count reports, is not applicable to data from the full census sample or public-use microdata samples.

#### Use of Allocation Flags in These Files

As a result of the editing there are no blank fields or missing data in public-use microdata sample files. Each field contains a data value or a 'not applicable' indicator, except for the few items where allocation was not appropriate and a 'not reported' indicator is included. For every subject item it is possible for the user to differentiate between entries which were actually reported by the respondent and entries which were allocated, by means of 'allocation flags' in items H117 through H162 and P140 through P193 in the microdata files. For all items it is possible to compute the allocation rate and, if the rate is appreciable, to compute the distribution of actually observed values (with allocated data omitted) and compare it with the overall distribution including allocated values.

Descriptions of many of the allocation flags indicate more than one possible type of allocation. 'Consistency edits' or 'assignments' imputed missing characteristics based on other information recorded for the person or housing unit; for example, if the marital status was missing for a person with a reported relationship of husband/wife, the imputation of 'married' was termed a consistency edit. 'Hot deck' allocation supplied the missing information from the record of another person or housing unit with similar characteristics. 'Cold deck' allocation, employed for only a few items, supplied missing information from a predetermined distribution; for example, a missing quarter of birth was assigned at random with equal probability given to each of the possible 4 categories. Those flags designated 'pre-edit' indicate that the original entry was rejected because it fell outside the range of acceptable values.

In general, the allocation procedures provide better data than could be obtained by simply weighting up the observed distribution to account for missing values. The procedures reflect local variations in characteristics as well as variation among the strata used in imputation. There are, however, certain circumstances where allocated data may introduce undesirable bias. It may be particularly important to analyze allocations of data in detailed studies of subpopulations or in statistics derived from cross-classification of variables, such as correlation coefficients or measures of regression. The degree of editing required was greater for some subjects than for others. While the allocation procedure was designed to yield appropriate statistics for the overall distribution or for specific subpopulations (the strata used in the allocation process), allocated characteristics will not necessarily preserve a valid relationship with other observed variables for the same individual. For example, consider a tabulation of persons 80 years old and over by income. Income allocations were made separately for different age groupings, including the category 65 years old and over, but not separately for persons 80 years old and over. Since persons 65 to 70 or 75 are more likely to have significant earnings than persons 80 or over, allocated income data for the latter group would be biased upward. Thus, if the rate of allocations for the group is appreciably large and a bias in the allocated values is evident, it may be desirable to exclude allocated data from the analysis.

It should also be apparent from this illustration that knowledge of the specific allocation procedures is valuable in detailed subject analysis. Descriptions of the editing and allocation procedures for each item are being incorporated in the History of the 1980 Census of Population and Housing to be published in 1985. An advance copy of the procedural descriptions for desired items can be requested from the Census History Staff, Data User Services Division, Bureau of the Census, Washington, D.C. 20233. A user may contact either Population Division or Housing Division, Bureau of the Census, if more information is desired on the allocation scheme for a specific subject item.

## CHAPTER 4: SAMPLE DESIGN FOR THE PUBLIC-USE MICRODATA SAMPLES

This chapter discusses the selection procedure for the public-use microdata samples in terms of three major operations (1) the selection of the full 1980 census sample, (2) the estimation procedure for the full census sample, and (3) the selection of the public-use microdata samples from the persons and housing units included in the full 1980 census sample, using weights derived from the full sample estimation procedure.

### 1980 Census Sample Design and Estimation Procedure

While every person and housing unit in the United States was enumerated on a questionnaire that requested certain basic demographic information (e.g. age, race, relationship), a sample of persons and housing units was enumerated on a questionnaire that requested additional information. The basic sampling unit for the 1980 census was the housing unit, including all occupants. For persons living in group quarters, the sampling unit was the person. Two sampling rates were employed. In counties, incorporated places and minor civil divisions estimated to have fewer than 2500 persons (based on precensus estimates), one-half of all housing units and persons in group quarters were to be included in the sample. In all other places, one-sixth of the housing units or persons in group quarters were sampled. The purpose of this scheme was to provide relatively more reliable estimates for small places. When both sampling rates were taken into account across the Nation, approximately 19 percent of the Nation's housing units were included in the census sample.

The sample designation method depended on the data collection procedures. In about ninety-five percent of the country the census was taken by the mailout/mailback procedure. For these areas, the Bureau of the Census either purchased a commercial mailing list which was updated and corrected by 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 every sixth unit (for 1-in-6 areas) or every second unit (for 1-in-2 areas) was designated as a sample unit by computer. Both of these lists were also corrected by the Post Office.

In non-mailout/mailback areas, a blank listing book with designated sample lines (every sixth or every second line) was prepared for the enumerator. Beginning about Census Day, the enumerator systematically canvassed the areas and listed all housing units in the listing book in the order they were encountered. Completed questionnaires, including sample information for any housing unit which was listed on a designated sample line, were collected.

In both types of data collection procedure areas, an enumerator was responsible for a small geographic area known as an enumeration district, or ED. An ED usually represented the average workload area for one enumerator.

In order to reduce the cost of processing the full census sample, a scheme was designed, while the sample questionnaires were being processed, to select a sample of questionnaires on which the travel time to work, place of work and migration data items would be coded (hereafter referred to as POW/MIG items). The sample questionnaires were processed by work units consisting of 1980 census EDs. In work units (EDs) where these data items had not yet been coded, every second sample questionnaire within the work unit was selected for these coding operations. In work units where the POW/MIG data items already had been coded, all sample questionnaires were included in tabulations.

### Estimation Procedure For Published Sample Data

The estimates which appear in census sample publications were obtained from an iterative ratio estimation procedure which resulted 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 in the tabulation area which possessed the characteristic. Estimates of family characteristics were based on the weights assigned to the family members designated as householders. Each sample person or housing unit record was assigned one weight to be used to produce estimates of all characteristics. (Persons with the migration, travel time to work, and place of work characteristic received an additional weight.) For example, if the weight given to a sample person or housing unit had the value five, all characteristics of that person or housing unit would be tabulated with a weight of five. The estimation procedure, however, did assign weights which vary 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 were generally formed of adjoining portions of geography, which closely agreed with census tabulation areas within counties. Weighting areas were required to have a minimum sample of 400 persons. Weighting areas were never allowed to cross state or county boundaries. In small counties with a sample count of less than 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 three stages. For persons the first stage employed seventeen household-type groups. The second stage used two groups: householders and nonhouseholders. The third stage could potentially use 160 age-sex-race-Spanish origin groups. The stages were as follows:

#### 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 persons in housing unit through 8-or-more persons<br>in housing unit |
| Persons in All Other Housing Units.                                   |  |
| 11  | 1 person in housing unit   |
| 12-16   | 2 persons in housing unit through 8-or-more persons in housing unit    |
| 17  | Persons in Group Quarters.   |

Stage II - Householder/Nonhouseholder**Group**

- 1      Householder  
 2      Nonhouseholder (including persons in group quarters)

Stage III - Age/Sex/Race/Spanish Origin**Group****White Race****Persons of Spanish Origin****Male**

- 1      0 to 4 years of age  
 2      5 to 14 years of age  
 3      15 to 19 years of age  
 4      20 to 24 years of age  
 5      25 to 34 years of age  
 6      35 to 44 years of age  
 7      45 to 64 years of age  
 8      65 years of age or older

**Female**

- 9-16     Same age categories as groups 1 to 8

**Persons Not of Spanish origin**

- 17-32    Same age and sex categories as groups 1 to 16

**Black Race**

- 33-64    Same age-sex/Spanish origin categories as groups 1 to 32

**Asian, Pacific Islander Race**

- 65-96    Same age-sex/Spanish origin categories as groups 1 to 32

**Indian (American) or Eskimo or Aleut Race**

- 97-128   Same age-sex/Spanish origin categories as groups 1 to 32

**Other Race (includes those races not listed above)**

- 129-160   Same age-sex/Spanish origin categories as groups 1 to 32

Within a weighting area, the first step in the estimation procedure was to assign each sample person record an initial weight. This weight was approximately equal to the inverse of the probability of selecting a person for the census sample, for example 6 in a 1-in-6 area.

The next step in the estimation procedure was to combine, if necessary, the groups within each of the three stages prior to the repeated ratio estimation in order to increase the reliability of the ratio estimation procedure. For the first and second stages, any group that did not meet certain criteria concerning the unweighted sample count or the ratio of the complete count 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 third stage, the 'Other' race category was collapsed with the 'White' race category before the application of the above collapsing criteria as well as an additional criterion concerning the number of complete count persons in each category.

As a final step, the initial weights underwent three stages of ratio adjustment which used the groups listed 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. Finally, the stage II weights were adjusted at stage III by the ratio of the complete census count and the sum of the stage II weights for sample persons in each stage III group. The three stages of adjustment were performed twice (two iterations) in the order given above. The weights obtained from the second iteration for stage III 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 for the persons in a particular group was 7.2, then one-fifth of the sample persons in this group were randomly assigned a weight of 8 and the remaining four-fifths received a weight of 7.

Separate weights were derived for tabulating the travel time to work, place of work, and migration data items. The weights were obtained by adjusting the weight derived above for persons on questionnaires selected for coding by the reciprocal of the ED coding rate and a ratio adjustment to ensure that the sum of the weights and the complete-count total population figure would agree.

The ratio estimation procedure for housing units was essentially the same as that for persons. The major difference was that the occupied housing unit ratio estimation procedure was done in two stages and the vacant housing unit ratio estimation procedure was done in one stage. The first stage for occupied housing units employed sixteen household type categories and the second stage could potentially use 190 tenure-race-Spanish origin-value/rent groups. For vacant housing units three groups were utilized. The stages for the ratio estimation for housing units were as follows:

#### **Occupied housing units**

##### **Stage I - Type of Household**

###### **Group**

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

###### **Housing Units with a Family Without Own Children Under 18**

- 6-10     2 persons in housing unit through 8-or-more persons in housing unit

###### **All Other Housing Units**

- 11      1 person in housing unit
- 12-16    2 persons in housing unit through 8-or-more persons in housing unit

Stage II - Tenure/Race and Origin of Householder/Value or Rent**Owner**

White race (Householder)

**Group** Persons of Spanish origin (Householder)  
Value of house

1	\$ 0 - \$ 9,999
2	\$ 10,000 - \$ 19,999
3	\$ 20,000 - \$ 24,999
4	\$ 25,000 - \$ 49,999
5	\$ 50,000 - \$ 99,999
6	\$100,000 - \$149,999
7	\$150,000 +
8	Other Owners

Persons not of Spanish Origin

Same value categories as groups 1 to 8

**Black Race**

Same value - Spanish origin categories as groups 1 to 16

**Asian, Pacific Islander Race**

Same value - Spanish origin categories as groups 1 to 16

**Indian (American) or Eskimo or Aleut Race**

Same value - Spanish origin categories as groups 1 to 16

**Other Race (includes those races not listed above)**

Same value - Spanish origin categories as groups 1 to 16

**Renter****White Race**

Persons of Spanish origin

## Rent categories

81	\$ 1 - \$ 59
82	\$ 60 - \$ 99
83	\$100 - \$149
84	\$150 - \$199
85	\$200 - \$249
86	\$250 - \$299
87	\$300 - \$399
88	\$400 - \$499
89	\$500 +
90	Other Renter
91	No Cash Rent

Persons not of Spanish origin

Same rent categories as groups 81 to 91

**Black Race**

Same rent - Spanish origin categories as groups 81 to 102

**Asian, Pacific Islander Race**

Same rent - Spanish origin categories as groups 81 to 102

**Indian (American) or Eskimo or Aleut Race**

Same rent - Spanish origin categories as groups 81 to 102

**Other Race (includes those not listed above)**

Same rent - Spanish origin categories as groups 81 to 102

**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 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.

**Selection of the Public-Use-Microdata Samples**

A stratified systematic selection procedure with probability proportional to a measure of size was used to select each public-use microdata sample. The sampling elements were the occupied housing unit including all occupants, the person in group quarters or the vacant housing unit. The measure of size was the full sample weight that resulted from the 1980 census ratio estimation procedure described above.

It was also necessary to employ a subsampling scheme to yield microdata samples with a consistent proportion of cases, from area to area, for which place of work, travel time and migration were coded. The subsampling scheme resulted in the occasional designation of selected microdata sample elements for which the place of work, travel time and migration information was blanked. This subsampling scheme was instituted so that the POW/MIG data would be uniformly available for one half of all microdata cases, not half in most areas but more than half in other areas. Thus, each 1-percent microdata sample gives a 0.5-percent sample of records containing POW/MIG data, and the 5-percent microdata sample gives a 2.5-percent sample for POW/MIG data. The subsampling scheme was also based on a probability-proportional-to-size sampling scheme which utilized measures of size based on both the POW/MIG half-sample and full sample weights.

The sample selection procedures were as follows. First, the sample units were stratified during the selection process. This stratification was intended to improve the reliability of the 5-percent, 1-percent, and 0.1-percent samples by defining strata within which there is an appreciable degree of homogeneity among the census sample households with respect to characteristics of major interest.

A total of 102 strata were defined: 72 strata for persons living in occupied housing units; 24 strata for persons in group quarters (CQ); and 6 strata for vacant housing units. The strata are shown on Figures 6, 7, and 8.

The sample selection procedures were applied on a state-by-state basis to obtain the microdata samples. Briefly, for any particular state, the procedure to accomplish the sample selection consisted of creating a number of cells in the computer which correspond to each of the strata defined above. A random value was assigned to each cell and the sample edited detail file (i.e., the internal-use microdata from the full census sample) was then passed and the appropriate

Figure 6. Strata For Occupied Housing Units

Sampling Rate of ED	ROW/MIC <sup>1</sup> Coding Status	ROW/MIC Coded				Non-ROW/MIC Coded			
		White/Asian & Pacific Islander/Other		Black/ Amer. Indian Eskimo Or Aleut	White/Asian & Pacific Islander/Other		Black/ Amer. Indian Eskimo Or Aleut		
		Spanish	Non-Spanish		Spanish	Non-Spanish			
Household Type	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter
1-In-6	Family With Own Children Under 18								
	Family Without Own Children Under 18								
	Other Household (Non-family)								
Not 1-In-6	Family With Own Children Under 18								
	Family Without Own Children Under 18								
	Other Household (Non-family)								

<sup>1</sup>ROW/MIC is used to denote the place of work, travel time to work and migration data items.

Figure 7. Strata For Group Quarters Persons

Sampling Rate of ED	ROW/MIC <sup>1</sup> Coding Status	ROW/MIC Coded				Non-ROW/MIC Coded			
		White/Asian & Pacific Islander/Other		Black/ Amer. Indian Eskimo Or Aleut	White/Asian & Pacific Islander/Other		Black/ Amer. Indian Eskimo Or Aleut		
		Spanish	Non-Spanish		Spanish	Non-Spanish			
CQ Type	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter	Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter Owner Renter
1-In-6	CQ Inmate								
	Other CQ Persons								
Not 1-In-6	CQ Inmate								
	Other CQ Persons								

<sup>1</sup>ROW/MIC is used to denote the place of work, travel time to work and migration data items.

Figure 8. Strata for Vacant Housing Units

Sampling Rate of ED	1 - in - 6	Not 1 - in - 6
Vacant, For Sale		
Vacant, for Rent		
Vacant, Other		

weight from each sample housing unit/CQ person was cumulated into the cell corresponding to the appropriate stratum for each unit/person. For occupied housing units, the full sample person weight assigned to the householder of the unit was used. For CQ persons, the full sample person weight was used, while for vacant housing units, the full sample housing unit weight was used.

For a given 1-percent sample, when a unit/person caused the cumulation to exceed 100, that unit/person was designated for the sample, and the value of the cell was reset. The procedure was then repeated. For the 5-percent sample selection, the procedure was the same except that the cumulation cut-off was 20 instead of 100. The starting value of each cell was set so as to minimize the likelihood that any one case would be selected into more than one public-use microdata sample, and the overlap among the samples may be considered negligible. There is a small probability that a given individual unit (one with a high census weight) may have been selected into the 5-percent sample more than once, but this duplication should not have any particularly undesirable consequences.

The POW/MIG subsampling operation was performed by first assigning each selected microdata unit, from the POW/MIG coded strata, a measure equal to the ratio of the POW/MIG half-sample weight to the full sample weight for the selected microdata unit. These measures were cumulated from the selected microdata sample units until the cumulation exceeded 2. The POW/MIG data for the units which caused the cumulation to exceed 2 was retained; otherwise, the POW/MIG information was blanked.

#### Selection of One-In-One-Thousand and Other Subsamples

During the sample selection operation, consecutive two-digit subsample numbers from 00 to 99 were assigned to each sample case in the five-percent and one-percent samples to allow for the designation of various size subsamples and as discussed in chapter 3 to allow for the calculation of standard errors. As an example, for a B or C one-percent public-use microdata sample, the choice of records having subsample numbers with the same 'units' digit (e.g., the ones 'units' digit includes subsample numbers 01, 11, 21, ... 91) will provide a one-in-one-thousand subsample.

The Bureau has chosen one one-in-one thousand subsample from each of the A, B, and C public-use microdata samples. The one-in-one-thousand subsample from the A Sample was obtained by selecting those records with a subsample number of 13 or 63. The one-in-one-thousand subsamples from the B and C Samples were obtained by selecting those records with subsample number having a units digit of 4 on the B Sample, or a units digit of 9 on the C Sample, ignoring the tens digit of the two-digit subsample number.

Samples of any size between 1/20 and 1/10,000 may be selected in a similar manner by using appropriate two-digit subsample numbers assigned to the A, B, or C microdata samples. Care must be exercised when selecting such samples. If only one 'units' digit is required, the 'units' digit should be randomly selected. If two 'units' digits are required, the first should be randomly selected and the second should be either five more or five less than the first. Failure to use this procedure, e.g., selection of records with the same 'tens' digit instead of records with the same 'units' digit, would provide a one-in-ten subsample but one that would be somewhat more clustered and as a result subject to larger sampling error.

## CHAPTER 5: RECORD CONTENTS

This chapter, in conjunction with several appendices, defines the record layout and applicable codes for the public-use microdata samples. The detailed data dictionary begins on page 55 for the housing record and page 75 for the person record, with explanatory notes on page 54.

An index to the basic data items begins below, followed on page 50, by an index to allocation items. Compact lists in numerical sequence of the items on the housing and person records appear on pages 52 and 53. In these introductory pages, data fields are specified in the form 'H9' or 'P12-13,' where the letter indicates the Housing or Person record and the numbers indicate the character positions occupied on that record. For example, 'P12-13' is a two-character field beginning in character 12 of the person record. In the data dictionary, itself, the 'P' or 'H' designation appears only at the top of the page, and location is expressed in terms of two separate elements, the beginning location and the size.

### INDEX TO ITEMS

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
P31	ENGLISH	Ability to Speak English
P86	ABLE	Able to Take Job Last Week
P84	ABSENT	Absent From Work Last Week
H40	ACCESS	Access
H60	ACREAGE1	Acreage of Property (H10a on questionnaire)
H61	ACREAGE2	Acreage of Property (H15a on questionnaire)
P44	COLL75	Activity Status in 1975: Attending College
P43	AF75	Activity Status in 1975: In Armed Forces
P45	WORK75	Activity Status in 1975: Working at a Job or Business
P8-9	AGE	Age
P10	QTRBIRTH	Age: Quarter of Birth
P35-36	AGEMAR	Age at First Marriage
P37	QTRMAR	Age at First Marriage: Quarter
H41	YRBUILT	Age of Structure
H28	CQTYPE	Aged, Inmate of Home for
H51	AIRCOND	Air Conditioning
H117-H162		Allocation Flags for Housing Items (For detail, see page 50.)
P140-P193		Allocation Flags for Population Items (For detail, see page 50.)
P16-18	ANCSTRY1	Ancestry--1st entry
P19-21	ANCSTRY2	Ancestry--2nd entry
H36-37	UNITS1	Apartments
H9	AREATYPE	Area, Type of
P81	LABOR	Armed Forces Status
P43	AF75	Armed Forces Status in 1975
H56	AUTOS	Automobiles Available
H48	BATHROOM	Bathrooms
H45	BEDROOMS	Bedrooms
P22-24	BIRTHPL	Birth, Place of
H32	VACANCY3	Boarded Up Status

Chapter 5. Record Contents: Index to Items (continued)

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
P106-110	INCOME2	Business Income in 1979
P87-89	INDUSTRY	Business, Type of (Industry)
P68	RIDERS	Carpool Occupancy
P67	CARPOOL	Carpooling
H9	AREATYPE	Central City Residence
P61	POWCC	Central City Recode: Place of Work (C Sample only)
P2-3	RELAT1	Children
H105	CHILDREN	Children, Own, Presence and Age of
P32-33	FERTILITY	Children Ever Born
P25	CITIZEN	Citizenship
P93	CLASS	Class of Worker
P39, 40-41	SCHOOL	College Attendance
P44	COLL75	College Attendance in 1975
H28	CQTYPE	College Dormitory, Person in
H63	COMUSE	Commerical Establishment or Medical Office on Property
P65-66	MEANS	Commuting to Work
H35	CONDO	Condominium Status
H99-100	RENT1	Contract Rent
H55	FUELCOOK	Cooking Fuel
H28	CQTYPE	Correctional Institution, Inmate of
P22-24	BIRTHPL	Country of Birth
H6-8	COGRP	County Group (A and B Samples only)
P57-59	POWCOGRP	County Group: Place of Work (A and B Samples)
P49-51	COGRP75	County Group: Residence in 1975 (A and B Samples)
P52	MIG75	County-State Recode: Residence in 1975
P4	RELAT2	Detailed Relationship
P69	DISABIL1	Disability Which Limits Work
P71	DISABIL3	Disability Which Limits or Prevents Use of Public Transportation
P70	DISABIL2	Disability Which Prevents Work
P116-120	INCOME4	Dividend, Interest, or Net Rental Income in 1979
H3	DIVISION	Division
H33	VACANCY4	Duration of Vacancy
P111-115	INCOME3	Earnings in 1979: From Farm Self-Employment
P106-110	INCOME2	Earnings in 1979: From Nonfarm Self-Employment
P101-105	INCOME1	Earnings in 1979: From Wage or Salary
P42	FINGRADE	Education: Finished Highest Grade
P40-41	GRADE	Education: Highest Year of School Attended
P39	SCHOOL	Education: School Enrollment and Type of School
H67-69	ELECCOST	Electricity, Monthly Cost of
H66	ELECPAID	Electricity, Payment of
H43	ELEVATOR	Elevator, Passenger
		Employment in 1979 - See Work in 1979
P81	LABOR	Employment Status
P31	ENGLISH	English, Ability to Speak
H112-116	FAMINCOM	Family Income in 1979
P2-3	RELAT1	Family Membership
H104	HHTYPE	Family Type
P111-115	INCOME3	Farm Self-Employment Income in 1979
H62	FARM	Farm Status and Sales of Farm Products

Chapter 5. Record Contents: Index to Items (continued)

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
P32-33	FERTILITY	Farm Workers - See: Occupation Fertility: Children Ever Born
P42	FINGRADE	Finished Highest Grade
P22-24	BIRTHPL	Foreign Country of Birth
H55	FUELCOOK	Fuel, Cooking
H53	FUELHEAT	Fuel, House Heating
H54	FUELWTR	Fuel, Water Heating
P82-83	HOURS	Full Time-Part Time Work: Hours Worked Last Week
P97-98	HOURS79	Full Time-part Time Work in 1979: Usual Hours Worked Per Week
H71-73	GASCOST	Gas, Monthly Cost of
H70	GASPAID	Gas, Payment of
H101-103	RENT2	Government Workers - See: Class of Worker Gross Rent
P2-3	RELAT1	Group Quarters Status
H28	CQTYPE	Group Quarters, Type of
H52	HEATING	Heating Equipment
P40-41	GRADE	Highest Year of School Attended
H29	TENURE	Home Ownership
P82-83	HOURS	Hours Worked Last Week
P97-98	HOURS79	Hours Worked Per Week in 1979, Usual
H53	FUELHEAT	House Heating Fuel
H107-111	HHINCOME	Household Income in 1979
P2-3	RELAT1	Household Relationship
P4	RELAT2	Household Relationship, Detailed
H26-27	PERSONS	Household Size
H104	HTYPE	Household Type
H20-25	SERIALNO	Housing Unit/CQ Person Serial Number
P26	IMMIGR	Immigration, Year of
H94	INSINCL	Inclusion of Insurance Premiums in Payment to Lender
H93	TAXINCL	Inclusion of Real Estate Taxes in Payment to Lender
P134-138	INCOME8	Income From All Sources in 1979
P129-133	INCOME7	Income in 1979: All Other
H112-116	FAMINCOM	Income in 1979: Family
P111-115	INCOME3	Income in 1979: Farm Self-Employment
H107-111	HHINCOME	Income in 1979: Household
P116-120	INCOME4	Income in 1979: Interest, Dividend and Net Rental
P106-110	NSUBFAM	Income in 1979: Nonfarm Self-Employment
P125-128	INCOME6	Income in 1979: Public Assistance
P121-124	INCOME5	Income in 1979: Social Security
P101-105	INCOME1	Income in 1979: Wage or Salary
P139	POVERTY	Income Ratio to Poverty Level
P87-89	INDUSTRY	Industry
P2-3, H28	RELAT1	Inmate Status
H28	CQTYPE	Institution, Type of
H83-86	TAXINSUR	Insurance Premiums and Real Estate Taxes Combined
H94	INSINCL	Insurance Premiums, Inclusion in Payment to Lender
P116-120	INCOME4	Interest, Dividend, and Net Rental Income in 1979
H47	KITCHEN	Kitchen Facilities
P81	LABOR	Labor Force Status

Chapter 5. Record Contents: Index to Items (continued)

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
P27	LANG1	Language Usage
P28-30	LANG2	Language Spoken at Home
P31	ENGLISH	Language: Ability to Speak English
P85	LOOKING	Looking for Work
P35-36	AGEMAR	Marital History: Age at First Marriage
P37	QTRMAR	Marital History: Quarter of First Marriage
P34	TIMESMAR	Marital History: Times Married
P38	WIDOWED	Marital History: Widowed
P11	MARITAL	Marital Status
H104	HHTYPE	Married-Couple Families
P65-66	MEANS	Means of Transportation to Work
H28	CQTYPE	Mental Hospital, Inmate of
H9	AREATYPE	Metropolitan Residence (A and B Samples) Migration - See: Residence in 1975; Year Householder Moved Into Unit
P46	MIGWT	Migration/Place of Work/Travel Time Weight Military - See Labor Force Status; Armed Forces Status in 1975; Veteran Status; Period of Service
H28	CQTYPE	Military Quarters
H36-37	UNITS1	Mobile Homes
H67-69	ELECCOST	Monthly Cost of Electricity
H71-73	GASCOST	Monthly Cost of Gas
H87	MORTGAC1	Mortgage Status
H88	MORTGAC2	Mortgage: Second or Junior
H89-92	MORTGAC3	Mortgage: Total Monthly Payment to Lender
P25	CITIZEN	Nativity
P106-110	INCOME2	Nonfarm Self-Employment Income in 1979
H26-27	PERSONS	Number of Person Records Following This Housing Unit Record
H106	NSUBFAM	Number of Subfamilies in Family
P90-92	OCCUP	Occupation
H78	FUELPAID	Oil, Coal, Kerosene, Wood, etc., Payment of
H79-82	FUELCOST	Oil, Coal, Kerosene, Wood, etc., Yearly Cost of
H105	CHILDREN	Own Children, Presence and Age of
H95-98	OWNERCST	Owner Costs, Selected Monthly
H29	TENURE	Owner/Renter Status
H43	ELEVATOR	Passenger Elevator
H66	ELECPAID	Payment of Electricity
H70	GASPAID	Payment of Gas
H78	FUELPAID	Payment of Oil, Coal, Kerosene, Wood, etc.
H74	WTRPAID	Payment of Water
P75	VETERAN4	Period of Service Between February 1955 and July 1964
P79	VETERAN8	Period of Service During Any Other Time
P76	VETERAN5	Period of Service During Korean Conflict (June 1950-January 1955)
P74	VETERAN3	Period of Service During Vietnam Era (August 1964-April 1975)
P78	VETERAN7	Period of Service During World War I (April 1917-November 1918)

Chapter 5. Record Contents: Index to Items (continued)

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
P77	VETERAN6	Period of Service During World War II (September 1940-July 1947)
P73	VETERAN2	Period of Service May 1975 or later
H26-27	PERSONS	Persons in Household
P22-24	BIRTHPL	Place of Birth
P46	MIGMT	Place of Work/Migration/Travel Time Weight
P61	POWCC	Place of Work: Central City Recode (C Sample only)
P57-59	POWCOGRP	Place of Work: County Group (A and B Samples)
P62	POWPLSIZ	Place of Work: Place Size (C Sample only)
P60	POWMETRO	Place of Work: SMSA Recode (A and B Samples)
P55-56	POWSTATE	Place of Work: State
P62	POWPLSIZ	Place Size: Place of Work (C Sample only)
H46	PLUMBING	Plumbing Facilities
P139	POVERTY	Poverty Status in 1979
H105	CHILDREN	Presence and Age of Own Children
P68	RIDERS	Private Vehicle Occupancy
P125-128	INCOME6	Public Assistance Income in 1979
P71	DISABIL3	Public Transportation Disability Status
P65-66	MEANS	Public Transportation to Work
P10	QTRBIRTH	Quarter of Birth
P37	QTRMAR	Quarter of First Marriage
P12-13	RACE	Race
H18-H19	SUBSAMPL	Random Group Subsample Number
P139	POVERTY	Ratio of Family or Unrelated Individual Income to Poverty Cutoff in 1979
H83-86	TAXINSUR	Real Estate Taxes and Insurance Premiums Combined
H93	TAXINCL	Real Estate Taxes: Inclusion in Payment to Lender
H1/P1	RECTYPE	Record Type
H3	DIVISION	Region/Division
P2-3	RELAT1	Relationship
P4	RELAT2	Relationship, Detailed
H99-100	RENT1	Rent, Contract
H101-103	RENT2	Rent, Gross
P116-120	INCOME4	Rental, Net, Dividend, and Interest Income in 1979
H29	TENURE	Renter/Owner Status
P49-51	COGRP75	Residence in 1975: County Group (A and B Samples)
P53-54	METRO75	Residence in 1975: SMSA Recode (A and B Samples)
P47-48	STATE75	Residence in 1975: State
P52	MIG75	Residence in 1975: State-County Recode
H28	CQTYPE	Roaming House, Person in
H44	ROOMS	Rooms
H9	AREATYPE	Rural Residence (C Sample only)
H62	FARM	Sales of Farm Products
H2	SAMPLE	Sample Identifier
P39	SCHOOL	School Enrollment and Type of School
P42	FINGRADE	School: Finished Highest Grade
P40-41	GRADE	School: Highest Year Attended
H30	VACANCY1	Seasonal and Migratory Vacancy Status
H88	MORTGAG2	Second or Junior Mortgage
H95-98	OMNERCST	Selected Monthly Owner Costs

Chapter 5. Record Contents: Index to Items (continued)

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
		Self-Employed Workers - See: Class of Worker
		Self-Employed Earnings - See: Income in 1979
H20-25	SERIALNO	Serial Number for Housing Unit/CQ Person
H50	SEWAGE	Sewage Disposal
P7	SEX	Sex
H26-27	PERSONS	Size of Household
H10-13	SMSA	SMSA (A and B Samples only)
P53-54	METRO75	SMSA Recode: Residence in 1975 (A and B Samples)
P60	POWMETRO	SMSA Recode: Place of Work (A and B Samples)
P121-124	INCOME5	Social Security Income in 1979
H49	WATER	Source of Water
P14	SPANISH	Spanish Origin
P15	SURNAME	Spanish Surname
P22-24	BIRTHPL	State of Birth
P52	MIG75	State-County Recode: Residence in 1975
H4-5	STATE	State
P55-56	FUELCOOK	State: Place of Work
P47-48	KITCHEN	State: Residence in 1975
H42	STORIES	Stories in Structure
H106	NSUBFAM	Subfamilies in Family, Number of
P6	SUBFAM2	Subfamily Number
P5	SUBFAM1	Subfamily Relationship
H18-19	SUBSAMPL	Subsample Number
H83-86	TAXINSUR	Taxes, Real Estate and Insurance Premiums Combined
H58	TELEPHON	Telephone in Housing Unit
H29	TENURE	Tenure
P34	TIMESMAR	Times Married
H89-92	MORTGAC3	Total Monthly Payment to Lender
P65-66	MEANS	Transportation to Work, Means of
P63-64	TIME	Travel Time to Work
P46	MIGWT	Travel Time/Place of Work/Migration Weight
H57	TRUCKS	Trucks and Vans Available
H9	AREATYPE	Type of Area
H28	CQTYPE	Type of Group Quarters
P39	SCHOOL	Type of School
P81	LABOR	Unemployment
P99-100	WEEKSU79	Unemployment in 1979: Weeks Unemployed
P86	ABLE	Unemployment: Able to Take Job Last Week
P84	ABSENT	Unemployment: Absent From Work Last Week
P85	LOOKING	Unemployment: Looking for Work
H38-39	UNIT52	Units at Address
H36-37	UNIT51	Units in Structure
H9	AREATYPE	Urban/Rural Status (C Sample Only)
H14-17	UA	Urbanized Area (C Sample only)
H34	UHE	Usual Home Elsewhere
P97-98	HOURS79	Usual Hours Worked Per Week in 1979
H33	VACANCY4	Vacancy, Duration of
H32	VACANCY3	Vacancy Status, Boarded Up
H30	VACANCY1	Vacancy Status, Seasonal and Migratory
H31	VACANCY2	Vacancy Type
H64-65	VALUE	Value

Chapter 5. Record Contents: Index to Items (continued)

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
H57	TRUCKS	Vans and Trucks Available
P68	RIDERS	Vehicle Occupancy: Carpool
H56	AUTOS	Vehicles Available: Automobiles
H57	TRUCKS	Vehicles Available: Trucks and Vans
P72	VETERAN1	Veteran Status
P75	VETERAN4	Veteran's Period of Service: Between February 1955 and July 1964
P79	VETERAN8	Veteran's Period of Service: During Any Other Time
P76	VETERAN5	Veteran's Period of Service: During Korean Conflict (June 1950-January 1955)
P74	VETERAN3	Veteran's Period of Service: During Vietnam Era (August 1964-April 1975)
P78	VETERAN7	Veteran's Period of Service: During World War I (April 1917-November 1918)
P101-105	INCOME1	Wage and Salary Workers - See Class of Worker
H54	FUELWTR	Wage or Salary Income in 1979
H74	WTRPAID	Water Heating Fuel
H49	WATER	Water, Payment of
P99-100	WEEKSU79	Water, Source of
P95-96	WEEKSW79	Weeks Unemployed in 1979
P125-128	INCOME6	Weeks Worked in 1979
P11	MARITAL	Welfare Income in 1979
P38	WIDOWED	Widowed (Current Status)
P69	DISABIL1	Widowed (from First Marriage)
P70	DISABIL2	Work Disability Status: Limited
		Work Disability Status: Prevented from Working
		Work in 1979 - See: Work Last Year, Weeks Worked in 1979, Usual Hours Worked Per Week in 1979
P94	WORK79	Work Last Year
P45	WORK75	Work Status in 1975
H59	YRMOVED	Year Householder Moved into Unit
P80	YEARWORK	Year Last Worked
P26	IMMIGR	Year of Immigration
P40-41	GRADE	Year of School, Highest Attended
H41	YRBUILT	Year Structure Built
H79-82	FUEL COST	Yearly Cost of Oil, Coal, Kerosene, Wood, Etc.

Chapter 5. Record Contents: Index to Allocation Items

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
<u>Allocation of:</u>		
P155	ALANG3	Ability to Speak English
H126	AACCESS	Access
H146	AACRE1	Acreage of Property (H10a on questionnaire)
H147	AACRE2	Acreage of Property (H15a on questionnaire)
P164	ACOLL75	Activity in 1975: Attending College
P163	AAF75	Activity in 1975: In Armed Forces
P165	AWORK75	Activity in 1975: Working at a Job or Business
P143	AAGE	Age
P158	AACEMR	Age at First Marriage and Quarter of First Marriage
H137	AAIRCOND	Air Conditioning
P193	AINCOME7	All Other Income in 1979
H142	AAUTOS	Automobiles Available
H134	ABATHROO	Bathrooms
H131	ABEDROOM	Bedrooms
H121	AVAC3	Boarded Up Status
P171	ARIDERS	Carpool Occupancy
P170	ACARPOOL	Carpooling
P156	AFERT1L	Children Ever Born
P151	ACITIZEN	Citizenship
P182	ACCLASS	Class of Worker
H149	ACOMMERC	Commercial Establishment or Medical Office
H123	ACONDO	Condominium Status
H162	ARENT1	Contract Rent
H141	AFUELCOO	Cooking Fuel
P141	ARELAT2	Detailed Relationship
H122	AVAC4	Duration of Vacancy
P189	AINCOME3	Farm Self-Employment Income in 1979
H148	AFARM	Farm Status and Sales of Farm Products
P162	AFINCRAD	Finished Grade
H138	AHEATING	Heating Equipment
P161	AYEARSCH	Highest Year of School Attended
P179	AHOURS	Hours Worked Last Week
H139	AFUELHEA	House Heating Fuel
P140	ARELAT1	Household Relationship
H161	AINSINCL	Inclusion of Insurance Premiums in Payment to Lender
H160	ATAXINCL	Inclusion of Taxes in Payment to Lender
P180	AINDUSTR	Industry
P190	AINCOME4	Interest, Dividend or Net Rental Income in 1979
H133	AKITCHEN	Kitchen Facilities
P178	ALABOR	Labor Force Status
P153	ALANG1	Language Usage
P154	ALANG2	Language Spoken at Home
P145	AMARITAL	Marital Status
P169	AMEANS	Means of Transportation to Work
H151	AELECCOS	Monthly Cost of Electricity
H152	ACASCOST	Monthly Cost of Gas
H157	AMORTG1	Mortgage Status
P188	AINCOME2	Nonfarm Self Employment Income in 1979
P181	AOCCUP	Occupation

Chapter 5. Record Contents: Index to Allocation Items (continued)

<u>LOCATION</u>	<u>MNEMONIC</u>	<u>DESCRIPTION</u>
<u>Allocation of:</u>		
H129	AELEVATO	Passenger Elevator
P150	ABIRTHPL	Place of Birth
H132	APLUMBIN	Plumbing Facilities
P149	AANCSTRY	Pre-edit of Ancestry (both 1st and 2nd entry)
P147	ARACE2	Pre-edit of Detailed Race and American Indian
P192	AINCOME6	Public Assistance Income in 1979
P174	DISABL3	Public Transportation Disability Status
P144	AQTRBIRTH	Quarter of Birth
P146	ARACE1	Race
H155	ATAX	Real Estate Taxes
P166	AMIG751	Residence in 1975: Same House/Different House
P167	AMIG752	Residence in 1975: Specific Area
H130	AROOMS	Rooms
P160	ASCHOOL	School Enrollment and Type of School
H119	AVAC1	Seasonal and Migratory Vacancy Status
H158	AMORTG2	Second or Junior Mortgage
H136	ASEWAGE	Sewage Disposal
P142	ASEX	Sex
P191	AINCOME5	Social Security Income in 1979
H135	AWATER	Source of Water
P148	ASPANISH	Spanish Origin
H128	ASTORIES	Stories in Structure
H144	ATELEPHO	Telephone in Housing Unit
H118	ATENURE	Tenure
P157	ATIMESMA	Times Married
H159	AMORTG3	Total Monthly Payment to Lender
P168	ATIME	Travel Time to Work
H143	ATRUCKS	Trucks and Vans Available
H117	ACQTYPE	Type of Group Quarters
H125	ALNITS2	Units at Address
H124	ALNITS1	Units in Structure
P185	AHOUR79	Usual Hours Worked Per Week in 1979
H120	AVAC2	Vacancy Type
H150	AVALUE	Value
P175	AVET1	Veteran Status
P176	AVET2	Veterans' Period of Service
P187	AINCOME1	Wage or Salary Income in 1979
H140	AFUELWTR	Water Heating Fuel
P186	AWEEKU79	Weeks Unemployed in 1979
P184	AWEEKW79	Weeks Worked in 1979
P159	AWIDOWED	Widowed
P172	ADISABL1	Work Disability Status: Limited
P173	ADISABL2	Work Disability Status: Prevented from Working
P183	AWORK79	Work Last Year
H145	AYRMOVED	Year Householder Moved Into Unit
P177	AYEARWRK	Year Last Worked
P152	AIMMIGR	Year of Immigration
H127	AYRBUILT	Year Structure Built
H154	AFUEL COS	Yearly Cost of Oil, Coal, Kerosene, Wood, etc.
H153	AWTRCOST	Yearly Cost of Water
H156	AINSUR	Yearly Insurance Premium

ITEMS ON HOUSING RECORD

<u>Character</u>	<u>Location</u>	<u>Description</u>	<u>Character</u>	<u>Location</u>	<u>Description</u>
H1		Record Type (Housing Record)	H59		Year Householder Moved into Unit
H2		Sample Identifier	H60		Acreage of Property (H10a on questionnaire)
H3		Region/Division	H61		Acreage of Property (H15a on questionnaire)
H4-5		State	H62		Farm Status and Sales of Farm Products
H6-8		County Group (A and B Samples only)	H63		Commercial Establishment or Medical Office on Property
H9		Type of Area	H64-65		Value
H10-13		SMSA (A and B Samples only)	H66		Payment of Electricity
H14-17		Urbanized Area (C Sample only)	H67-69		Monthly Cost of Electricity
H18-19		Subsample Number	H70		Payment of Gas
H20-25		Housing Unit/CQ Person Serial Number	H71-73		Monthly Cost of Gas
H26-27		Number of Person Records Following This Housing Unit Record	H74		Payment of Water
H28		Type of Group Quarters	H75-77		Yearly Cost of Water
H29		Tenure	H78		Payment of Oil, Coal, Kerosene, Wood, Etc.
H30		Seasonal and Migratory Vacancy Status	H79-82		Yearly Cost of Oil, Coal, Kerosene, Wood, Etc.
H31		Vacancy Type	H83-86		Real Estate Taxes Last Year and Yearly Insurance Premiums Combined
H32		Boarded Up Status	H87		Mortgage Status
H33		Duration of Vacancy	H88		Second or Junior Mortgage
H34		Usual Home Elsewhere	H89-92		Total Monthly Payment to Lender
H35		Condominium Status	H93		Inclusion of Real Estate Taxes in Payment to Lender
H36-37		Units in Structure	H94		Inclusion of Insurance Premiums in Payment to Lender
H38-39		Units at Address	H95-98		Selected Monthly Owner Costs
H40		Access	H99-100		Contract Rent
H41		Year Structure Built	H101-103		Gross Rent
H42		Stories in Structure	H104		Household Type
H43		Passenger Elevator	H105		Presence and Age of Own Children
H44		Rooms	H106		Number of Subfamilies in Family
H45		Bedrooms	H107-111		Household Income in 1979
H46		Plumbing Facilities	H112-116		Family Income in 1979
H47		Kitchen Facilities	H117 to		Allocation Flags for Housing Items
H48		Bathrooms	H162		
H49		Source of Water	H163-193		Filler (zeroes)
H50		Sewage Disposal			
H51		Air Conditioning			
H52		Heating Equipment			
H53		Fuels			
H54		Water Heating Fuel			
H55		Cooking Fuel			
H56		Automobiles Available			
H57		Trucks and Vans Available			
H58		Telephone in Housing Unit			

ITEMS ON PERSON RECORD

<u>Character Location</u>	<u>Description</u>	<u>Character Location</u>	<u>Description</u>
P1	Record Type (Person Record)	P62	Place of Work: Place Size
P2-3	Relationship	P63-64	Travel Time to Work
P4	Detailed Relationship	P65-66	Means of Transportation to Work
P5	Subfamily Relationship	P67	Carpooling
P6	Subfamily Number	P68	Carpool Occupancy
P7	Sex	P69	Work Disability Status: Limited
P8-9	Age	P70	Work Disability Status: Prevented from Working
P10	Quarter of Birth	P71	Public Transportation Disability Status
P11	Marital Status	P72	Veteran Status
P12-13	Race	P73	Period of Service May 1975 or later
P14	Spanish Origin	P74	Period of Service During Vietnam Era
P15	Spanish Surname	P75	Period of Service Between
P16-18	Ancestry--1st entry	P76	Period of Service During Korean Conflict
P19-21	Ancestry--2nd entry	P77	Period of Service During World War II
P22-24	Place of Birth	P78	Period of Service During World War I
P25	Citizenship	P79	Period of Service During Any Other Time
P26	Year of Immigration	P80	Year Last Worked
P27	Language Spoken At Home Other Than English	P81	Labor Force Status
P28-30	Language Spoken at Home	P82-83	Hours Worked Last Week
P31	Ability to Speak English	P84	Absent From Work Last Week
P32-33	Children Ever Born	P85	Looking for Work
P34	Times Married	P86	Able to Take Job Last Week
P35-36	Age at First Marriage	P87-89	Industry
P37	Quarter of First Marriage	P90-92	Occupation
P38	Widowed	P93	Class of Worker
P39	School Enrollment and Type of School	P94	Work Last Year
P40-41	Highest Year of School Attended	P95-96	Weeks Worked in 1979
P42	Finished Highest Grade	P97-98	Usual Hours Worked Per Week in 1979
P43	Activity in 1975: in Armed Forces	P99-100	Weeks Unemployed in 1979
P44	Activity in 1975: Attending College	P101-105	Wage or Salary Income in 1979
P45	Activity in 1975: Working	P106-110	Nonfarm Self-Employment Income in 1979
P46	Migration/Place of Work/Travel Time Weight	P111-115	Farm Self-Employment Income in 1979
P47-48	Residence in 1975	P116-120	Interest, Dividend, or Net Rental Income in 1979
P49-51	Residence in 1975: County Group	P121-124	Social Security Income in 1979
P52	Residence in 1975: State- County Recode	P125-128	Public Assistance Income in 1979
P53-54	Residence in 1975: SMSA recode	P129-133	All Other Income in 1979
P55-56	Place of Work: State	P134-138	Income From All Sources in 1979
P57-59	Place of Work: County Group (A and B Sample)	P139	Poverty Status in 1979
P60	Place of Work: SMSA Recode (A and B Sample)	P140 to P193	Allocation Flags for Population Items
P61	Place of Work: Central City Recode (C Sample only)		

## HOW TO USE THE DATA DICTIONARY

The following computer-generated pages document the data contents and record layout of the file. Below is a brief description of the information provided for each data item.

The first line of each data item description gives the name, size/scale, begin position, and item title. On subsequent lines are value codes and any applicable notes. Each of these elements is defined below.

1. **Name.** This is an arbitrarily assigned 8-character mnemonic identifier, e.g., 'STATE,' 'INCOME8.'
2. **Size/Scale.**  
The reference to scale is not applicable since none of the data are sealed.
3. **Begin.** This is the location within the 193-character data record of the first character of the data item.
4. **Description.** (not labeled on the data dictionary).

**Title.** This is a single 40-character line or a set of 40-character lines which provide the title for the data item.

**Value Codes and Notes.** Lines after the title describe individual categories of the data item. Each code for which a separate label is provided is listed at the left. Codes for which the values are self-explanatory (e.g., dollar amounts in an income field), are not listed individually, but are defined in a range listed in the right-hand column.

The file used to generate the following printout is available as part of any CENSPAC tape sold after October 1982.

Data Dictionary for Census of Population and Housing, 1980 [United States]:

Public Use Microdata Sample (A Sample): 5-Percent Sample  
(ICPSR 8101)

Public Use Microdata Sample (B Sample): 1-Percent Sample  
(ICPSR 8170)

Public Use Microdata Sample (C Sample): 1-Percent Sample  
(ICPSR 8114)

Public Use Microdata Sample (A Sample): 1/1000 Sample  
(ICPSR 8210)

Public Use Microdata Sample (B Sample): 1/1000 Sample  
(ICPSR 8211)

Public Use Microdata Sample (C Sample): 1/1000 Sample  
(ICPSR 8212)



PUMSH DATA DICTIONARY  
 RECORD H

NAME	SIZE/ SCALE	BEGIN
RECTYPE	1	1
	H	Record Type Housing record
SAMPLE	1	2
	1	Sample Identifier A Sample
	2	B Sample
	3	C Sample
DIVISION	1	3
	0	Region/Division Region/division not identifi- able (selected SMSAs on B Sample, See App. C)
	1	Northeast region: New England division
	2	Middle Atlantic division
	3	North Central region: East North Central division
	4	West North Central division
	5	South region: South Atlantic division
	6	East South Central division
	7	West South Central division
	8	West region: Mountain division
	9	Pacific division
STATE	2	4
	01-56	State FIPS state code (See App. A)
	61-68	State group code (selected states on C Sample-See App. A)
	99	State not identified (selected county groups on B Sample-See App. C)
COGRP	3	6
	000	County Croup (A and B Samples only) N/A (C Sample)
	001-998	County group code (unique within state)

AREATYPE	1	9
		Type of Area
1		Central city of SMSA (selected central cities on A and B Samples )
2		SMSA, outside central city (selected areas on A and B Samples)
3		SMSA, central city/remainder not separately identified (selected SMSAs or SMSA parts on A and B Samples for which codes 1 and 2 cannot be shown)
4		Mixed SMSA/non SMSA area (A Samples only)
5		Outside SMSAs (A and B Samples)
6		Central city of urbanized area (C Sample only)
7		Urban fringe (C Sample only)
8		Urban, outside urbanized areas (C Sample only)
9		Rural (C Sample only)
SMSA	4	10
		SMSA (A and B Samples only)
0000		N/A (C Sample, area outside SMSAs)
0040-9340		FIPS SMSA code, selected SMSAs (See App. B)
9999		County group consisting of 2 or more SMSAs or mixed SMSA/non SMSA area)
UA	4	14
		Urbanized Area (C Sample only)
0000		N/A (A and B Samples, area outside identified UAs)
0080-9320		Census urbanized area code (selected UAs- See App. D)
SUBSAMPL	2	18
		Subsample Number
00-99		See text, pp. 29 and 43
SERIALNO	6	20
		Housing Unit/GQ Person Serial Number
000000-999999		Unique identifier assigned within State or State group
PERSONS	2	26
		Number of Person Records Following This Housing Unit Record
00		Vacant unit
01		One person record (one person in household or any person in group quarters)
02-31		Number of persons in household

GQTYPE	1	28
		Type of Group Quarters
0		N/A (not in group quarters)
1		Inmate of mental hospital
2		Inmate of home for the aged
3		Inmate of correctional Institution
4		Inmate of other institution
5		In military quarters
6		In college dormitory
7		In rooming house
8		Other in group quarters, including noninmate living in institution
TENURE	1	29
		Tenure
0		N/A (vacant unit or group quarters)
1		Owner occupied
		Renter occupied:
2		With cash rent
3		No cash rent
VACANCY1	1	30
		Seasonal and Migratory Vacancy Status
0		N/A (occupied or group quarters)
1		Vacant, year round
2		Vacant, seasonal or migratory
VACANCY2	1	31
		Vacancy Type
0		N/A (occupied, group quarters or vacant seasonal or migratory)
1		For rent
2		For sale only
3		Rented or sold, awaiting occupancy
4		Held for occasional use
5		Other vacant
VACANCY3	1	32
		Boarded Up Status
0		N/A (occupied, group quarters or vacant seasonal or migratory)
1		Boarded up
2		Not boarded up

VACANCY4	1	33
	0	Duration of Vacancy N/A (occupied, group quarters or vacant seasonal or migratory)
	1	Less than 1 month
	2	1 up to 2 months
	3	2 up to 6 months
	4	6 up to 12 months
	5	1 year up to 2 years
	6	2 years or more
UHE	1	34
	0	Usual Home Elsewhere Not originally reported as usual home elsewhere, or group quarters
	1	Originally reported as usual home elsewhere
CONDO	1	35
	0	Condominium Status N/A (group quarters)
	1	Not a condominium Unit
	2	Condominium unit
UNITS1	2	36
	00	Units in Structure N/A (group quarters)
	01	Mobile home or trailer
	02	One-family house detached from any other house
	03	One-family house attached to one or more houses
	04	Building for 2 families
	05	Building for 3 or 4 families
	06	Building for 5 to 9 families
	07	Building for 10 to 19 families
	08	Building for 20 to 49 families
	09	Building for 50 or more families
	10	Boat, tent, van, etc.
UNITS2	2	38
	00	Units at Address N/A (group quarters)
	01	One
	02	Two
	03	Three
	04	Four
	05	Five
	06	Six
	07	Seven
	08	Eight
	09	Nine
	10	Ten or more
	11	Mobile home or trailer

ACCESS	1	40
		Access
0		N/A (group quarters)
1		Access to unit directly from the outside or through a common or public hall
2		Access to unit through someone else's living quarters
YRBUILT	1	41
		Year Structure Built
0		N/A (group quarters)
1		1979 to March 1980
2		1975 to 1978
3		1970 to 1974
4		1960 to 1969
5		1950 to 1959
6		1940 to 1949
7		1939 or earlier
STORIES	1	42
		Stories in Structure
0		N/A (group quarters)
1		1 to 3 stories
2		4 to 6 stories
3		7 to 12 stories
4		13 or more stories
ELEVATOR	1	43
		Passenger Elevator
0		N/A (group quarters or structure with less than 4 stories)
1		With passenger elevator in structure
2		No passenger elevator in structure
ROOMS	1	44
		Rooms
0		N/A (group quarters)
1		One rooms
2		Two rooms
3		Three rooms
4		Four rooms
5		Five rooms
6		Six rooms
7		Seven rooms
8		Eight rooms
9		Nine or more rooms

BEDROOMS	1	45
		Bedrooms
0		N/A (group quarters)
1		None
2		One bedroom
3		Two bedrooms
4		Three bedrooms
5		Four bedrooms
6		Five or more bedrooms
PLUMBING	1	46
		Plumbing Facilities
0		N/A (group quarters)
1		Complete plumbing for exclusive use
		Lacking complete plumbing for exclusive use:
2		Complete plumbing but used by another household
3		Some but not all plumbing facilities
4		No plumbing facilities
KITCHEN	1	47
		Kitchen Facilities
0		N/A (group quarters)
1		Complete kitchen facilities
2		No complete kitchen facilities
BATHROOM	1	48
		Bathrooms
0		N/A (group quarters)
1		No bathroom or only a half bath
2		One complete bathroom
3		One complete bathroom plus half bath(s)
4		Two or more complete bathrooms
WATER	1	49
		Source of Water
0		N/A (group quarters)
1		Public system or private company
2		Individual drilled well
3		Individual dug well
4		Some other source
SEWAGE	1	50
		Sewage Disposal
0		N/A (group quarters)
1		Public sewer
2		Septic tank or cesspool
3		Other means

AIRCOND	1	51
	0	Air Conditioning
	1	N/A (group quarters)
	1	Central system
	2	One individual room unit
	3	Two or more individual rooms units
	4	None
HEATING	1	52
	0	Heating Equipment
	1	N/A (group quarters)
	1	Steam or hot water systems
	2	Central warm air furnace
	3	Electric heat pump
	4	Other built-in electric units
	5	Floor, wall, or pipeless furnace
	6	Room heaters with flue
	7	Room heaters without flue
	8	Fireplaces, stoves, or portable room heaters
	9	None
FUELHEAT	1	53
	0	House Heating Fuel
	1	N/A (vacant unit or group quarters)
	1	Utility gas from underground pipes serving the neighborhood
	2	Bottle, tank or LP gas
	3	Electricity
	4	Fuel oil, kerosene, etc.
	5	Coal or coke
	6	Wood
	7	Other fuel
	8	No fuel used
FUELWTR	1	54
	0	Water Heating Fuel
	1	N/A (vacant unit or group quarters)
	1	Utility gas from underground pipes serving the neighborhood
	2	Bottled, tank or LP gas
	3	Electricity
	4	Fuel oil, kerosene, etc.
	5	Coal or coke
	6	Wood
	7	Other fuel
	8	No fuel used

FUELCOOK	1	55
	0	Cooking Fuel
	1	N/A (vacant unit or group quarters)
	1	Utility gas from underground pipes serving the neighborhood
	2	Bottled, tank or LP gas
	3	Electricity
	4	Fuel oil, kerosene, etc.
	5	Coal or coke
	6	Wood
	7	Other fuel
	8	No fuel used
AUTOS	1	56
		Automobile Available
	0	N/A (vacant unit or group quarters)
	1	None
	2	One
	3	Two
	4	Three or more
TRUCKS	1	57
		Trucks and Vans Available
	0	N/A (vacant unit or group quarters)
	1	None
	2	One
	3	Two
	4	Three or more
TELEPHON	1	58
		Telephone In Housing Unit
	0	N/A (vacant unit or group quarters)
	1	With telephone
	2	No telephone
YRMOVED	1	59
		Year Householder Moved into Unit
	0	N/A (group quarters or vacant)
	1	1979 to March 1980
	2	1975 to 1978
	3	1970 to 1974
	4	1960 to 1969
	5	1950 to 1959
	6	1949 or earlier
ACREAGE1	1	60
		Acreage of Property (H10a on questionnaire-used in determining universe for value and rent)
	0	N/A (group quarters, or two or more units at address)
	1	House on a property of 10 or more acres
	2	House on a property of less than 10 acres
ACREAGE2	1	61
		Acreage of property (H15a on questionnaire-used in determining universe for farm status)
	0	N/A (group quarters)
	1	City or suburban lot, or a place of less than 1 acre

2           1 to 9 acres  
3           10 or more acres

FARM	1	62
	0	Farm Status and Sales of Farm Products N/A (urban, city or suburban lot, place of less than 1 acre, vacant unit or group quarters)
	1	Rural nonfarm (not all rural nonfarm is included):
	2	\$0 to \$49
	3	\$50 to \$249
	4	\$250 to \$599
	5	\$600 to \$999
	6	Rural farm: \$1000 to \$2499 \$2500 or more
COMMUSE	1	63
	0	Commercial Establishment or Medical Office on Property N/A (group quarters, two or more units in structure, mobile home or trailer)
	1	Yes
	2	NO
VALUE	2	64
	00	Value N/A (group quarters; vacant unit except vacant for sale; renter- occupied unit; mobile home or trailer; or noncondominium unit with two or more units at address on 10 or more acres, or with a commercial establishment or medical office on property)
	01	Less than \$10,000
	02	\$10,000 to \$14,999
	03	\$15,000 to \$17,499
	04	\$17,500 to \$19,999
	05	\$20,000 to \$22,499
	06	\$22,500 to \$24,999
	07	\$25,000 to \$27,499
	08	\$27,500 to \$29,999
	09	\$30,000 to \$34,999
	10	\$35,000 to \$39,999
	11	\$40,000 to \$44,999
	12	\$45,000 to \$49,999
	13	\$50,000 to \$54,999
	14	\$55,000 to \$59,999
	15	\$60,000 to \$64,999
	16	\$65,000 to \$69,999
	17	\$70,000 to \$74,999
	18	\$75,000 to \$79,999
	19	\$80,000 to \$89,999
	20	\$90,000 to \$99,999
	21	\$100,000 to \$124,999
	22	\$125,000 to \$149,999
	23	\$150,000 to \$199,999
	24	\$200,000 or more

ELECPIAD	1	66
	0	Payment of Electricity
	1	N/A (vacant unit or group quarters)
	Electricity paid, amount shown in	ELECCOST
	2	Included in rent or no charge
	3	Electricity not used
ELECCOST	3	67
	000	Monthly Cost of Electricity
		N/A (vacant unit, group quarters, or
		no payment for electricity)
	001-199	Cost in dollars
	200	\$200 or more
GASPAID	1	70
	0	Payment of Gas
	1	N/A (vacant unit or group quarters)
	Gas paid, amount shown in GAS COST	
	2	Included in rent or no charge
	3	Gas not used
GASCOST	3	71
	000	Monthly Cost of Gas
		N/A (vacant unit, group quarters, or
		no payment for gas)
	001-149	Cost in dollars
	150	\$150 or more
WTRPAID	1	74
	0	Payment of Water
	1	N/A (vacant unit of group quarters)
	Water paid, amount shown in WTR COST	
	2	Included in rent or no charge
WTR COST	3	75
	000	Yearly Cost of Water
		N/A (vacant unit, group quarters, or
		no payment for water)
	001-499	Cost in dollars
	500	\$500 or more
FUELPAID	1	78
	0	Payment of Oil, Coal, Kerosene,
	Wood, etc.	
	1	N/A (vacant unit or group quarters)
	Fuels paid, amount shown in FUEL COST	
	2	Included in rent or no charge
	3	These fuels not used
FUEL COST	4	79
	0000	Yearly Cost of Oil, Coal,
		Kerosene, Wood, etc.
		N/A (vacant unit group quarters, or
		no payment for these fuels)
	0001-1999	Cost in dollars
	2000	\$2000 or more

TAXINSUR	4	83
		Real Estate Taxes Last Year and Yearly Property Insurance Premiums, Combined
0000		No tax or insurance payments, or N/A (renter-occupied unit, vacant unit, unit on 10 or more acres, unit with a commercial establishment or medical office on property, two or more units in structure, mobile home or trailer, condominium, or group quarters)
0001-2999		Taxes plus insurance premiums in dollars
3000		\$3000 or more
MORTGAG1	1	87
		Mortgage Status
0		N/A (see TAXINSUR)
1		Yes, mortgage, deed of trust or similar debt
2		Yes, contract to purchase
3		No
MORTGAG2	1	88
		Second or Junior Mortgage
0		N/A (no mortgage, deed of trust, contract to purchase or similar debt on this property, and others in TAXINSUR)
1		Yes
2		No
MORTGAG3	4	89
		Total Monthly Payment to Lender
0000		No regular payment required or N/A (units with no mortgage and others in TAXINSUR)
0001-1499		Payment in dollars
1500		\$1500 or more
TAXINCL	1	93
		Inclusion of Real Estate Taxes in Payment to Lender
0		N/A (no regular payment required; and others in MORTGAG2)
1		Yes, payment includes taxes
2		No
INSINCL	1	94
		Inclusion of Insurance Premiums in Payment to Lender
0		N/A (see TAXINCL)
1		Yes, payment includes insurance premiums
2		No

OWNERCST	4	95 Selected Monthly Owner Costs
	0000	N/A (renter-occupied unit, vacant unit, unit on 10 or more acres, unit with a commercial establishment or medical office on property, two or more units in structure, mobile home or trailer, condominium, or group quarters)
	0001-1999	Cost in dollars
	2000	\$2000 or more
RENT1	2	99 Contract Rent
	00	N/A (Owner-occupied unit, vacant unit except vacant for rent, unit on 10 or more acres with one unit at address, or group quarters)
	01	Less than \$50
	02	\$50 to \$59
	03	\$60 to \$69
	04	\$70 to \$79
	05	\$80 to \$89
	06	\$90 to \$99
	07	\$100 to \$109
	08	\$110 to \$119
	09	\$120 to \$129
	10	\$130 to \$139
	11	\$140 to \$149
	12	\$150 to \$159
	13	\$160 to \$169
	14	\$170 to \$179
	15	\$180 to \$189
	16	\$190 to \$199
	17	\$200 to \$224
	18	\$225 to \$249
	19	\$250 to \$274
	20	\$275 to \$299
	21	\$300 to \$349
	22	\$350 to \$399
	23	\$400 to \$499
	24	\$500 or more
	25	No cash rent
RENT2	3	101 Gross Rent
	000	N/A (owner-occupied unit, unit rented without payment of cash rent, vacant unit, unit on 10 or more acres with one unit at address, or group quarters)
	001-998	Gross rent in dollars
	999	\$999 or more

HHTYPE	1	104
		Household Type
0		N/A (vacant unit or group quarters)
1		Married-couple family household
2		Family household with male householder, no wife present
3		Family household with female house- holder, no husband present
4		Nonfamily household
CHILDREN	1	105
		Presence and Age of Own Children
0		N/A (nonfamily household, vacant unit or group quarters)
1		Family with own children under 6 years only
2		Family with own children 6 to 17 years only
3		Family with own children, some 6 to 17 years, and some under 6 years
4		Family without own children
NSUBFAM	1	106
		Number of Subfamilies in Family
0		None or N/A (vacant unit or group quarters)
1		One subfamily
2		Two subfamilies
3		Three subfamilies
4		Four subfamilies
HHINCOME	5	107
		Household income in 1979
00000		No income/loss or N/A (vacant unit or group quarters)
-9995		Loss of \$9990 or more
-9985 to 74995		Income (or loss) in dollars
75000		Income of \$75000 or more
FAMINCOM	5	112
		Family Income in 1979
00000		No income/loss or N/A (nonfamily household, vacant unit or group quarters)
-9995		Loss of \$9990 or more
-9985 to 74995		Income (or loss) in dollars
75000		Income of \$75000 or more
AGQTYPE	1	117
		Allocation of Type of Group Quarters
0		Not allocated or N/A
1		Allocated, assigned
ATENURE	1	118
		Allocation of Tenure
0		Not allocated or N/A
1		Allocated, hot deck
2		Allocated, assigned

AVAC1	1	119 Allocation of Seasonal and Migratory Vacancy Status
	0	Not allocated or N/A
	1	Allocated, assigned
AVAC2	1	120 Allocation of Vacancy Type
	0	Not allocated or N/A
	1	Allocated, assigned
AVAC3	1	121 Allocation of Boarded Up Status
	0	Not allocated or N/A
	1	Allocated, assigned
AVAC4	1	122 Allocation of Duration of Vacancy
	0	Not allocated or N/A
	1	Allocated, hot deck
ACONDO	1	123 Allocation of Condominium Status
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated assigned
	3	Allocated, structure edit
ALNITS1	1	124 Allocation of Units in Structure
	0	Not allocated or N/A
	1	Allocated, hot deck
		Allocated, assigned
ALNITS2	1	125 Allocation of Units at Address
	0	Not allocated or N/A
	1	Allocated, hot deck
AACCESS	1	126 Allocation of Access
	0	Not allocated or N/A
	1	Allocated, assigned
AYRBUILT	1	127 Allocation of Year Structure Built
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
ASTORIES	1	128 Allocation of Stories in Structure
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned

AELEVATO	1	129 Allocation of Passenger Elevator
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
AROOMS	1	130 Allocation of Rooms
	0	Not allocated or N/A
	1	Allocated, hot deck
ABEDROOM	1	131 Allocation of Bedrooms
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
APLUMBIN	1	132 Allocation of Plumbing Facilities
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
AKITCHEN	1	133 Allocation of Kitchen Facilities
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
ABATHROO	1	134 Allocation of Bathrooms
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
AWATER	1	135 Allocation of Source of Water
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
ASEWAGE	1	136 Allocation of Sewage Disposal
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
AAIRCOND	1	137 Allocation of Air Conditioning
	0	Not allocated or N/A
	1	Allocated, hot deck
AHEATING	1	138 Allocation of Heating Equipment
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned

AFUELHEA	1	139 Allocation of House Heating Fuel
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
AFUELWTR	1	140 Allocation of Water Heating Fuel
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
AFUELCOO	1	141 Allocation of Cooking Fuel
	0	Not allocated or N/A
	1	Allocated, hot deck
AAUTOS	1	142 Allocation of Automobiles Available
	0	Not allocated or N/A
	1	Allocated, hot deck
ATRUCKS	1	143 Allocation of Trucks and Vans Available
	0	Not allocated or N/A
	1	Allocated, hot deck
ATELEPHO	1	144 Allocation of Telephone in Housing Unit
	0	Not allocated or N/A
	1	Allocated, hot deck
AYRMOVED	1	145 Allocation of Year Householder Moved into Unit
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
AACRE1	1	146 Allocation of Acreage of Property (H10A on questionnaire)
	0	Not allocated or N/A
	1	Allocated, hot deck
AACRE2	1	147 Allocation of Acreage of Property (H15a on questionnaire)
	0	Not allocated or N/A
	1	Allocated, hot deck
	2	Allocated, assigned
AFARM	1	148 Allocation of Farm Status and Sales of Farm Products
	0	Not allocated or N/A
	1	Allocated, hot deck

ACOMMERC	1	149 Allocation of Commercial Establishment or Medical Office
	0	Not allocated or N/A
	1	Allocated, hot deck
AVALUE	1	150 Allocation of Value
	0	Not allocated or N/A
	1	Allocated, hot deck
AELECCOS	1	151 Allocation of Monthly Cost of Electricity
	0	Not allocated or N/A
	1	Allocated, hot deck
AGASCOST	1	152 Allocation of Monthly Cost of Gas
	0	Not allocated or N/A
	1	Allocated, hot deck
AWTRCOST	1	153 Allocation of Yearly Cost of Water
	0	Not allocated or N/A
	1	Allocated, hot deck
AFUELCOS	1	154 Allocation of Yearly Cost of Oil, Coal, Kerosene, Wood, etc.
	0	Not allocated or N/A
	1	Allocated, hot deck
ATAX	1	155 Allocation of Real Estate Taxes
	0	Not allocated or N/A
	1 or 3	Allocated, hot deck
AINSUR	1	156 Allocation of Yearly Insurance Premium
	0	Not allocated or N/A
	1 or 3	Allocated, hot deck
AMORTG1	1	157 Allocation of Mortgage Status
	0	Not allocated or N/A
	1 or 3	Allocated, hot deck
	2	Allocated, assigned
AMORTG2	1	158 Allocation of Second or junior Mortgage
	0	Not allocated or N/A
	1 or 3	Allocated, hot deck

AMORTG3	1	159 Allocation of Total Monthly Payment to Lender
	0	Not allocated or N/A
	1 or 3	Allocated, hot deck
ATAXINCL	1	160 Allocation of Inclusion of Taxes in Payment to Lender
	0	Not allocated or N/A
	1 or 3	Allocated, hot deck
	2	Allocated, assigned
AINSINCL	1	161 Allocation of Inclusion of Insurance Premiums in Payment to Lender
	0	Not allocated or N/A
	1 or 3	Allocated, hot deck
	2	Allocated, assigned
ARENT1	1	162 Allocation of Contract Rent
	0	Not allocated or N/A
	1	Al located, hot deck
FILLER	31	163 zero fill

PUMSP DATA DICTIONARY		
	RECORD	P
NAME	SIZE/	
	SCALE	BEGIN
RECTYP	1	1 Record Type
	P	Person record
RELAT1	2	2 Relationship
	00	Householder Family other than householder:
	01	Spouse
	02	Child
	03	Brother or sister
	04	Parent
	05	Other relative (See RELAT2)
		Person not related to householder:
	06	Roomer or boarder
	07	Partner or roommate
	08	Paid employee
	09	Other nonrelative
		In group quarters:
	10	Inmate
	11	Noninmate

RELAT2	1	4
	0	Detailed Relationship N/A (person not listed as other relative of householder)
	1	Son-in-law or daughter-in-law
	2	Grandchild
	3	Father-in-law or mother-in-law
	4	Brother-in-law or sister-in-law
	5	Nephew or niece
	6	Grandparent
	7	Uncle or aunt
	8	Cousin
	9	Other person related by blood or marriage
SUBFAM1	1	5
	0	Subfamily Relationship N/A (group quarters or not in a subfamily)
	1	Husband/wife in married-couple subfamily
	2	Parent in parent-child subfamily
	3	Child in subfamily
SUBFAM2	1	6
	0	Subfamily Number N/A (group quarters or not in a subfamily)
	1	In subfamily #1
	2	In subfamily #2
	3	In subfamily #3
	4	In subfamily #4
SEX	1	7
	0	Sex Male
	1	Female
AGE	2	8
	00-89	Age Age in years
	90	90 years or more
QTRBIRTH	1	10
	0	Quarter of Birth January-March
	1	April-June
	2	July-September
	3	October-December
MARITAL	1	11
	0	Marital Status Now married, except separated
	1	Widowed
	2	Divorced
	3	Separated
	4	Single or N/A (under 15 years of age)

RACE	2	12
		Race
01		White
02		Black
03		American Indian, Eskimo, Aleut
		Asian and Pacific Islander:
04		Japanese
05		Chinese
06		Filipino
07		Korean
08		Asian Indian
09		Vietnamese
10		Hawaiian
11		Other Asian and Pacific Islander, including Guamanian and Samoan
		Other (Race n.e.c.):
12		Spanish write-in entry
13		Other
SPANISH	1	14
		Spanish Origin
0		N/A (not of Spanish origin)
1		Mexican
2		Puerto Rican
3		Cuban
4		Other Spanish
SURNAME	1	15
		Spanish Surname
0		N/A (not in Arizona, California, Colorado, New Mexico or Texas; in Bowie County, Texas on B sample)
1		Spanish surname
2		Not Spanish surname
3		Not reported
ANCSTRY1	3	16
001-999		Ancestry-First Entry See App. E
ANCSTRY2	3	19
001-999		Ancestry-Second Entry See App. E
BIRTHPL	3	22
		Place of Birth
001-056		FIPS state code (See App. A)
060-997		Foreign country or outlying area of the U.S. (See App. F)
CITIZEN	1	25
		Citizenship
0		Born in the United States or outlying areas
1		Naturalized citizen
2		Not a citizen
3		Born abroad of American parents

IMMIGR	1	26
		Year of Immigration
	0	N/A (born in the United States or outlying areas or born abroad of American parents)
	1	1975 to 1980
	2	1970 to 1974
	3	1965 to 1969
	4	1960 to 1964
	5	1950 to 1959
	6	Before 1950
AGEMAR	2	35
		Age at First Marriage
	00	N/A (under 15 years of age or never married)
	12-89	Age at first marriage in years
	90	90 years or over at first marriage
QTRMAR	1	37
		Quarter of First Marriage
	0	N/A (under 15 years of age or never married)
	1	January-March
	2	April-June
	3	July-September
	4	October-December
WIDOWED	1	38
		Widowed
	0	N/A (under 15 years of age, never married, or not married more than once)
	1	First marriage ended because of death of spouse
	2	Not widowed
SCHOOL	1	39
		School Enrollment and Type of School
	0	Not enrolled in school or N/A (under 3 years of age)
		Enrolled in school:
	1	Public
	2	Church-related
	3	Other private
LANG1	1	27
		Language Usage
	0	N/A (under 3 years of age)
	1	Speak a language other than English at home
	2	Speak only English at home
LANG2	3	28
		Language Spoken at Home
	000	N/A (under 3 years of age or speaks only English)
	011-997	Language code (See App. G)
	998	Language not reported

ENGLISH	1	31
	0	Ability to Speak English N/A (speaks only English or under 3 years of age)
	1	Very well
	2	Well
	3	Not well
	4	Not at all
FERTILTY	2	32
		Children Ever Born
	00	N/A (under 15 years of age or male)
	01	None
	02	One
	03	Two
	04	Three
	05	Four
	06	Five
	07	Six
	08	Seven
	09	Eight
	10	Nine
	11	Ten
	12	Eleven
	13	Twelve or more
TIMESMAR	1	34
		Times Married
	0	N/A (under 15 years of age or never married)
	1	Once
	2	More than once
GRADE	2	40
		Highest Year of School
		Attended
	00	Never attended school or N/A (under 3 years of age)
	01	Nursery school
	02	Kindergarten
		Elementary:
	03	First grade
	04	Second grade
	05	Third grade
	06	Fourth grade
	07	Fifth grade
	08	Sixth grade
	09	Seventh grade
	10	Eighth grade
		High school:
	11	Ninth grade
	12	Tenth grade
	13	Eleventh grade
	14	Twelfth grade
		College:
	15	First year
	16	Second year
	17	Third year
	18	Fourth year
	19	Fifth year
	20	Sixth year
	21	Seventh year
	22	Eighth year or more

FINGRADE	1	42
	0	Finished Highest Grade
	1	Never attended school or N/A (under 3 years of age))
	1	Now attending this grade
	2	Finished this grade
	3	Did not finish this grade
AF75	1	43
	0	Activity in 1975: in Armed Forces
	0	N/A (under 16 years of age)
	1	Yes
	2	No (includes all persons 16-20)
COLL75	1	44
	0	Activity in 1975: Attending College
	0	N/A (under 16 years of age)
	1	Yes
	2	No (includes all persons 16-20)
WORK75	1	45
	0	Activity in 1975: Working at a job or Business
	0	N/A (under 16 years of age)
	1	Yes, full time
	2	Yes, part time
	3	No (includes all persons 16-20)
MIGWGT	1	46
	0	Migration/Place of Work/Travel Time Weight
	0	N/A (not included in migration/place of work/travel time sample, i.e., no date for following 10 items)
	2	In migration/place of work/travel time sample
STATE75	2	47
	00	Residence in 1975: State
	00	N/A (not included in migration/place of work/travel time sample, or born April 1975 or later)
	01-56	FIPS state code (See App. A)
	61-68	State group code (selected states on C Sample-See App. A)
	72	Puerto Rico
	73	U.S. outlying area
	97	Abroad
	98	Same house
	99	State not identified (selected county groups on B Sample-See App. C)
COGRP75	3	49
	000	Residence in 1975: County Group (A and B Samples)
	000	N/A (C Sample, not included in migration/place of work/travel time sample, born April 1975 or later, or living abroad in 1975)
	001-998	County group code
	999	Same house

MIG75

1 52  
Residence in 1975: State-County Recode  
0 N/A (not included in migration/place of  
work/travel time sample, born April  
1975 or later)  
1 Same house  
Different house:  
2 Same county  
Different county:  
3 Same state  
Different state:  
4 Region not specified (B  
Sample only)  
5 Northeast (A, C Samples only)  
6 North Central (A, C Samples only)  
7 South (A, C Samples only)  
8 West (A, C Samples only)  
9 Abroad

METRO75

2 53  
Residence in 1975: SMSA Recode  
00 N/A (C Sample, not included  
in migration/place of work/  
travel time sample, born  
April 1975 or later)  
01 Living in same house in 1975  
Living in SMSA in 1980 (not  
applicable if AREATYPE=4, mixed  
metro/nonmetro areas on  
A Sample):  
Different house in same SMSA:  
02 In central city(s)  
03 Outside central city(s)  
Different house in different SMSA:  
04 In central city(s)  
05 Outside central city(s)  
06 Outside any SMSA, or abroad  
Living outside SMSA in 1980  
(not applicable if AREATYPE=4,  
mixed metro/nonmetro  
areas an A Sample):  
07 Different house in central  
city of an SMSA  
08 Different house in SMSA,  
outside central city  
09 Outside an SMSA, or abroad  
10 Living in a mixed metro/nonmetro  
area in 1980, different house  
(A Sample only)

POWSTATE	2	55
		Place of Work: State
00		N/A (not in migration/place of work/travel time sample, under 16 years of age, not at work)
1-56		FIPS state code (See App. A)
61-68		State group code (selected states on C Sample-See App. A)
72		Puerto Rico
73		U.S. outlying area
97		Abroad
98		State and/or county not reported
99		State not identified (selected county groups on B Sample-See App. C)
POWCGRP	3	57
		Place of Work: County Group (A and B samples)
000		N/A (C Sample; not in a migration/place of work/travel time sample; under 16 years of age; not at work; place of work in outlying area or foreign country, abroad, at sea, or state and/ or county not reported)
001-998		County group code
		Note: In New York (state code = 36) county group code 099 indicates "New York City, county not specified" on both A and 3 samples. This applies only to place of work.

POWMETRO            1        60  
Place of Work: SMSA Recode (A and  
B sample)  
0        N/A (C Sample; not included  
in migration/place of work/  
travel time sample; under  
16 years of age; not at  
work; place of work in out-  
lying area or foreign  
country, abroad, at sea, or  
state and/or county not  
reported)  
Living in SMSA (not applicable  
if AREATYPE=4, mixed metro/  
nonmetro area on A  
Sample):  
Working in same SMSA:  
1        In CBD  
2        In remainder of central city  
3        Outside central city  
Working in different SMSA:  
4        In central city  
5        Outside central city  
6        Working outside any SMSA  
Living outside SMSA or in a  
mixed metro/nonmetro area  
(AREATYPE=4, A Sample only):  
7        Working in central city of  
an SMSA  
8        Working in an SMSA, outside  
central city  
9        Working outside any SMSA

POWCC            1        61  
Place of Work: Central City Recode  
(C Sample only)  
0        N/A (A and B Samples; not in  
migration/place of work/  
travel time sample; under  
16 years of age; not at  
work; place of work in out-  
lying area or foreign coun-  
try, abroad, at sea, or  
state and/or county not  
reported)  
1        Working in the CBD of a UA  
central city  
2        Working in the remainder of a  
central city of a UA (or  
anywhere in a central city  
with no CBD)  
3        Working elsewhere

POWPLSIZ	1	62
		Place of Work: Place Size
		(C Sample only)
	0	N/A (A or B sample not in migration/ place of work/travel time sample; under 16 years of age; not at work; place of work in outlying area or foreign country, abroad, at sea, or state and/or county not reported)
	1	2,500 to 9,999
	2	10,000 to 24,999
	3	25,000 to 49,999
	4	50,000 or more
	5	Not in an identified place of 2,500 or more, or not reported at the place level
TIME	2	63
		Travel Time to Work
	00	N/A (not included in migration/place of work/travel time sample, under 16 years of age, not at work, or worked at home)
	1-98	Time in minutes
	99	99 minutes or more
MEANS	2	65
		Means of Transportation to Work
	00	N/A (under 16 years of age or not at work)
		Private vehicle:
	01	Car
	02	Truck
	03	Van
		Public transportation:
	04	Bus or streetcar
	05	Railroad
	06	Subway or elevated
	07	Taxicab
	08	Motorcycle
	09	Bicycle
	10	Walked only
	11	Worked at home
	12	Other means
CARPOOL	1	67
		Carpooling
	0	N/A (under 16 years of age, not at work, means of transportation to work other than car, truck, or van)
	1	Drive alone
		Carpool:
	2	Share driving
	3	Drive others only
	4	Ride as passenger only

RIDERS	1	68
	0	Carpool Occupancy N/A (under 16 years of age, not at work, drives alone to work, means of transportation to work other than car, truck or van)
	1	Two
	2	Three
	3	Four
	4	Five
	5	Six
	6	Seven or more
DISABILL	1	69
	0	Work Disability Status: Limited N/A (under 16 years of age)
	1	With a work disability
	2	No work disability
DISABIL2	1	70
	0	Work Disability Status: Prevented from Working N/A (under 16 years of age)
	1	Prevented from working
	2	Not prevented from working
DISABIL3	1	71
	0	Public Transportation Disability Status N/A (under 16 years of age)
	1	With a public transportation disability
	2	No public transportation disability
VETERAN1	1	72
	0	Veteran Status Veteran of active-duty military service
	1	Not a veteran or N/A (under 16 years of age)
VETERAN2	1	73
	0	Period of Service May 1975 or Later No or N/A (under 16 years of age)
	1	Yes
VETERAN3	1	74
	0	Period of Service During Vietnam Era (August 1964-April 1975) No or N/A (under 16 years of age)
	1	Yes
VETERAN4	1	75
	0	Period of Service Between February 1955 and July 1964 No or N/A (under 16 years of age)
	1	Yes
VETERAN5	1	76
	0	Period of Service During Korean Conflict (June 1950-January 1955) No or N/A (under 16 years of age)
	1	Yes

VETERAN6	1	77
		Period of Service During World War II (September 1940-July 1947)
	0	No or N/A (under 16 years of age)
	1	Yes
VETERAN7	1	78
		Period of Service During World War I (April 1917-November 1918)
	0	No or N/A (under 16 years of age)
	1	Yes
VETERAN8	1	79
		Period of Service During Any Other Time
	0	No or N/A (under 16 years of age)
	1	Yes
YEARWORK	1	80
		Year Last Worked
	0	N/A (under 16 years of age)
	1	1980
	2	1979
	3	1978
	4	1975-1977
	5	1970-1974
	6	1969 or earlier
	7	Never worked
LABOR	1	81
		Labor Force Status
	0	N/A (under 16 years of age)
		In labor force:
		Civilian labor force:
		Employed:
	1	At work
	2	With a job but not at work
	3	Unemployed
		Armed Forces:
	4	At work
	5	With a job but not at work
	6	Not in labor force
HOURS	2	82
		Hours Worked Last Week
	00	N/A (under 16 years of age or not at work)
	1-98	Hours worked last week
	99	99 or more hours worked last week
ABSENT	1	84
		Absent From Work Last Week
	0	N/A (under 16 years of age or at work)
	1	Yes, on layoff
	2	Yes, on vacation, temporary illness, labor dispute, etc.
	3	No
	4	Not reported

LOOKING	1	85
		Looking For Work
0		N/A (under 16 years of age or at work)
1		Yes
2		No
3		Not reported
ABLE	1	86
		Able to Take job Last Week
0		N/A (under 16 years of age, at work or not looking for work)
1		No, already had a job
2		No, temporarily ill
3		No, other reasons (in school, etc.)
4		Yes, could have taken a job
5		Not reported
INDUSTRY	3	87
		Industry
000		N/A (under 16 years of age, in Armed Forces, last worked before 1975 and not in labor force, or never worked)
010-992		Industry code (See App. G)
OCCUP	3	90
		Occupation
000		N/A (under 16 years of age, in Armed Forces, last worked before 1975 and not in labor force, or never worked)
003-909		Occupation code (See App. H)
CLASS	1	93
		Class of Worker
0		N/A (under 16 years of age, last worked before 1975, or never worked)
1		Private wage and salary worker: Employee of private company
2		Federal government worker
3		State government worker
4		Local government worker
5		Self-employed worker--business incorporated
6		Employee of own corporation
7		Unpaid family worker
WORK79	1	94
		Work Last Year
0		N/A (under 16 years of age)
1		Worked in 1979
2		Did not work in 1979
WEEKSW79	2	95
		Weeks Worked in 1979
00		N/A (under 16 years of age or did not work in 1979)
01-52		Weeks worked

HOURS79	2	97	Usual Hours Worked Per Week in 1979
	00		N/A (under 16 years of age or did not work in 1979)
	01-98		Usual number of hours
	99		99 or more hours per week
WEEKSU79	2	99	Weeks Unemployed in 1979
	00		N/A (under 16 years of age or with no unemployment in 1979)
	01-52		Weeks looking for work or on layoff
INCOME1	5	101	Wage or Salary Income in 1979
	00000		N/A (under 16 years of age or no income from this source)
	00005-74995		Income in dollars (midpoint of \$10 interval)
	75000		Income of \$75000 or more
INCOME2	5	106	Nonfarm Self-Employment Income in 1979
	00000		N/A (under 16 years of age or no income/loss from this source)
	-9995		Loss of \$9990 or more
	-9985 to 74995		Income (or loss) in dollars (midpoint of \$10 interval)
	75000		Income of \$75000 or more
INCOME3	5	111	Farm Self-Employment Income in 1979
	00000		N/A (under 16 years of age or no income/loss from this source)
	-9995		Loss of \$9990 or more
	-9985 to 74995		Income (or loss) in dollars (midpoint of \$10 interval)
	75000		Income of \$75000 or more
INCOME4	5	116	Interest, Divided or Net Rental Income in 1979
	00000		N/A (under 15 years of age or no income/loss from this source)
	-9995		Loss of \$9990 or more
	-9985 to 74995		Income (or loss) in dollars (midpoint of \$10 interval)
	75000		Income of \$75000 or more
INCOME5	4	121	Social Security Income in 1979
	0000		N/A (under 15 years of age or no income from this source)
	0005-9995		Income in dollars (midpoint of \$10 interval)

INCOME6	4	125
	0000	Public Assistance Income in 1979 N/A (under 15 years of age or no income from this source)
	0005-9995	Income in dollars (midpoint of \$10 interval)
INCOME7	5	129
	00000	All Other Income in 1979 N/A (under 15 years of age or no income from sources other than those separately identified)
	00005-74995	Income in dollars (midpoint of \$10 interval)
	75000	Income of \$75000 or more
INCOME8	5	134
	00000	Income From All Sources in 1979 N/A (under 15 years of age or no income/loss from any source)
	-9995	Loss of \$9990 or more
	-9985 to 74995	Income (or loss) in dollars
	75000	Income of \$75000 or more
POVERTY	1	139
		Poverty Status In 1979 (Ratio of Family or Unrelated Individual Income in 1979 to Poverty Cutoff)
	0	N/A (inmate of institution, person in military group quarters or in college dormitory, or unrelated individual under 15 years of age)
		Below poverty level:
	1	Below .75 of poverty cutoff (including no income or net loss)
	2	.75 to .99
		Above poverty level:
	3	1.00 to 1.24
	4	1.25 to 1.49
	5	1.50 to 1.74
	6	1.75 to 1.99
	7	2.00 or more
ARELAT1	1	140
		Allocation of Household Relationship
	0	Not allocated
	1	Allocated, consistency edit (in CQ: cold deck)
	2	Allocated, hot deck (in households only)
ARELAT2	1	141
		Allocation of Detailed Relationship
	0	Not allocated
	1	Allocated

ASEX	1	142 Allocation of Sex
	0	Not allocated
	1	Allocated, consistency edit (in GQ: allocated)
	2	Allocated, hot deck (in households only)
AAGE	1	143 Allocation of Age
	0	Not allocated
	1	Allocated, hot deck (in GQ: cold deck)
	2	Allocated, hot deck (in GQ only)
AQTRBRTH	1	144 Allocation of Quarter of Birth
	0	Not allocated
	1	Allocated, cold deck
AMARITAL	1	145 Allocation of Marital Status
	0	Not allocated or N/A
	1	Yes, consistency edit
	2	Yes, hot deck
ARACE1	1	146 Allocation of Race
	0	Not allocated
	1	Allocated from relative, this household (in GQ: cold deck)
	2	Allocated from nonrelative, this house- hold (in GQ: hot deck)
	3	Allocated, hot deck (in households only)
ARACE2	1	147 Pre-edit of Detailed Race and American Indian
	0	Not allocated
	1	Allocated: pre-edit
ASPARTNISH	1	148 Allocation of Spanish Origin
	0	Not allocated
	1	Allocated from information for this person or from relative, this household (in GQ: allocation)
	2	Allocated from nonrelative, this house- hold (in household only)
	3	Allocated from information for this person or from hot deck, different household (in household only)
AANCSTRY	1	149 Pre-edit of Ancestry (both 1st and 2nd entry)
	0	Not allocated
	1	Allocated: pre-edit

ABIRTHPL	1	150 Allocation of Place of Birth
	0	Not allocated
	1	Allocated, pre-edit
	2	Allocated, consistency edit
	3	Allocated, hot deck
ACITIZEN	1	151 Allocation of Citizenship
	0	Not allocated
	2	Yes, consistency edit
	3	Yes, hot deck
AIMMIGR	1	152 Allocation of Year of Immigration
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
ALANG1	1	153 Allocation of Language Usage
	0	Not allocated or N/A
	2	Yes, consistency edit*
	3	Yes, hot deck
ALANG2	1	154 Allocation of Language Spoken at Home
	0	Not allocated or N/A
	1	Allocated, pre-edit
	2	Allocated, consistency edit
	3	Allocated, hot deck
ALANG3	1	155 Allocation of Ability to Speak English
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AFERTIL	1	156 Allocation of Children Ever Born
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
ATIMESMA	1	157 Allocation of Times Married
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AAGEMR	1	158 Allocation of Age at First Marriage and Quarter of First Marriage
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck

AWIDOWED	1	159 Allocation of Widowed
	0	Not allocated or N/A
	2	Allocated, consistency edit
	3	Allocated, hot deck
ASCHOOL	1	160 Allocation of School Enrollment and Type of School
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AYEARSCH	1	161 Allocation of Highest Year of School Attended
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AFINGRAD	1	162 Allocation of Finished Grade
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AAF75	1	163 Allocation of Activity in 1975: in Armed Forces
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
ACOLL75	1	164 Allocation of Activity in 1975: Attending College
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AWORK75	1	165 Allocation of Activity in 1975: Working at a job or Business
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AMIG751	1	166 Allocation of Residence in 1975: Same House/Different House
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AMIG752	1	167 Allocation of Residence in 1975: Specific Area
	0	Not allocated or N/A
	1	Allocated, pre-edit
	2	Allocated, consistency edit
	3	Allocated, hot deck

ATIME	1	168 Allocation of Travel Time to Work
	0	Not allocated or N/A
	3	Allocated, hot deck
AMEANS	1	169 Allocation of Means of Transportation to Work
	0	Not allocated or N/A
	3	Allocated, hot deck
ACARPOOL	1	170 Allocation of Carpooling
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
ARIDERS	1	171 Allocation of Carpool Occupancy
	0	Not allocated or N/A
	2	Allocated, consistency edit
	3	Allocated, hot deck
ADISABL1	1	172 Allocation of Work Disability Status: Limited
	0	Not allocated or N/A
	2	Yes, consistency edit*
	3	Yes, hot deck
ADISABL2	1	173 Allocation of Work Disability Status: Prevented from Working
	0	Not allocated or N/A
	2	Yes, consistency edit*
	3	Yes, hot deck
ADISABL3	1	174 Allocation of Public Transportation Disability Status
	0	Not allocated or N/A
	3	Yes, hot deck
AVET1	1	175 Allocation of Veteran Status
	0	Not allocated or N/A
	2	Yes, consistency edit*
	3	Yes, hot deck
AVET2	1	176 Allocation of Veterans Period of Service
	0	Not allocated or N/A
	3	Allocated, hot deck
AYEARWRK	1	177 Allocation of Year Last Worked
	0	Not allocated or N/A
	2	Yes, consistency edit*
	3	Yes, hot deck

ALABOR	1	178 Allocation of Labor Force Status
	0	Not allocated or N/A
	3	Allocated, hot deck
AHOURS	1	179 Allocation of Hours Worked Last Week
	0	Not allocated or N/A
	2	Allocated, consistency edit*
	3	Allocated, hot deck
AINDUSTR	1	180 Allocation of Industry
	0	Not allocated or N/A
	1	Allocated, pre-edit
	2	Allocated, consistency edit*
	3	Allocated, hot deck
AOCCUP	1	181 Allocation of Occupation
	0	Not allocated or N/A
	1	Allocated, pre-edit
	2	Allocated, consistency edit*
	3	Allocated, hot deck
ACCLASS	1	182 Allocation of Class of Worker
	0	Not allocated or N/A
	2	Yes, consistency edit*
	3	Yes, hot deck
AWORK79	1	183 Allocation of Work Last Year
	0	Not allocated or N/A
	2	Yes, consistency edit
	3	Yes, hot deck
AWEEKW79	1	184 Allocation of Weeks Worked in 1979
	0	Not allocated or N/A
	1	Yes, pre-edit
	3	Yes, hot deck
AHOUR79	1	185 Allocation of Usual Hours Worked Per Week in 1979
	0	Not allocated or N/A
	3	Allocated, hot deck
AWEEKU79	1	186 Allocation of Weeks Unemployed in 1979
	0	Not allocated or N/A
	1	Allocated, pre-edit*
	2	Allocated, consistency edit*
	3	Allocated, hot deck

AINCOME1	1	187 Allocation of Wage or Salary Income in 1979
	0	Not allocated or N/A
	1	Allocated, pre-edit*
	2	Allocated, consistency edit*
	3	Allocated, hot deck
AINCOME2	1	188 Allocation of Nonfarm Self-Employment Income in 1979
	0	Not allocated or N/A
	1	Allocated, pre-edit*
	2	Allocated, consistency edit*
	3	Allocated, hot deck
AINCOME3	1	189 Allocation of Farm Self-Employment Income in 1979
	0	Not allocated or N/A
	1	Allocated, pre-edit*
	2	Allocated, consistency edit*
	3	Allocated, hot deck
AINCOME4	1	190 Allocation of Interest, Dividend or Net Rental Income in 1979
	0	Not allocated or N/A
	1	Allocated, pre-edit*
	2	Allocated, consistency edit*
	3	Allocated, hot deck
AINCOME5	1	191 Allocation of Social Security Income in 1979
	0	Not allocated or N/A
	1	Allocated, pre-edit*
	2	Allocated, consistency edit*
	3	Allocated, hot deck
AINCOME6	1	192 Allocation of Public Assistance Income in 1979
	0	Not allocated or N/A
	1	Allocated, pre-edit*
	2	Allocated, consistency edit*
	3	Allocated, hot deck
AINCOME7	1	193 Allocation of All Other Income in 1979
	0	Not allocated or N/A
	1	Allocated, pre-edit*
	2	Allocated, consistency edit*
	3	Allocated, hot deck

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\*Not counted as an allocation in census publications (PC80-1-C)