Survey of Income and Program
Participation (SIPP) 1991 Panel
Wave 6 Topical Module Microdata File
TECHNICAL DOCUMENTATION
SIPP-91-6T

# SURVEY OF INCOME AND PROGRAM PARTICIPATION (SIPP) 1991 PANEL WAVE 6 TOPICAL MODULE MICRODATA FILE 

## Technical Documentation

Washington, D.C.

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#### Abstract

Survey of Income and Program Participation (SIPP) 1991 Panel, Wave 6 Topical Module Microdata File [machine-readable data file] / conducted by the U.S. Bureau of the Census. -Washington: The Bureau [producer and distributor], 1994.


Type of File:
Microdata; unit of observation is an individual.

## Universe Description:

The universe is the resident population of the United States; excluding persons living in institutions and military barracks.

## Subject-Matter Description:

The file contains data primarily from the topical module portion of the questionnaire. However, for purposes of matching persons to the core file, which was released separately, the beginning of the file contains identifying information as well as some basic demographic and social characteristics that are also contained in the core file. The identifying information includes sample unit, household address, and entry address identification. Demographic and social characteristics include age, sex, race (White; Black; American Indian, Eskimo, and Aleut; Asian or Pacific Islander; and Other), ethnic origin ( 23 categories including 7 Spanish origin categories), marital status, and education. Data in this topical module file include consumer durables, living conditions, and basic needs.

The sample consists of 4 -rotation groups, each-interviewed in a different month from October 1992 to January 1993. For each group the reference period for reporting labor force activity and income is the four calendar months preceding the interview month.

SIPP is a longitudinal survey where each sampled household and each descendent household is reinterviewed at 4 -month intervals for 8 interviews or "waves." This file contains the results of the sixth interview. Unique codes are included on each record to allow linking together the same persons from the preceding and subsequent waves.

## Geographic Coverage:

United States. Codes are included for 41 individual States and the District of Columbia, although the sample was not designed to produce State estimates. Areas in the SIPP sample in nine other States are identified in groups for confidentiality reasons. The file identifies a subsample of metropolitan residents, along with codes for selected metropolitan statistical areas (MSA's) and consolidated metropolitan statistical areas (CMSA's).

## Technical Description:

File Structure: Rectangular. Each logical record for a sampled person includes information on the household and family of which the person was a part during each month of the reference period, as well as characteristics of the person.

File Size: $\mathbf{3 7 , 0 5 3}$ logical records; 248 character logical record length.
File Sort Sequence of Sample Units: Sampling unit identification number by entry address ID and person number within sampling unit.

## Reference Materials:

Survey of Income and Program Participation (SIPP) 1991 Panel, Wave 6 Topical Module Microdata File Technical Documentation. The documentation includes this abstract, the data dictionary, an index to the data dictionary, relevant code lists, a questionnaire facsimile, and general information relative to SIPP. One copy of the technical documentation accompanies each file order but also may be purchased separately for $\$ 25$ from Data User Services Division, Customer Services, Bureau of the Census, Washington, D.C. 20233.

Interviewers' Manual (1985). Survey of Income and Program Participation. U.S. Department of Commerce, Bureau of the Census. The manual is available for $\$ 10$ from Data User Services Division, Customer Services, Bureau of the Census, Washington, D.C. 20233.

Survey of Income and Program Participation Users' Guide. The Users' Guide contains a general overview of the file as well as chapters on survey design and content, structure and use of cross-sectional files, linking waves and reliability of the data. A single copy accompanies each technical documentation or tape order. Additional copies are available for $\$ 15$ each from Customer Services, Data User Services Division, Bureau of the Census, Washington, D.C. 20233.

## Related Printed Reports:

Related printed reports include working papers, compilations of papers presented at annual meetings of the American Statistical Association, articles appearing in the Journal of Economic and Social Measurement, and reports in the P-70 series of the Current Population Reports. See the Users' Guide that accompanies the documentation for ordering information.

## Related Machine-Readable Data Files:

SIPP files from all Waves of the 1984 through 1991 Panels as well as Waves 1 through 3 of the 1992 Panel are available from Customer Services, Data User Services Division, Bureau of the Census, Washington, DC 20233. An order form is on the following page for your convenience.

File Availability:
Survey of Income and Program Participation (SIPP) 1991 Panel, Wave 6 Topical Module Microdata File is available at 6250 bpi; ASCII or EBCDIC, labeled or unlabeled. The file is also available on tape cartridges (IBM 3480 compatible) for the same price. A machine-readable dictionary is contained at the end of the file. This dictionary is also available separately on one tape reel. When ordering, please use the order form on the following page.

## FILE INFORMATION

## Matching Topical Module File with Core File

Since the core and topical module data are released as separate files it may be necessary to match the two files. The two files contain the following information for linking purposes.

| Variable | Brief Description |
| :--- | :--- |
|  |  |
| ID | Sample Unit ID (scrambled) |
| ADDID | Household address ID |
| ITEM36B | Interview status code |
| INTVW | Person's interview status |
| PP-MIS* | Person's monthly interview status |
| ENTRY | Edited entry address ID |
| PNUM | Edited person number |
| FINALWGT | Weighting factor |
| RRP | Edited relationship to reference person |
| AGE | Edited and imputed age as of last birthday |
| SEX | Sex of person |
| PNSP | Person number of spouse |
| PNPT | Person number of parent |
| HIGRADE | Highest grade of year of school attended |
| GRD-COMPL | Highest grade completed |
| ETHNICTY | Ethnic origin |

In order to confirm that the appropriate number of matches occur when merging data from core and topical module files, fields PP-MIS(1) through PP-MIS(4) for the four reference months and PP-MIS(5) for the interview month have been added. PP-MIS defines the monthly person interview status with 1 signifying an interview and 2 signifying a noninterview. Matching topical module records to month four on the person-month file should result in a match of all topical module records where PP-MIS(4) is equal to one. Although any reference month can be used for matching, month four is used because it is the closest month to the interview month available on the person-month files.

## Geographic Coverage

State codes are shown except for nine States which are identified in three groups. A subsample of metropolitan residents is identified along with codes for selected metropolitan statistical areas (MSA's) and consolidated metropolitan statistical areas (CMSA's). The sample was not designed to produce State or MSA/CMSA level estimates. State codes are primarily useful in relating a respondent's recipiency of benefits to thresholds which may vary from State to State. MSA/CMSA codes may be used in relating respondent characteristics with contextual variables.

## Identification Number System

The SIPP identification scheme is designed to uniquely identify individuals in each wave, provide a means of linking the same individuals over time, and group individuals into households and families over time.

The various components of the identification scheme are listed below:
Sample Unit Identification.Number
Address ID
Entry Address ID
Person Number

The sample unit identification number was created by scrambling together the PSU, segment, and serial numbers used for Census Bureau adminlstrative purposes. This identifier Is constructed the same way on each wave regardless of moves, to enable matching from wave to wave.

The two-digit address ID code identifies each household associated with the same sample unit identification number. The flrst digit of the address ID code Indicates the wave In which that address was first assigned for Intervlew. The second digit sequentially numbers multiple households that have the same serial number. The address ID code is 11 for all sample addresses that are the same as In Wave 1. As SIPP sample persons move to new addresses, new address ID codes are assigned. Any new address to which sample unit members moved during Wave 4 is numbered in the $40^{\prime}$ 's.

The person ID is a five-digit number consisting of the two-dlgit entry address ID and a three-digit person number. Person numbers 101, 102, etc., are assigned In Wave 1; 201, 202, etc., are assigned to persons added to the roster In Wave 2, and so forth. This five-digit number is not changed or updated, regardless of moves.

The sampling unit serial number and address ID code uniquely identifies each household In any given wave. The sampling unit serial number can IInk all households In subsequent waves back to the original Wave 1 household.

## Topcoding of Income Variables

To protect against the possibility that a user might recognize the identity of a SIPP respondent with very high income, Income from every source is "topcoded" so that no Individual income amounts above $\$ 100,000$ are revealed. While the data dictlonary Indicates a topcode of $\$ 33,332$ for monthly Income, this topcode will rarely be used. In most cases the monthly Income is shown as an Individual dollar amount of $\$ 8,333$, with $\$ 8,333$ actually representIng " $\$ 8,333$ or more." (the $\$ 100,000$ annual income topcode is $\$ 8,333$ multiplied by 12 months). Individual monthly amounts above $\$ 8333$ may occaslonally be shown if the respondent's income varied considerably from month to month, as long as the average does not exceed $\$ 8,333$. For example, if a respondents' Income from a single job were concentrated In only one of the four reference months, a figure as high as $\$ 33,332$ could be shown. (Income from Interest or property have lower topcodes).

Summary Income figures on the person, family, and household records are simple sums of the components shown on the file after topcoding, and are not independently topcoded. Thus, a person with high income from several sources (jobs, businesses, property) could have aggregate monthly income well over the topcode for each source. Familles and households with a number of high income members could theoretically have aggregate income shown well over $\$ 100,000$, though well below the $\$ 1.5$ million shown as the highest allowable value in the data dictionary.

The user is cautioned against trying to make much use of the occasional monthly figures above $\$ 8,333$, except in calculating aggregates or observing patterns across the 4-month period for a single individual, family, or household. Those units with higher monthly amounts shown are a biased sample of high income units, more likely to include units with Income from multiple sources than other units with equally high aggregate income which comes from a single source.

## GLOSSARY OF SELECTED TERMS


#### Abstract

Absent 1 or more weeks. Absent 1 or more weeks means absent without pay from a job or business. Persons were absent without pay in a month if they were 'with a job' during the entire month, but were not at work at that job during at least 1 full week (Sunday through Saturday) during the month, and did not receive wages or a salary for any time during that week. Reasons for an unpaid absence include vacation, illness, layoff, bad weather, labor disputes, and waiting to start a new job.


Family household. A family household is a household maintained by a family; any unrelated persons (unrelated subfamily members and/or secondary individuals) who may be residing there are included. The number of family households is equal to the number of families. The count of family househoid members differs from the count of family members, however, in that the family household members include all persons living in the household, whereas family members include only the househoider and his/her relatives.

Family. A family is a group of two or more persons (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such persons (including related subfamily members) are considered members of one family.

Farm-nonfarm residence. The farm population refers to rural residents living on farms. Under this definition, a farm is any place in rural territory from which sales of crops, livestock, and other agricultural products amounted to $\$ 1,000$ or more during the previous 12 -month period.

Full-time and part-time. The data on full- and part-time workers pertain to the number of hours a person usually worked per week during the weeks worked in the 4-month reference period of the survey. If the hours worked per week varied considerably, the respondent was asked to report an approximate average of the actual hours worked each week.

Persons 16 years old and over who reported usually working 35 or more hours each week during the weeks they worked are classified as 'full-time' workers; persons who reported that they usually worked fewer than 35 hours are classified as 'part-time' workers. The same definitions are used in the CPS.

Household. A household consists of all persons who occupy a housing unit. A house, an apartment or other group of rooms, or a single room is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters; that is, when the occupants do not live and eat with any other persons in the structure and there is either (1) direct access from the outside or through a common hall or (2) a kitchen or cooking equipment for the exclusive use of the occupants.

A household includes the related family members and all the unrelated persons, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit or a group of unrelated persons sharing a housing unit as partners is also counted as a household. The count of households excludes group quarters. Examples of group quarters include rooming and boarding houses, college dormitories, and convents and monasteries.

Householder. Survey procedures call for listing first the person (or one of the persons) in whose name the home is owed or rented. If the house is owned jointly by a married couple, either the husband or the wife may be listed first, thereby becoming the reference person, or householder, to whom the relationship of the other household members is recorded. One person in each househoid is designated as the 'householder.' The number of householders, therefore, is equal to the number of households.'

Layoff. In general, the word 'layoff' means release from a job because of slack work, material shortages, inventory taking, plant remodeling, installation of machinery, or other similar reasons. For this survey, persons were also on 'layoff' who did not have job but who responded that they has spent at least 1 week on layoff from a job and that they were available to accept a job.

In additlon, persons were on 'layoff' in a given month if they were 16 years old or over and (a) were 'with a job' but 'absent without pay' from that job for at least 1 full week during that month, and (b) they responded that their main reason for belng absent from their job or business was 'layoff.' 'On layoff' also includes a small number of persons who responded that they were walting to report to a new wage and salary job that was to begin within 30 days. In other words, persons waiting to begin a new job are classified together with persons waiting to return to a job from which they have been laid off.

Looking for work. Persons who 'looked for work' in a given month are those who were 16 years old or over and (a) were without a job during at least 1 week during the month, (b) tried to get work or establish a business or profession in that week, and (c) were available to accept a job. Examples of jobseeking activities are (1) registering at a public or private employment office, (2) meeting with prospective employers, (3) investigating possibillties for starting a professional practice or opening a business, (4) placing or answering advertisements, (5) writing letters of application, and (6) being on a professional register.

The CPS uses a similar concept of 'looking for work.' The term 'unemployed' as used in the CPS includes persons who were looking for work in the reference week and those who were 'on layoff' or 'waiting to begin a new job in 30 days."

Low-Income Home Energy Assistance Program. Benefits from the Federally funded LIHEAP authorized by Title XXVI of the Omnibus Budget Reconciliation Act of 1981, or comparable assistance provided through State funded assistance programs, may be received in the form of direct payment to the household as reimbursement for heating or cooling expenses or paid directly to the fuel dealer or landlord.

Means-tested benefits. The term means-tested benefits refers to programs that require the income or assets (resources) of the individual or family be below specified guidelines in order to qualify for benefits. These programs provide cash and noncash assistance to the low-income population. The major sources of meanstested cash and noncash assistance are shown in Appendix B-2.

Medicaid. This term refers to the Federal-State program of medical assistance for low-income individuals and their families as provided for by Titte XIX of the Social Securtly Act. The phrase 'Medicaid covered' refers to persons enrolled in the Medicaid program, regardless of whether they actually utilized any Medicaid covered health care services during the survey reference period.

Medicare. This term refers to the Federal Health Insurance Program for the Aged and Disabled as provided for by Title XVIII of the Social Security Act. The phrase 'Medicare covered' refers to persons enrolled in the Medicare program, regardless of whether they actually utilized any Medicare covered health care services during the survey reference period.

Monthly income. The monthly income estimates for households are based on the sum of the monthly income received by each household member age 15 years old or over.

Cash income includes all income received from any of the sources listed in Appendix B-1. Rebates, refunds, loans, and capital gain or loss amounts from the sale of assets, and Interhousehold transfers of cash such as allowances are not included. Accrued interest on Individual Retirement Accounts, KEOUGH retirement plans. and U.S. Savings bonds are also excluded. This definition differs somewhat from that used in the annual income reports based on the March CPS Income supplement questionnaire. These data, published in the Consumer Income Series, P-60, are based only on income received in a regular or periodic manner and, therefore, exclude lump-sum or one-time payments such as inheritances and insurance settlements. The March CPS income definition, however, does exclude the same income sources excluded by SIPP.

The income amounts represent amounts actually received during the month, before deductions for income and payroll taxes, union dues, Part B Medicare premiums, etc.

The SIPP income definition includes three types of earnings: wages and salary, nonfarm self-employment, and farm self-employment. The definition of nonfarm self-employment and farm self-employment is not based on the net difference between gross receipts or sales and operating expenses, depreciation, etc. The monthly amounts for these income types are based on the salary or other income received from the business by the owner of the business or farm during the 4-month reference period.

The Bureau of Labor Statistics publishes quarterly averages for an earnings concept called 'usual weekly earnings' for employed wage and salary workers. The concept differs from the SIPP earnings concept since it is based on usual, not actual earnings, excludes the self-employed, and excludes earnings from secondary jobs.

While the income amounts from most sources are recorded monthly for the 4-month reference period, property income amounts, interest, dividends, rental income, etc., were recorded as totals for the 4-month period. These totals were distributed equally between months of the reference period for purposes of calculating monthly averages.

Nonfamily household. A nonfamily household is a household maintained by a person living alone or with nonrelatives only.

Persons of Spanish origin. Persons of Spanish origin were determined on the basis of a question that asked for self-identification of the person's origin or descent. Respondents were asked to select their origin (or the origin of some other household member) from a 'flash card' listing ethnic origins. Persons of Spanish origin, in particular, were those who indicated that their origin was Mexican, Puerto Rican, Cuban, Central or South American, or some other Spanish origin. It should be noted that persons of Spanish origin may be of any race.

Population coverage. The estimates are restricted to the civilian noninstitutional population of the 50 States and members of the Armed Forces living off post or with their families on post.

Race. The population is divided into groups on the basis of race: White; Black; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; and 'other races.'

Special Supplemental Food Program for women, Infants, and Children (WIC). Benefits are received in the form of vouchers that are redeemed at retail stores for specific supplemental nutritious foods. Eligible lowincome recipients are infants and children up to age five and pregnant, postpartum, and breastfeeding women.

Unemployment compensation. This term refers to cash benefits paid to unemployed workers through a State or local unemployment agency. These include all benefits paid under the Federal-State unemployment insurance program as established under the Social Security Act, as well as those benefits paid to State and local government employees, Federal civilian employees, and veterans.

With a Job. Persons are classified 'with a job' in a given month if they were 16 years old or over and, during the month, either (a) worked as paid employees or worked in their own business or profession or on their own farm or worked without pay in a family business or farm or (b) were temporarily absent from work either with or without pay. In general, the word 'job' implies an arrangement for regular work for pay where payment is in cash wages or salaries, at piece rates, in tips, by commission, or in kind (meals, living quarters, supplies received). 'Job' also includes self-employment at a business, professional practice; or farm. A business is defined as an activity which involves the use of machinery or equipment in which money has been invested or an activity requiring an office or 'place of business' or an activity which requires advertising; payment may be in the form of profits or fees.

The Current Population Survey (CPS), the official source of labor force statistics for the Nation, uses the same definition for a job or business. The term 'with a job,' however, should not be confused with the term 'employed' as used in the CPS. 'With a job' includes those who were temporarily absent from a job because of layoff and those waiting to begin a new job In 30 days; in the CPS these persons are not considered 'employed.' See 'Worked each week' below.

With labor force activity. The term 'with labor force activity' includes all persons with a job (as defined above) and those looking for work or on layoff from a job for at least 1 week during a given month. Conversely, those persons 'with no labor force activity' had no job, were not on layoff from a job and made no effort to find a job during the month.

Work disability. Persons were classified as having a work disability if they were identified by the respondent as having a physical, mental, or other health condition that limits the kind or amount of work they can do.

Worked each week. Persons 'worked each week' in a month if, for the entire month, they were 'with a job' and not 'absent without pay' from the job. In other words, a person worked each week in any month when they were (a) on the job the entire month, or (b) they recelved wages or a salary for all weeks in the month, whether they were on the job or not. Persons also worked each week if they were self-employed and spent time during each week of the month at or on behalf of the business or farm they owned, as long as they received or expected to recelve profit or fees for their work.

In the CPS, the concept at 'work' includes those persons who spent at least 1 hour during the reference week at their job or business. In the CPS, however, 'at work' does not include persons who were temporarily absent from their jobs during the entire reference week on paid vacation, sick leave, etc. In SIPP, 'worked each week' does include persons on paid absences.

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## HOW TO USE THE DATA DICTIONARY

The Data Dictionary describes the contents and record layout of the public-use computer tape file. The first line of each data tem description gives the data name, size of the data field, and the begin position of the field.

The next few lines contain descriptive text and any applicable notes. Categorical value codes and labels are given where needed. Comment notes marked by an (*) are provided throughout. Comments should be removed from the machine-readable version of the data dictionary before using it to help access the data file.

Data. Alphabetic, numeric, and the special character ( - ). No other special characters are used. It may be a mnemonic such as "STATE" or "SE1-OCC", or a sequential identifier such as "SC1176" or "WS-IMP01". Data item names are unique throughout the entire file.

Size. Numeric. The size of a data item is given in characters. Indication of implied decimal places is provided in notes.

Begin. Numeric. Contains the location in the data record of the first character position of the data item field.

The first line of each data item description begins with the character "D" (left-justified, two characters). The "D" flag indicates lines in the data dictionary containing the name, size, relative begin and begin position of each data item. This information (in machine-readable form) can be used to help access the data file. The line beginning with the character " $U$ " describes the universe for that item. Lines containing categorical value codes and labels follow next and begin with the character " $V$ ". The special character (.) denotes the start of the value labels. Two examples of data item descriptions follow:

```
D SC1218 1 2805
    What was the main reason ... could
    not take a job during those weeks
U Persons }15\mathrm{ years old or older
V 0.Not in universe
V 1.Already had a job
V 2.Temporary illness
V 3.School
V 4.Other
D RR3064 2 3760
    Railroad retirement sends out two types
    of checks; which color check does ...
    receive.
U Persons age 15 years or older receiving
    railroad retirement
V -1 .DK
V 00.Not in universe
V 01 .Blue
V 02.Buff
V 03.Direct deposit
V 04.Other
```


## SIPP 1991 WAVE 6 TOPICAL MODULE DATA DICTIONARY




sample person in this
1 .Married, spouse present
2 .Married, spouse absent
3 .Widowed
4 .Divorced
5 .Separated
6 .Never married
$\begin{array}{lc:c}\text { PNSP } & 3 \\ \text { Person number of } & 54 \\ \text { spouse }\end{array}$
000 .Not a sample person in this .month
999 .Not applicable

Person number of parent
U Persons 15 years old or older
$V \quad 000$. Not a sample person in this
999 .Not applicable

What is the highest grade or year of
regular school this person attended?
U Persons 15 years old or older
00 .Not applicable if under 15, . did not attend or attended only .kindergarten
01-08 . Elementary
09-12 . High school
21-26 .College

Did he/she complete that grade
U Persons 15 years old or older

ETHNICTY $2 \quad 63$
All persons, including children
02 . English
03 .Irish
04 .French
.Italian
06 .Scottish
08 . 0 lish
09 .Swedish
10 . Norwegian
12 .Ukrainian
13 .Welsh
14 .Mexican-American
icano
.Mexican
18 .Cuban
19 . Central or South American .(Spanish speaking)
20 .Other Spanish
.Afro-American
30 . Another group not listed
39. .Don't know

Wave within Panel year

Respondent's entry address ID


| DATA | SIZE | BE |
| :--- | :--- | :--- |
| TM8130 | 2 | 11 |

The gerieral state of repair of your home?
U All reference persons
D TM8132 : 2116
The amount of room or space your home has?
U All reference persons
D TM8134 2118
The furnishings in your home?
U All reference persons
D TM8136 2120
The warmth of your home in winter?
U All reference persons
D TM8138 2122
The coolness of your home in summer?
U All reference persons
D TM8140 2
The amount of privacy your home offers?
U All reference persons
D TM8142 2126
The security or safety of your home?
U All reference persons
D TM8144 2128
The convenience of your home to stores and shopping?
U All reference persons •
D TM8146 2130
Your relationship with neighbors?
U All reference persons

## D TM8148 2132

Do you feel that the conditions in this
house are undesirable enough that you
would like to move?
U All reference persons
$\begin{array}{ll}v & -1 \text {. Don't know } \\ v & 00 \text {. Not applica }\end{array}$
$V \quad 00$.Not applicable
01 .Yes

D TM8150 2134
On a scale of 1 to 10 , how would you
rate this (house/apartment) as a
place to live?
10 is best and 1 is worst.
U All reference persons
V -1 .Don't know

V $\quad 00$. Not applicable
v 01-10 .Rating
D TM8152 2136
On a scale of 1 to 10, how would you
rate this neighborhood? 10 is best
and 1 is worst.
U All reference persons
$V$-1 .Don't know
$v \quad 00$. Not applicable
V. 01-10. Rating
*********************************************

* Section B - Crime




DATA
SIZE BEGIN

D TM8196 2173
Neighborhood stores?
U All reference persons
D TM8198 2175
Quality of education in local schools?
U All reference persons
D TM8200 2177
Safety in local schools?
U All reference persons
D TM8202 2179
Education or training opportunities
in the community?
U All reference persons
D TM8204 2 2 181
Do you feel that the services in your area are unsatisfactory enough that you would like to move?
U All reference persons

| $\mathbf{v}$ | -1 .Don't know |
| :--- | :--- |
| $\mathbf{v}$ | 00 . Not applicable |
| $\mathbf{v}$ | 01 .Yes |
| $\mathbf{v}$ | 02 .No |

*********************************************

* Part C - Basic needs


* Section A - Ability to meet expenses


```
D TM8300 2 183
    During the past }12\mathrm{ months, has there been
    a time when your household did not meet
    its essential expenses? by essential
    expenses, l mean things like the mortgage
    or rent payment, utility bills, or
    important medical care.
U All reference persons
            -1 .Don't know
                    00.No't applicable
                        01 .Yes
                            O2.No
```

*********************************************

* In the past 12 months has there been a *
* time when your household... *
* Possible answere are: . *
* 
* V -1 .Don't know . *
* V 00.Not applicable *
* V 01 .Yes *
* V 02 .No *
D TM8302 2185
Did not pay the full amount of the
rent or mortgage?
U All reference persons
D TM8304 187
Did any person or organization help?
U All persons who did not pay the full amount
of the rent or mortgage

| $v$ | 0 |
| :--- | :--- |
| $v$ | 1. . Yot applicable |

$v \quad 2$.No


********************************************** Section 8 - Help when in need*
*********************************************
D TM8344 2220If your household had a problem withwhich you needed help (for example,sickness or moving), how much helpwould you expect to get from familyliving nearby?
U All reference persons
$V \quad-1$. Don't know
v $\quad 00$.Not in sample
$v$ 01 . All of the help $1 /$ we need
02 . Most of the help I/we need
03 .Very little of the help I/we.need
04 . No help

|  | data size begin | data size begin |
| :---: | :---: | :---: |
|  | TM8346 222 | D TM8354 1229 |
|  | If your household had a problem with | Two months ago |
|  | which you needed help, how much help | U All reference persons |
|  | would you expect to get from friends? <br> All reference persons | D TM8356 1230 |
| $v$ | -3 .Not applicable | Three months ago |
| $v$ | -1.Don't know | U All reference persons |
| $v$ | 00 . Not in sample |  |
| $v$ | 01 . All of the help l/we need | D TM8358 231 |
| v | 02 .Most of the help 1/we need | Four months ago |
| $v$ | 03 .Very little of the help l/we | U All reference persons |
| $v$ | . need |  |
|  | 04 . No help | ******************************************* |
|  |  | * Which of the following reasons explain |
|  | TM8348 2224 | * why your family did not have enough food? |
|  | If your household had a problem with | * Possible answers are : |
|  | which you needed help, how much help | * $V$ - |
|  | would you expect to get from other | $v \quad-1$.Don't know |
|  | people in the community besides family | 00. Not applicable |
|  | and friends, such as a social agency or | V 01.Yes |
|  | a church? | $V \quad 02$.No |
|  | All reference persons | ****************************** |
|  | -3 .Not applicable |  |
| $v$ | -1. Don't know | D TM8360 2 . 232 |
| $v$ | 00 . Not in sample | Did not have enough money, food |
| v | 01 . All of the help 1/we need | stamps, or WIC vouchers to buy food |
| $v$ | 02. Most of the help 1/we need | or beverages? |
| $v$ | 03 . Very little of the help l/we | U All reference persons |
| $v$ | .need |  |
| $v$ | 04 .No help | D TM8362 2334 |
|  |  | Did not have working appliances for |
|  | ******************************************** | storing or preparing foods (such as a |
|  | Section C - Food adequacy * * * * | stove or refrigerator)? |
|  | ******************************************** | $U$ All reference persons |
|  | TM8350-226 | D-TM8364 236 |
|  | Which of these statements best describe | Did not have transportation |
|  | the food eater in your household in the | (transportation problems)? |
|  | last four months? | U All reference persons :- |
|  | All reference persons |  |
|  | -1 .Don't know - skip to Check | D TM8366 238 |
| $v$ | . Item C1 | Some other reason |
| $v$ | 00 . Not applicable | U All reference persons: |
| $v$ | 01 . Enough of the kinds of food we |  |
|  | .want - skip to Check Item C1 | D TM8368 240 |
| $v$ | 02 . Enough but not always the kinds | Thinking about the past month, how many |
| $v$ | -we want to eat - skip to Check | days did your household have no food or |
| $v$ | -Item C1 | money (or food stamps) to buy food? |
| $v$ | 03 . Somet imes not enough to eat | U All reference persons |
| $v$ | 04 . Often not enough to eat | $v \quad-3$.None - skip to Check Item c1 |
|  |  | $v$ 00-99 .Number of days |
| *********************************************** |  |  |
| * In which months did the household not have* <br> * enough to eat? <br> * Possible answers are : |  | D TM8370 6242 |
|  |  | Short on its food budget last month? |
|  |  | $v \quad-00001$.Don't know |
|  |  | $v \quad 000000$.Not applicable |
|  | 0 .Not applicable | V 1-999999. Dollar amount |
| 1 .Did not have enough to eat |  |  |
|  |  | D FILLER Blank or 1 248 zero filler |
| D TM8352 <br> Last month <br> U All reference persons |  |  |
|  |  |  |
|  |  |  |

## SOURCE AND ACCURACY STATEMENT <br> FOR THE 1991 WAVE 6+ PUBLIC USE FILES <br> FROM THE SURVEY OF INCOME AND PROGRAM PARTICIPATION (SIPP)

## SOURCE OF DATA

The SIPP universe is the noninstitutionalized resident population living in the United States. The population includes persons living in group quarters, such as dormitories, rooming houses, and religious group dwellings. Not eligible to be in the survey are crew members of merchant vessels, Armed Forces personnel living in military barracks, and institutionalized persons, such as correctional facility inmates and nursing home residents. Also, not eligible are United States citizens residing abroad. Foreign visitors who work or attend school in this country and their families are eligible; all others are not eligible. With the exceptions noted above, field representatives interview eligible persons who are at least 15 years of age at the time of the interview.

The 1991 panel of the SIPP sample is located in 230 Primary Sampling Units (PSUs) each consisting of a county or a group of contiguous counties. Within these PSUs, we systematically selected expected clusters of two living quarters (LQs) from lists of addresses prepared for the 1980 decennial census to form the bulk of the sample. To account for LQs built within each of the sample areas after the 1980 census we selected a sample containing clusters of four LQs from permits issued for construction of residential LQs up until shortly before the beginning of the panel.

In jurisdictions that have incomplete addresses or don't issue building permits, we sampled small land areas, listed expected clusters of four LQs, and then subsampled. In addition, we selected a sample of LQs from a supplemental frame that included LQs identified as missed in the 1980 census.

Approximately 19,300 living quarters were originally designated for the 1991 panel. For Wave 1 of the panel, we obtained interviews from occupants of about 14,300 of the 19,300 designated living quarters. We found most of the remaining 5,000 living quarters in the panel to be vacant, demolished, converted to nonresidential use, or otherwise ineligible for the survey. However, we did not interview approximately 1,300 of the 5,000 living quarters in the panel because the occupants refused to be interviewed, could not be found at home, were temporarily absent, or were otherwise unavailable. Thus, occupants of about 92 percent of all eligible living quarters participated in the first interview of the panel.

For subsequent interviews, only original sample persons (those in Wave 1 sample households and interviewed in Wave 1) and persons living with them are eligible to be interviewed. We followed original sample persons if they moved to a new address, unless the new address was more than 100 miles from a SIPP sample area, we attempted telephone interviews. When original sample persons moved to remote parts of the
country and were unreachable by telephone, moved without leaving a forwarding address, or refused the interview, additional noninterviews resulted.

The Bureau divides sample households within a given panel into four subsamples of nearly equal size. We call these subsamples rotation groups $1,2,3$, or 4 and interview one rotation group each month. Beginning in February 1991, we schedule interviews for each household in the sample at 4 month intervals over a period of roughly $21 / 2$ years. The reference period for the questions is the 4 -month period preceding the interview month. A wave is one cycle of four interviews covering the entire sample, using the same questionnaire.

A unique feature of the SIPP design is overlapping panels. The overlapping design allows combining of panels and essentially doubles the sample size. It is possible to combine selected interviews for the 1991 panels with interviews from the 1990 panels. We include information necessary to do this later in this statement.

The public use files include core and supplemental (topical module) data. Field representatives repeat core questions at each interview over the life of the panel. Topical modules include questions which are asked only in certain waves. The 1991 and 1990 panel topical modules are shown in tables 1 and 2 respectively.

Tables 3 and 4 indicate the reference months and interview months for the collection of data from each rotation group for the 1991 and 1990 panels respectively. For example, Wave 1 rotation group 2 of the 1991 panel was interviewed in February 1991 and data for the reference months October 1990 through January 1991 were collected.

Estimation. We derived SIPP person weights in each panel from several stages of weight adjustments. In the first wave, we gave each person a base weight equal to the inverse of his/her probability of selection. For each subsequent interview, the Bureau gave each person a base weight that accounted for following movers.

We applied a factor to each interviewed person's weight to account for the SIPP sample areas not having the same population distribution as the strata they are from.

We applied a noninterview adjustment factor to the weight of every occupant of interviewed households to account for persons in noninterviewed occupied households which were eligible for the sample. (The Bureau treated individual nonresponse within partially interviewed households with imputation. We made no special adjustment for noninterviews in group quarters.)

The Bureau used complex techniques to adjust the weights for nonresponse. .For a further explanation of the techniques used, see the Nonresponse Adjustment Methods for Demographic Surveys at the U.S. Bureau of the Census, November 1988, Working paper 8823, by R. Singh and R. Petroni. The success of these techniques in avoiding bias is
unknown. An example of successfully avoiding bias can be found in "Current Nonresponse Research for the Survey of Income and Program Participation" (paper by Petroni, presented at the Second International Workshop on Household Survey Nonresponse, October 1991).

We performed an additional stage of adjustment to persons' weights to reduce the mean square errors of the survey estimates. We accomplished this by ratio adjusting the sample estimates to agree with monthly Current Population Survey (CPS) type estimates of the civilian (and some military) noninstitutional population of the United States at the national level by demographic characteristics including age, sex, and race as of the specified date. The Bureau brought CPS estimates by age, sex, and race into agreement with adjusted estimates from the 1990 decennial census. Adjustments to the 1990 decennial census estimates include an adjustment for undercount ${ }^{1}$ and also reflect births, deaths, immigration, emigration, and changes in the Armed Forces since 1990. In addition, we controlled SIPP estimates to independent Hispanic controls and made an adjustment to assign equal weights to husbands and wives within the same household. We implemented all of the above adjustments for each reference month and the interview month.

The 1991 panel wave 6 is the first panel and wave to use the 1990 census based controls in the weighting. Weights for earlier waves were based on independent population estimates derived by updating the 1980 decennial census counts.

Tables 5 through 10 show the effect of the new population controls on:

```
- age,
- sex,
- race,
- Hispanic Origin,
- household type,
- mean monthly income,
- program participation,
- labor force participation, and
- health insurance coverage
```

by comparing the 1991 panel wave 6 estimates using 1990 census based population controls to estimates using the updated 1980 census based population controls. The 1990 decennial population counts differed somewhat from the independent estimate derived by updating the 1980 counts. The estimates show differences in the absolute numbers

[^0]such as $247,860,000$ total nonfarm population based on the 1980 controls compared to $250,420,000$ persons based on 1990 controls.

The use of the new controls may have a significant impact on the absolute numbers. However, this difference has little impact on the weighted survey estimates of summary measures (such as means and medians) and proportional measures (such as percent distributions). The distribution of households by type by race and Hispanic Origin are nearly identical, as are the distributions of persons by age by sex. The 1980 based and 1990 based estimates of mean household income were similar ( $\$ 3,526$ and $\$ 3,517$, respectively). Also, the proportion of persons receiving benefits from means-tested programs ( 22.9 percent 1980 based compared to 23.3 percent 1990 based), the percent of persons with some labor force activity ( 66.2 percent 1980 based compared to 66.4 percent 1990 based), and the proportion of persons without any health insurance coverage ( 13.5 percent 1980 based compared to 13.7 percent 1990 based) did not show substantial differences between estimates based on different population controls.

Use of Weights. Each household and each person within each household on each wave tape has five weights. Four of these weights are reference month specific and therefore can be used only to form reference month estimates. Average reference month estimates to form estimates of monthly averages over some period of time. For example, using the proper weights, one can estimate the monthly average number of households in a specified income range over November and December 1990. To estimate monthly averages of a given measure (e.g., total, mean) over a number of consecutive months, sum the monthly estimates and divide by the number of months.

The remaining weight is interview month specific. Use this weight to form estimates that specifically refer to the interview month (e.g., total persons currently looking for work), as well as estimates referring to the time period including the interview month and all previous months (e.g., total persons who have ever served in the military).

To form an estimate for a particular month, use the reference month weight for the month of interest, summing over all persons or households with the characteristic of interest whose reference period includes the month of interest. Multiply the sum by a factor to account for the number of rotations contributing data for the month. This factor equals four divided by the number of rotations contributing data for the month. For example, December 1991 data is only available from rotations 2,3, and 4 for Wave 1 of the 1991 panel (see table 3), so apply a factor of $4 / 3$. To form an estimate for an interview month, use the procedure discussed above using the interview month weight provided on the file.

Apply factors greater than 1 when constructing estimates for months with four rotations worth of data from a wave file. However, when using core data from consecutive waves together, data from all four rotations may be available, in which case the factors are equal to 1 .

These tapes contain no weight for characteristics that involve a persons's or household's status over two or more months (e.g., number of households with a 50 percent increase in income between November and December 1990).

Producing Estimates for Census Regions and States. The total estimate for a region is the sum of the state estimates in that region. Using this sample, estimates for individual states are subject to very high variance and are not recommended. The state codes on the file are primarily of use for linking respondent characteristics with appropriate contextual variables (e.g., state-specific welfare criteria) and for tabulating data by userdefined groupings of states.

Producing Estimates for the Metropolitan Population. For Washington, DC and 11 states, we identify metropolitan or non-metropolitan residence (variable $\mathrm{H}^{*}$-METRO). In 34 additional states, where the non-metropolitan population in the sample was small enough to present a disclosure risk, we recoded a fraction of the metropolitañ sample to be indistinguishable from non-metropolitan cases ( $\mathrm{H}^{*}-\mathrm{METRO}=2$ ). In these states, therefore, the cases coded as metropolitan ( $\mathrm{H}^{*}-\mathrm{METRO}=1$ ) represent only a subsample of that population.

In producing state estimates for a metropolitan characteristic, multiply the individual, family, or household weights by the metropolitan inflation factor for that state, presented in table 11. (This inflation factor compensates for the subsampling of the metropolitan population and is 1.0 for the states with complete identification of the metropolitan population.)

The same procedure applies when creating estimates for particular identified MSA's or CMSA's-apply the factor appropriate to the state. For multi-state MSA's, use the factor appropriate to each state part. For example, to tabulate data for the Washington, DC-MD-VA MSA, apply the Virginia factor of 1.0521 to weights for residents of the Virginia part of the MSA; Maryland and DC residents require no modification to the weights (i.e., their factors equal 1.0).

In producing regional or national estimates of the metropolitan population, it is also necessary to compensate for the fact that we don't identify a metropolitan subsample within two states (Mississippi and West Virginia) and one state-group (North Dakota South Dakota - Iowa). Thus, use factors in the right-hand column of table 11 for regional and national estimates. The results of regional and national tabulations of the metropolitan population will be biased slightly. However, less than one-half of one percent of the metropolitan population is not represented.

Producing Estimates for the Non-Metropolitan Population. State, regional, and national estimates of the non-metropolitan population cannot be computed directly, except for Washington, DC and the 11 states where the factor for state tabulations in table 11 is 1.0. In all other states, the cases identified as not in the metropolitan subsample
(METRO = 2) are a mixture of non-metropolitan and metropolitan households. Only an indirect method of estimation is available: first compute an estimate for the total population, then subtract the estimates for the metropolitan population. The results of these tabulations will be slightly biased.

Combined Panel Estimates. Both the 1991 and 1990 panels provide data for October 1990-August 1992. Thus, obtain estimates for these time periods by combining the corresponding panels. However, since the Wave 1 questionnaire differs from the subsequent waves' questionnaire and since the procedures changed between the $1990^{\circ}$ and 1991 panels, we recommend that estimates not be obtained by combining Wave 1 data of the 1991 panel with data from another panel. In this case, use the estimate obtained from either panel. Additionally, even for other waves, care should be taken when combining data from two panels since questionnaires for the two panels differ somewhat and since the length of time in sample for interviews from the two panels differ.

Obtain combined panel estimates either (1) by combining estimates derived separately for the two panels or (2) by first combining data from the two files and then producing an estimate.

## 1. Combining Separate Estimates

Combine corresponding estimates from two consecutive year panels to create joint estimates by using the formula

$$
\begin{equation*}
\hat{J}=W \hat{U}_{1}+(1-W) \hat{J}_{2} \tag{A}
\end{equation*}
$$

```
S = joint estimate (total, mean, proportion, etc);
```

$\hat{J}_{1}=$ estimate from the earlier panel;
$\hat{J}_{2}=$ estimate from the later panel;
$\mathrm{W}=$ weighting factor of the earlier panel.

To combine the 1990 and 1991 panels use a W value of 0.613 unless one of the panels contributes no information to the estimate. In that case, assign the panel contributing information a factor of 1 . Assign the other a factor of zero.

## 2. Combining Data from Separate Files

Start by first creating a file containing the data from the two panel files. Apply the weighting factor, W , to the weight of each person from the earlier panel and apply ( $1-\mathrm{W}$ ) to the weight of each person from the later panel. Then produce estimates using the same methodology as used to obtain estimates from a single panel.

## Illustration for computing combined panel estimate.

Suppose SIPP estimates for Wave 5, 1990 panel show there were 441,000 hoūseholds with monthly December income above $\$ 6,000$. Also, suppose SIPP estimates for Wave 2, 1991 panel show there were 435,000 households with monthly December income above $\$ 6,000$. Using formula (A), the joint level estimate is

$$
\hat{J}=(0.613)(441,000)+(0.387)(435,000)=439,000
$$

## ACCURACY OF ESTIMATES

We base SIPP estimates on a sample. The sample estimates may differ somewhat from the values obtained from administering a complete census using the same questionnaire, instructions, and enumerators. The difference occurs because with an estimate based on a sample survey two types of errors are possible: nonsampling and sampling. We can provide estimates of the magnitude of the SIPP sampling error, but this is not true of nonsampling error. The next few sections describe SIPP nonsampling error sources, followed by a discussion of sampling error, its estimation, and its use in data analysis.

Nonsampling Variability. We attribute nonsampling errors to many sources, they include:

- inability to obtain information about all cases in the sample,
- definitional difficulties,
- differences in the interpretation of questions,
- inability or unwillingness on the part of the respondents to provide correct information,
- inability to recall information,
- errors made in collection (e.g. recording or coding the data),
- errors made in processing the data,
- errors made in estimating values for missing data,
- biases resulting from the differing recall periods caused by the interviewing pattern used,
- undereoverage.

We used quality control and edit procedures to reduce errors made by respondents, coders and interviewers. More detailed discussions of the existence and control of nonsampling errors in the SIPP are in the SIPP Quality Profile.

Undercoverage in SIPP resulted from missed living quarters and missed persons within sample households. It is known that undercoverage varies with age, race, and sex. Generally, undercoverage is larger for males than for females and larger for Blacks than for Nonblacks. Ratio estimation to independent age-race-sex population controls partially corrects for the bias due to survey undercoverage. However, biases exist in the estimates when persons in missed households or missed persons in interviewed households have characteristics different from those of interviewed persons in the same age-race-sex group. Further, we didn't adjust the independent population controls for undercoverage in the Census.

A common measure of survey coverage is the coverage ratio, the estimated population before ratio adjustment divided by the independent population control. Table 12 shows CPS coverage ratios for age-sex-race groups for 1992. The CPS coverage ratios can exhibit some variability from month to month, but these are a typical set of coverage ratios. Other Census Bureau household surveys like the SIPP experience similar coverage.

Comparability with Other Estimates. Exercise caution when comparing data from this report with data from other SIPP publications or with data from other surveys. Comparability problems are from varying seasonal patterns for many characteristics, different nonsampling errors, and different concepts and procedures. Refer to the SIPP Quality Profile for known differences with data from other sources and further discussion.

Sampling Variability. Standard errors indicate the magnitude of the sampling error. They also partially measure the effect of some nonsampling errors in response and enumeration, but do not measure any systematic biases in the data. The standard errors mostly measure the variations that occurred by chance because we surveyed a sample rather than the entire population.

## USES AND COMPUTATION OF STANDARD ERRORS

Confidence Intervals. The sample estimate and its standard error enable one to construct confidence intervals, ranges that would include the average result of all possible samples with a known probability. For example, if we selected all possible
samples and surveyed each of these under essentially the same conditions and with the same sample design, and if we calculated an estimate and its standard error from each sample, then:

1. Approximately 68 percent of the intervals from one standard error below the estimate to one standard error above the estimate would include the average result of all possible samples.
2. Approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average result of all possible samples.
3. Approximately 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the average result of all possible samples.

The average estimate derived from all possible samples is or is not contained in any particular computed interval. However, for a particular sample, one can say with a specified confidence that the confidence interval includes the average estimate derived from all possible samples.

Hypothesis Testing. One may also use standard errors for hypothesis testing. Hypothesis testing is a procedure for distinguishing between population characteristics using sample estimates. The most common type of hypothesis tested is 1 ) the population. characteristics are identical versus 2) they are different. One can perform tests at various levels of significance, where a level of significance is the probability of concluding that the characteristics are different when, in fact, they are identical.

Unless noted otherwise, all statements of comparison in the report passed a hypothesis test at the 0.10 level of significance or better. This means that, for differences cited in the report, the estimated absolute difference between parameters is greater than 1.6 times the standard error of the difference.

To perform the most common test, compute the difference $\mathrm{X}_{\mathrm{A}}-\mathrm{X}_{\mathrm{B}}$, where $\mathrm{X}_{\mathrm{A}}$ and $\mathrm{X}_{\mathrm{B}}$ are sample estimates of the characteristics of interest. A later section explains how to derive an estimate of the standard error of the difference $X_{A}-X_{B}$. Let that standard error be $\mathrm{s}_{\text {DIFF }}$. If $\mathrm{X}_{\mathrm{A}}-\mathrm{X}_{\mathrm{B}}$ is between -1.6 times $\mathrm{s}_{\text {DIFF }}$ and +1.6 times $\mathrm{s}_{\text {DIFP }}$, no conclusion about the characteristics is justified at the 10 percent significance level. If, on the other hand, $\mathrm{X}_{\mathrm{A}}-\mathrm{X}_{\mathrm{B}}$ is smaller than -1.6 times $\mathrm{s}_{\text {DiFf }}$ or larger than +1.6 times $\mathrm{s}_{\text {DIFF }}$, the observed difference is significant at the 10 percent level. In this event, it is commonly accepted practice to say that the characteristics are different. Of course, sometimes this conclusion will be wrong. When the characteristics are, in fact, the same, there is a 10 percent chance of concluding that they are different.

Note that as we perform more tests, more erroneous significant differences will occur. For example, at the 10 percent significance level, if we perform 100 independent hypothesis tests in which there are no real differences, it is likely that about 10 erroneous differences will occur. Therefore, interpret the significance of any single test cautiously.

Note Concerning Small Estimates and Small Differences. We show summary measures in the report only when the base is 200,000 or greater. Because of the large standard errors involved, there is little chance that estimates will reveal useful information when computed on a base smaller than 200,000. Also, nonsampling error in one or more of the small number of cases providing the estimate can cause large relative error in that particular estimate. We show estimated numbers, however, even though the relative standard errors of these numbers are larger than those for the corresponding percentages. We provide smaller estimates primarily to permit such combinations of the categories as serve each user's needs. Therefore, be careful in the interpretation of small differences since even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test.

Standard Error Parameters and Tables and Their Use. Most SIPP estimates have greater standard errors than those obtained through a simple random sample because we sampled clusters of living quarters for the SIPP. To derive standard errors at a moderate cost and applicable to a wide variety of estimates, we made a number of approximations. We grouped estimates with similar standard error behavior and developed two parameters (denoted "a" and "b") to approximate the standard error behavior of each group of estimates. Because the actual standard error behavior was not identical for all estimates within a group, the standard errors we computed from these parameters provide an indication of the order of magnitude of the standard error for any specific estimate. These "a" and "b" parameters vary by characteristic and by demographic subgroup to which the estimate applies. Use base " a " and " b " parameters found in table 13 for 1991 panel estimates. Note that for estimates which include data for wave 5 and beyond multiply the "a" and " b " parameters by 1.09 to account for sample attrition.

The factors provided in table 14 when multiplied by the base parameters of table 13 for a given subgroup and type of estimate give the "a" and " $b$ " parameters for that subgroup and estimate type for the specified reference period. For example, the base "a" and "b" parameters for total number of households are -0.0001005 and 9,286 , respectively. For Wave 1 the factor for October 1990 is 4 since only 1 rotation month of data is available. So, the "a" and " b " parameters for total household income in October 1990 based on Wave 1 are -0.0004020 and 37,144 , respectively. Also for Wave 1, the factor for the first quarter of 1991 is 1.2222 since 9 rotation months of data are available (rotations 1 and 4 provide 3 rotations months each, while rotations 2 and 3 provide 1 and 2 rotation months, respectively). So the "a" and "b" parameters for total number of households in the first quarter of 1991 are -0.00001228 and 11,349 , respectively for Wave 1.

Use the "a" and "b" parameters to calculate the standard error for estimated numbers and percentages. Because the actual standard error behavior was not identical for all estimates within a group, the standard errors computed from these parameters provide an indication of the order of magnitude of the standard error for any specific estimate. The following sections give methods for using these parameter for computation of approximate standard errors.

For users who wish further simplification, we also provide general standard errors in tables 15 and 18. Note that you need to adjust these standard errors by a factor from table 13. The standard errors resulting from this simplified approach are less accurate. Methods for using these parameters and tables for computation of standard errors are given in the following sections.

For the 1990, 1991 combined panel parameters, multiply the parameters in table 13 by the appropriate factor from table 22. The factors provided in table 23 adjust parameters for the number of rotation months available for a given estimate. These factors, when multiplied by the combined panel parameters derived from table 13 for a given subgroup and type of estimate, give the "a" and " b " parameters for that subgroup and estimate type for the specified combined reference period.

Table 19 provides base " a " and " b " parameters for calculating 1991 topical module variances. Table 20 provides base "a" and "b" parameters for computing the 1990, 1991 combined panel topical module variances.

Described below are procedures for calculating standard errors for the types of estimates most commonly used. Note specifically that these procedures apply only to reference month estimates or averages of reference month estimates. Refer to the section "Use of Weights" for a more detailed discussion of the construction of estimates. We included stratum codes and half sample codes on the tapes so users can compute variances directly by methods such as balanced repeated replications (BRR). William G. Cochran provides a list of references discussing the application of this technique. (See Sampling Techniques, 3rd Ed., New York: John Wiley and Sons, 1977, p. 321.)

Standard errors of estimated numbers. Obtain the approximate standard error, $s_{x}$, of an estimated number of persons, households, families, unrelated individuals and so forth, in one of two ways. Both apply when data from all four rotations are used to make the estimate. However, only the second method should be used when less than four rotations of data are available for the estimate. Note that neither method should be applied to dollar values.

The standard error may be obtained by the use of the formula

$$
\begin{equation*}
s_{x}=f s \tag{1}
\end{equation*}
$$

where f is the appropriate " f " factor from table 13 , and s is the standard error on the estimate obtained by interpolation from table 15 or 16 . Alternatively, approximate $\mathrm{s}_{\mathrm{x}}$ using the formula,

$$
\begin{equation*}
s_{x}=\sqrt{a x^{2}+b x} \tag{2}
\end{equation*}
$$

from which we calculated the standard errors in tables 15 and 16. Here $x$ is the size of the estimate and "a" and "b" are the parameters associated with the particular type of characteristic. Use of formula 2 will provide more accurate results than the use of formula 1.

## Illustration.

Suppose SIPP estimates for Wave 1 of the 1991 panel show that there were 472,000 households with monthly household income above $\$ 6,000$. The appropriate parameters and factor from table 13 and the appropriate general standard error from table 15 are

$$
a=-0.0001005 \quad b=9,286 \quad f=1.00 \quad s=66,000
$$

Using formula 1, the approximate standard error is

$$
s_{x}=66,000
$$

Using formula 2, the approximate standard error is

$$
\sqrt{(-0.0001005)(472,000)^{2}+(9,286)(472,000)}=66,000
$$

Using the standard error based on formula 2, the approximate 90 -percent confidence interval as shown by the data is from 366,000 to 578,000 . Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly $90 \%$ of all samples.

## Illustration for computing standard errors for combined panel estimates.

Suppose the combined SIPP estimate for total number of males in the $16+$ Income and Labor Force for Wave 5, 1990 panel and Wave 2, 1991 panel was $92,398,000$. The combined panel parameters for total males are obtained by multiplying the appropriate " a " and " b " values from table 13 by the appropriate factors from tables 22 and 23 . The 1991 parameters and factors are $\mathrm{a}=-0.0001005, \mathrm{~b}=9,286, \mathrm{~g}=0.4163$ and factor $=$
1.0000 , respectively. Thus, the combined panel parameters are $\mathrm{a}=-0.0000418$ and $\mathrm{b}=$ 3,866 . Using formula 2 , the approximate standard error is

$$
S=\sqrt{(-0.0000418)(92,398,000)^{2}+(3866)(92,398,000)}=19,000
$$

Standard Error of a Mean. Define a mean as the average quantity of some item (other than persons, families, or households) per person, family or household. For example, it could be the average monthly household income of females age 25 to 34 . Use formulas below to approximate the standard error of a mean. Because of the approximations used in developing formula 3 , an estimate of the standard error of the mean obtained from this formula will generally underestimate the true standard error. The formula used to estimate the standard error of a mean $\bar{x}$ is

$$
\begin{equation*}
s_{\bar{x}}=\sqrt{\left(\frac{b}{y}\right) s^{2}} \tag{3}
\end{equation*}
$$

where $y$ is the size of the base, $s^{2}$ is the estimated population variance of the item and $b$ is the parameter associated with the particular type of item.

Estimate the population variance $s^{2}$ by one of two methods. In both methods we assume $\mathrm{x}_{\mathrm{i}}$ is the value of the item for unit i. (Unit may be person, family, or household). To use the first method, divide the range of values for the item into c intervals. The upper and lower boundaries of interval $j$ are $Z_{j-1}$ and $Z_{j}$, respectively. Place each unit into one of $c$ groups such that $\mathbf{Z}_{\mathrm{f}-1}<\mathrm{x}_{\mathrm{i}} \leq \mathrm{Z}_{\mathrm{j}}$.

The estimated population variance, $s^{2}$, is given by the formula:

$$
\begin{equation*}
s^{2}=\sum_{j=1}^{c} \quad p_{f} m_{j}^{2}-\bar{x}^{2} \tag{4}
\end{equation*}
$$

where $p_{j}$ is the estimated proportion of units in group $j$, and $m_{j}=\left(Z_{j-1}+Z_{j}\right) / 2$. We assume the most representative value of the item in group j is $\mathrm{m}_{\mathrm{s}}$. If group c is openended, i.e., no upper interval boundary exists, then an approximate value for $m_{c}$ is

$$
m_{c}=\frac{3}{2} Z_{c-1}
$$

Compute the mean, $\bar{x}$, using the following formula:

$$
\bar{x}=\sum_{j=1}^{c} p_{j} m_{j}
$$

In the second method, the estimated population variance is given by

$$
\begin{equation*}
s^{2}=\frac{\sum_{i=1}^{n} w_{i} x_{i}^{2}}{\sum_{i=1}^{n} w_{i}}-\bar{x}^{2} \tag{5}
\end{equation*}
$$

where there are $n$ units with the item of interest and $w_{i}$ is the final weight for unit $i$. Compute the mean, $\bar{x}$, using the formula

$$
\bar{x}=\frac{\sum_{i=1}^{n} w_{i} x_{i}}{\sum_{i=1}^{n} w_{i}}
$$

When forming combined estimates using formula (A) from the section on combined panel estimates, calculate $s^{2}$, given by formula (4), by forming a distribution for each panel. Divide the range of values for the item into intervals. Obtain combined estimates for each interval using formula (A). Apply formula (4) to the combined distribution. To calculate $\bar{x}$ and $s^{2}$ given by formula (5), replace $x_{i}$ by $W x_{i}$ for $x_{i}$ from the earlier panel and $(1-W) x_{i}$ for $x_{i}$ from the later panel.

## Illustration.

Suppose that based on Wave 1 data, the distribution of monthly cash income for persons age 25 to 34 during the month of January 1991 is given in table 21.

Using formula 4 and the mean monthly cash income of $\$ 2,530$ the approximate population variance, $s^{2}$, is

$$
\begin{aligned}
s^{2}= & \left(\frac{1,371}{39,851}\right)(150)^{2}+\left(\frac{1,651}{39,851}\right)(450)^{2}+\ldots \ldots+ \\
& \left(\frac{1,493}{39,851}\right)(9,000)^{2}-(2,530)^{2}=3,159,887 .
\end{aligned}
$$

Using formula 3, the appropriate base " b " parameter and factor from table 13 , the estimated standard error of a mean $\bar{x}$ is

$$
s_{\bar{x}}=\sqrt{\left(\frac{7,514}{39,851,000}\right)(3,159,887)}=\$ 24
$$

Standard error of an aggregate. We define an aggregate as the total quantity of an item summed over all the units in a group. Approximate the standard error of an aggregate using formula 6 .

Because of the approximations used in developing formula (6), it will generally underestimate the true standard error. Let $y$ be the size of the base, $s^{2}$ be the estimated population variance of the item obtained using formula (4) or (5) and b be the parameter associated with the particular type of item. The standard error of an aggregate is:

$$
\begin{equation*}
s_{x}=\sqrt{(b)(y) s^{2}} \tag{6}
\end{equation*}
$$

Standard Errors of Estimated Percentages. The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends on the size of the percentage and its base. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if thepercentages are 50 percent or more, e.g., the percent of people employed is more reliable than the estimated number of people employed. When the numerator and denominator of the percentage have different parameters, use the parameter (and appropriate factor) of the numerator. If proportions are presented instead of percentages, note that the standard error of a proportion is equal to the standard error of the corresponding percentage divided by 100 .

We commonly estimate two types of percentages. The first is the percentage of persons, families or households sharing a particular characteristic such as the percent of persons
owning their own home. The second type is the percentage of money or some similar concept held by a particular group of persons or held in a particular form. Examples are the percent of total wealth held by persons with high income and the percent of total income received by persons on welfare.

For the percentage of persons, families, or households, calculate the approximate standard error, $\mathrm{s}_{(\mathrm{x}, \mathrm{p})}$, of an estimated percentage p using the formula

$$
\begin{equation*}
s_{(x, p)}=f s \tag{7}
\end{equation*}
$$

when estimating $p$ using data from all four rotations.
In this formula, f is the appropriate " f " factor from table 13 and s is the standard error of the estimate from table 17 or 18.

Alternatively, approximate it by the formula:

$$
\begin{equation*}
s_{(x, p)}=\sqrt{\frac{b}{x}(p)(100-p)} \tag{8}
\end{equation*}
$$

from which we calculated the standard errors in tables 17 and 18. Here x is the size of the subclass of social units which is the base of the percentage, $p$ is the percentage ( $0<\mathrm{p}<100$ ), and b is the parameter associated with the characteristic in the numerator. Using this formula gives more accurate results than using formula 7 above. Use this formula to estimate p for data with less than four rotations.

## Illustration.

Suppose that, in the month of January 1991, 6.7 percent of the $16,812,000$ persons in nonfarm households with a mean monthly household cash income of $\$ 4,000$ to $\$ 4,999$, were black. Using formula 8 and the " b " parameter of 10,110 from table 13 and a factor of 1 for the month of January 1991 from table 14, the approximate standard error is

$$
\sqrt{\frac{10,110}{(16,812,000)}(6.7)(100-6.7)}=0.61 \text { percent }
$$

Consequently, the 90 percent confidence interval as shown by these data is from 5.7 to 7.7 percent.

Percentages of money require a more complicated formula. Estimate a percentage of money one of two ways. It may be the ratio of two aggregates:

$$
p_{I}=100\left(X_{A} / X_{N}\right)
$$

or it may be the ratio of two means with an adjustment for different bases:

$$
p_{I}=100\left(\hat{P}_{A} \bar{X}_{A} / \bar{X}_{X}\right)
$$

where $x_{A}$ and $x_{N}$ are aggregate money figures, $\bar{x}_{\mathrm{A}}$ and $\bar{x}_{\mathrm{N}}$ are mean money figures, and $\hat{p}_{A}$ is the estimated number in group $A$ divided by the estimated number in group N . In either case, we estimate the standard error as

$$
\begin{equation*}
s_{I}=\sqrt{\left(\frac{\hat{B}_{\bar{x}_{A}} \bar{x}_{A}}{\bar{x}_{N}}\right)^{2}\left[\left(\frac{s_{p}}{\bar{S}_{A}}\right)^{2}+\left(\frac{s_{A}}{\bar{x}_{A}}\right)^{2}+\left(\frac{s_{B}}{\overline{x_{N}}}\right)^{2}\right]}, \tag{9}
\end{equation*}
$$

where $s_{p}$ is the standard error of $\hat{p}_{A}, s_{A}$ is the standard error of $\bar{x}_{A}$ and $s_{B}$ is the standard error of $\bar{x}_{N}$. To calculate $\mathrm{s}_{\mathrm{p}}$, use formula 8. Calculate the standard errors of $\bar{x}_{N}$ and $\bar{x}_{A}$ using formula 3.

Note that there is frequently some correlation between $\hat{p}_{A}, \bar{x}_{N^{\prime}}$ and $\bar{x}_{A}$. Depending on the magnitude and sign of the correlations, the standard error will be over or underestimated.

## Illustration.

Suppose that in January 1991, 9.8\% of the households own rental property, the mean value of rental property is $\$ 72,121$, the mean value of assets is $\$ 78,734$, and the corresponding standard errors are $0.31 \%, \$ 5799$, and $\$ 2867$. In total there are $86,790,000$ households. Then, the percent of all household assets held in rental property is

$$
=100\left((0.098) \frac{72121}{78734}\right)=9.08
$$

Using formula (9), the appropriate standard error is

$$
\begin{aligned}
& \quad s_{I}=\sqrt{\left(\frac{(0.098)(72121)}{78734}\right)^{2}\left[\left(\frac{0.0031}{0.098}\right)^{2}+\left(\frac{5799}{72121}\right)^{2}+\left(\frac{2867}{78734}\right)^{2}\right]} \\
& =0.008 \\
& =0.8 \%
\end{aligned}
$$

Standard Error of a Difference. The standard error of a difference between two sample estimates, $x$ and $y$, is approximately equal to

$$
\begin{equation*}
S_{(x-y)}=\sqrt{s_{x}^{2}+S_{y}^{2}} \tag{10}
\end{equation*}
$$

where $s_{x}$ and $s_{y}$ are the standard errors of the estimates $x$ and $y$.
The estimates can be numbers, percents, ratios, etc. The above formula assumes that the correlation coefficient between the characteristics estimated by $x$ and $y$ is zero. If the correlation is really positive (negative), then this assumption will tend to cause overestimates (underestimates) of the true standard error.

## Illusstration.

Suppose that SIPP estimates show the number of persons age 35-44 years with monthly cash income of $\$ 4,000$ to $\$ 4,999$ was $3,186,000$ in the month of January 1991 and the number of persons age 25-34 years with monthly cash income of $\$ 4,000$ to $\$ 4,999$ in the same time period was $2,619,000$. Then, using parameters from table 13 and formula 2, the standard errors of these numbers are approximately 153,000 and 139,000 , respectively. The difference in sample estimates is 567,000 and, using formula 10 ; the approximate standard error of the difference is

$$
\sqrt{(153,000)^{2}+(139,000)^{2}}=207,000
$$

Suppose that it is desired to test at the 10 percent significance level whether the number of persons with monthly cash income of $\$ 4,000$ to $\$ 4,999$ was different for persons age 35-44 years than for persons age $25-34$ years. To perform the test, compare the difference of 567,000 to the product $1.6 \times 207,000=331,200$. Since the difference is greater than 1.6 times the standard error of the difference, the data show that the two age groups are significantly different at the 10 percent significance level.

Standard Error of a Median. The median quantity of some item such as income for a given group of persons, families, or households is that quantity such that at least half the
group have as much or more and at least half the group have as much or less. The sampling variability of an estimated median depends upon the form of the distribution of the item as well as the size of the group. Use the procedure described below to calculate standard errors on medians.

An approximate method for measuring the reliability of an estimated median is to determine a confidence interval about it. (See the section on sampling variability for a general discussion of confidence intervals.) Use the following procedure to estimate the 68 -percent confidence limits and hence the standard error of a median based on sample data.

1. Determine, using either formula 7 or formula 8, the standard error of an estimate of 50 percent of the group;
2. Add to and subtract from 50 percent the standard error determined in step 1 ;
3. Using the distribution of the item within the group, calculate the quantity of the item such that the percent of the group with more of the item is equal to the smaller percentage found in step 2 . This quantity will be the upper limit for the 68 -percent confidence interval. In a similar fashion, calculate the quantity of the item such that the percent of the group with more of the item is equal to the larger percentage found in step 2. This quantity will be the lower limit for the 68percent confidence interval;
4. Divide the difference between the two quantities determined in step 3 by two to obtain the standard error of the median.

To perform step 3, you must interpolate. You may use different methods of interpolation. The most common are simple linear interpolation and Pareto interpolation. The appropriateness of the method depends on the form of the distribution around the median. If density is declining in the area, then we recommend Pareto interpolation. If density is fairly constant in the area, then we recommend linear interpolation. Never use Pareto interpolation if the interval contains zero or negative measures of the item of interest. Use interpolation as follows. The quantity of the item such that " p " percent have more of the item is

$$
\begin{equation*}
x_{p N}=\exp \left[\left(\operatorname{Ln}\left(\frac{p N}{N_{1}}\right) / \operatorname{Ln}\left(\frac{N_{2}}{N_{1}}\right)\right) \operatorname{Ln}\left(\frac{A_{2}}{A_{1}}\right)\right] A_{1} \tag{11}
\end{equation*}
$$

if Pareto Interpolation is indicated and

$$
X_{P N}=\left[\begin{array}{ll}
\frac{P N-N_{1}}{N_{2}-N_{1}} & \left(A_{2}-A_{1}\right)+A_{1} \tag{12}
\end{array}\right]
$$

if linear interpolation is indicated, where
$\mathrm{N} \quad$ is the size of the group,
$A_{1}$ and $A_{2} \quad$ are the lower and upper bounds, respectively, of the interval in which $\mathrm{X}_{\mathrm{pN}}$ falls,
$\mathrm{N}_{1}$ and $\mathrm{N}_{2} \quad$ are the estimated number of group members owning more than $A_{1}$ and $A_{2}$, respectively,
$\exp \quad$ refers to the exponential function and
$\operatorname{Ln}$ refers to the natural logarithm function.

## Illustration.

To illustrate the calculations for the sampling error on a median, we return to table 21. The median monthly income for this group is. $\$ 2,158$. The size of the group is 39,851,000.

1. Using formula 8, the standard error of 50 percent on a base of $39,851,000$ is about 0.7 percentage points.
2. Following step 2 , the two percentages of interest are 49.3 and 50.7.
3. By examining table 21, we see that the percentage 49.3 falls in the income interval from 2000 to 2499. (Since $55.5 \%$ receive more than $\$ 2,000$ per month, the dollar value corresponding to 49.3 must be between $\$ 2,000$ and $\$ 2,500$ ). Thus, $\mathbf{A}_{1}=$ $\$ 2,000, \mathrm{~A}_{2}=\$ 2,500, \mathrm{~N}_{1}=22,106,000$, and $\mathrm{N}_{2}=16,307,000$.

In this case, we decided to use Pareto interpolation. Therefore, the upper bound of a $68 \%$ confidence interval for the median is

Also by examining table 21, we see that 50.7 falls in the same income interval. Thus, $\mathrm{A}_{\mathrm{l}}$, $\mathrm{A}_{2}, \mathrm{~N}_{1}$ and $\mathrm{N}_{2}$ are the same. We also use Pareto interpolation for this case. So the lower bound of a $68 \%$ confidence interval for the median is

$$
\$ 2,000 \exp \left[\left(\operatorname{Ln}\left(\frac{(.507)(39,851,000)}{22,106,000}\right) / \operatorname{Lo}\left(\frac{16,307,000}{22,106,000}\right)\right) \operatorname{Ln}\left(\frac{2,500}{2,000}\right)\right]=\$ 2136
$$

Thus, the 68 -percent confidence interval on the estimated median is from $\$ 2136$ to $\$ 2181$. An approximate standard error is

$$
\frac{\$ 2181-\$ 2136}{2}=\$ 23
$$

Standard Errors of Ratios of Means and Medians. Approximate the standard error for a ratio of means or medians by:

$$
\begin{equation*}
s_{\frac{x}{y}}=\sqrt{\left(\frac{x}{y}\right)^{2}\left[\left(\frac{s_{y}}{y}\right)^{2}+\left(\frac{s_{x}}{x}\right)^{2}\right]} \tag{13}
\end{equation*}
$$

where x and y are the means or medians, and $\mathrm{s}_{\mathrm{x}}$ and $\mathrm{s}_{\mathrm{y}}$ are their associated standard errors. Formula 13 assumes that the means are not correlated. If the correlation between the population means estimated by x and y are actually positive (negative), then this procedure will tend to produce overestimates (underestimates) of the true standard error for the ratio of means.

Table 1. 1991 Panel Topical Modules

| Wave | Topical Module |
| :---: | :---: |
| 1 | None |
| 2 | Recipiency History |
|  | Employment History |
|  | Work Disability History |
|  | Education and Training History |
|  | Marital History |
|  | Migration History |
|  | Fertility History |
|  | Household Relationships |
| 3 | Child Care Arrangements |
|  | Child Support Agreements |
|  | Support of Non-household Members |
|  | Functional Limitations and Disability |
|  | Utilization of Health Care Services |
|  | Work Schedule |
| 4 | Selected Financial Assets |
|  | Medical Expenses and Work Disability |
|  | Real Estate, Shelter Costs, Dependent Care, and Vehicles |
| 5 | Taxes |
|  | Annual Income and Retirement Accounts |
|  | School Enrollment and Financing |
| 6 | Extended Measures of Wellbeing |
|  | Living Conditions, |
|  | Basic Needs, |
|  | Expenditures, |
|  | Minimum Income) |
| 7 | Assets and Liabilities |
|  | Retirement Expectations and Pension Plan Coverage |
|  | Real Estate Property and Vehicles. |
| 8 | Taxes |
|  | Annual Income and Retirement Accounts |
|  | School Enrollment and 'Financing |

Table 2. 1990 Panel Topical Modules

| Wave | Topical Module |
| :---: | :---: |
| 1 | None |
| 2 | Recipiency History |
|  | Employment History |
|  | Work Disability History |
|  | Education and Training History |
|  | Marital History |
|  | Migration History |
|  | Fertility History |
|  | Household Relationships |
| 3 | Work Schedule |
|  | Child Care |
|  | Child Support Agreements |
|  | Support of Non-household Members |
|  | Functional Limitations and Disability |
|  | Utilization of Health Care Services |
| 4 | Assets and Liabilities |
|  | Retirement Expectations and Pension Plan Coverage |
|  | Real Estate Property and Vehicles |
| 5 | Taxes |
|  | Annual Income and Retirement Accounts |
|  | School Enrollment and Financing |
| 6 | Child Support Agreements |
|  | Support for Non-household Members |
|  | Functional Limitations and Disability |
|  | Utilization of Health Care Services |
|  | Not in Labor Force Spells |
| 7 | Selected Financial Assets - |
|  | Medical Expenses and Work Disability |
|  | Real Estate, Shelter Costs, Dependent Care and Vehicles |
| 8 | Taxes |
|  | Annual Income and Retirement Accounts |
|  | School Enrollment and Financing |

Table 3. Reference Months for Each Interview Month - 1991 Panel

| Month of Interview | Wave/ Rotation | $\frac{4 \text { th Quarter }}{(1990)}$ Oct Nov Dec | $\begin{aligned} & \frac{1 \text { st Quarter }}{(1991)} \\ & \text { Jan Feb Mar } \end{aligned}$ | $\begin{aligned} & \frac{\text { 2nd Quarter }}{(1991)} \\ & \text { Apr May Jun } \end{aligned}$ | $\begin{aligned} & \frac{3 \text { ra Quarter }}{(1991)} \\ & \text { Jul Aug Sep } \end{aligned}$ | $\begin{aligned} & \frac{4 \text { th Quarter }}{(1991)} \\ & \text { Oct Nov Dec } \end{aligned}$ | ... | $\begin{aligned} & \text { 2nd Quarter } \\ & \text { (1993) } \\ & \text { Apr May Jum } \end{aligned}$ | $\begin{aligned} & \frac{3 \text { rad Quarter }}{(1993)} \\ & \text { Jul Aug Sep } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Feb 91 | 1/2 | $x \quad x \quad x$ | $x$ |  |  |  |  |  |  |
| Mar | 1/3 | $\times \quad \mathrm{x}$ | $x$ x |  |  |  |  |  |  |
| Apr | 1/4 | x | $x \quad x \quad x$ |  |  |  |  |  |  |
| May | 1/1 |  | $x \times 1$ | $x$ |  |  |  |  |  |
| Jin | 2/2 |  | $x \quad x$ | $x \quad x$ |  |  |  |  |  |
| Jut | 2/3 |  | X | $x \quad x \quad x$ |  |  |  |  |  |
| Aug | 2/4 |  |  | $x \quad x$ | X |  |  |  |  |
| Sept | 2/1 |  |  | $x \quad x$ | $x \quad x$ |  |  |  |  |
| Oct | 3/2 |  |  | X | $x \quad x \quad x$ |  |  |  |  |
| Nov | 3/3 |  |  |  | $x \quad \mathrm{X}$ | X |  |  |  |
| Dec | 3/4 |  |  |  | x X | $\mathrm{X} \times$ |  |  |  |
| Sept 93 | 8/1 |  |  |  |  |  |  | $\mathrm{x} \times$ | X X |

Table 4. Reference Months for Each Interview Month - 1990 Panel

Table 5. Non-Farm Population by Age and Sex: 1991 Panel Wave 6

| AGES | Based on 1980 census population controls |  |  |  |  |  | Based on 1990 census population controls |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total |  | Males |  | Females |  | Total |  | Males |  | Females |  |
|  | Number (thous.) | Distribution | Number (thous.) | Distribution | Number (thous.) | Distribution | Number (thous.) | Distribution | Number (thous.) | Distribution | Number (thous.) | Distribution |
| All Ages | 247864 | 100 | 120730 | 100 | 127134 | 100 | 250419 | 100 | 122128 | 100 | 128292 | 100 |
| Under 4 years old | 19270 | 7.8 | 9813 | $\bigcirc 8.1$ | 9457 | - 7.4 | 19749 | 7.9 | 10054 | 8.2 | 9695 | 7.6 |
| $5 \text { to } 9 \text { years }$ old | 18568 | 7.5 | 9585 | 7.9 | 8983 | 7.1 | 18898 | . 7.5 | 9757 | 8.0 | 9142 | 7.1 |
| $\begin{gathered} 10 \text { to } 15 \text { years } \\ \text { old } \end{gathered}$ | 21207 | 8.6 | 10763 | 8.9 | 10444 | 8.2 | 21720 | 8.7 | 11014 | - 9.0 | 10706 | 8.3 |
| $\begin{gathered} 16 \text { to } 24 \text { years } \\ \text { old } \end{gathered}$ | 30450 | - 12.3 | 15231 | 12.6 | 15219 | 12.0 | 32156 | 12.8 | 16201 | 13.3 | 15954 | 12.4 |
| $\begin{gathered} 25 \text { to } 34 \text { years } \\ \text { old } \end{gathered}$ | 41571 | 16.8 | 20619 | 17.1 | 20952 | 16.5 | 42013 | 16.8 | 20818 | 17.0 | 21195 | 16.5 |
| $\begin{gathered} 35 \text { to } 44 \text { years } \\ \text { old } \\ \hline \end{gathered}$ | 39163 | 15.8 | 19331 | 16.0 | 19832 | 15.6 | 39536 | 15.8 | 19540 | 16.0 | 1999 | 15.6 |
| $\begin{aligned} & 45 \text { to } 54 \text { years } \\ & \text { old } \end{aligned}$ | 27075 | 10.9 | 13146 | 10.9 | 13929 | 11.0 | 26763 | - 10.7 | 13073 | 10.7 | 13690 | 10.7 |
| old <br> 55 to 64 years | 20128 | 8.1 | 9518 | 7.9 | 10610 | 8.3 | 19708 | 7.9 | 9334 | 7.6 | 10374 | 8.1 |
| $\begin{gathered} 65 \text { to } 69 \text { years } \\ \text { old } \\ \hline \end{gathered}$ | 9972 | 4.0 | 4564 | 3.8 | 5408 | 4.3 | 9673 | 3.9 | 4371 | 3.6 | 5302 | $\checkmark 4.1$ |
| $\begin{gathered} 70 \text { to } 74 \text { years } \\ \text { old } \\ \hline \end{gathered}$ | 8013 | 3.2 | 3454 | 2.9 | 4559 | 3.6 | 7878 | 3.1 | 3347 | 2.7 | 4532 | 35 |
| 75 years old and over | 12446 | 5.0 | 4706 | 3.9 | 7740 | 6.1 | 12325 | ' 4.9 | 4619 | 3.8 | 7706 | 6.0 |

Table 6. Household Composition by Race and Hispanic Origin: 1991 Panel Wave 6

| characteristics | Baice on 1980 censum poppulation controls |  |  |  |  |  |  |  | Basod on 1990 cerssus population conerols |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All Reose |  | Whice |  | Black |  | Hispanic Orisin |  | All Reoce |  | White |  | Black |  | Hispanic Orizin |  |
|  | Number (letre of thour.) | Dint. | Number (tens of thatem.) | Diat. | Number (lens of thoin.) | Diat. | Number flerse of thous.) | Diat. | Number (lens of thous.) | Dist. | Number (lene of thoum.) | Dis. | Number (lene of thowe.) | Dist. | Number (Lene of thous.) | Dine. |
| All howeholds | 9610 | 100 | 8206 | 100 | 1099 | 100 | 67 | 100 | 9601 | 100 | 8190 | 100 | 1100 | 100 | 730 | 100 |
| Family houchoke | 6758 | 20.3 | 5759 | 20.2 | 759 | 69.1 | 331 | 78.4 | 6760 | 20.4 | 5753 | 20.2 | 768 | 69.4 | 570 | 78.1 |
| With own ctildren undor 18 | 3284 | 34.2 | 2711 | 33 | 429 | 39 | 335 | 49.5 | 3320 | 34.6 | 2731 | 33.3 | 443 | 40.1 | 363 | 49.7 |
| Marriodeouplo fumily | 5290 | $3 s$ | 4736 | 57.7 | 368 | 33.5 | 360 | 53.2 | 5280 | 35 | 4724 | 57.7 | 371 | 33.5 | 384 | 52.6 |
| Wuh own ctildrea undor it | 2459 | 25.6 | 2159 | 26.3 | 187 | 17 | 232 | 34.3 | 2480 | 25.8 | 2173 | 26.5 | 193 | 17.5 | 249 | 34.1 |
| Femmio havechoider | 1175 | 12.2 | 79 | 9.5 | 357 | 32.5 | 137 | 20.2 | 1185 | 12.3 | 783 | 9.6 | 302 | 32.7 | 149 | 20.4 |
| With own childrea under is | 111 | 2.4 | 454 | 5.9 | 231 | 21 | 90 | 13.3 | 123 | 7.5 | 460 | 5.6 | 238 | 21.5 | 98 | 13.4 |
| Malo bourchoider | 293 | 3 | 244 | 3 | 34 | 3.1 | 34 | 5 | 295 | 3.1 | 246 | 3 | 35 | 3.2 | 37 | 5.1 |
| Wrh own childicen under 18 | 114 | 1.2 | 8 | 1.2 | 11 | 1 | 13 | 1.9 | 117 | 1.2 | 9 | 1.2 | 12 | 1.1 | 16 | 2.2 |
| Non famity howechode | 2851 | 29.7 | 2417 | 29.8 | 340 | 30.9 | 146 | 21.6 | 2841 | 29.6 | 2138 | 29.8 | 338 | 30.6 | 160 | 21.9 |
| Luving alono | 243 | 29.7 | 2119 | 25.8 | 302 | 27.5 | 121 | 17.9 | 2456 | 25.6 | 2106 | 25.7 | 299 | 27 | 132 | 18.1 |
| Mate hourcolder | 1252 | 13 | 1062 | 12.9 | 156 | 14.2 | 3 | 10.8 | 1250 | 13 | 1050 | 12.9 | 157 | 14.2 | 82 | 11.2 |
| Lvinge alcono | 1019 | 10.6 | 864 | 10.5 | 128 | 11.6 | 55 | 8.1 | 1013 | 10.6 | 859 | 10.5 | 127 | 11.5 | 62 | 8.5 |
| Famelo bawecholder | 1600 | 16.6 | 1385 | 16.9 | 184 | 16.7 | 3 | 10.8 | 1590 | 16.6 | 1378 | 16.8 | 181 | 16.4 | 78 | 10.7 |
| Luving alano | 1454 | 15.1 | 1255 | 15.3 | 174 | 15.8 | 66 | 9.7 | 1443 | 15 | 1217 | 15.2 | 12 | 15.6 | 20 | 9.6 |

Selected Characteristics of Persons, by Mean Monthly Household Cash Income: Monthly Average for 1991 Panel Wave 6.

Table 7.

| CHARACTERISTICS | Based on 1980 census population controls |  |  |  |  |  |  | Based on 1990 census population controls |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total (thous.) | Residing in household receiving one or more means-tested program |  |  |  |  |  | Total(thous.) | Residing in a household receiving one or more means-tested program |  |  |  |  |  |
|  |  | Total |  | Cash benefit |  | Noncash benefii |  |  | Total |  | Cash benefit |  | Noncash benefit |  |
|  |  | Number | Percent of total | Number | Percent of total | Number | Percent of total |  | Number | Percent of total | Number | Percent <br> of total | Number | Percent of total |
| Total | 247,860 | 56,820 | 22.9 | 25,610 | 10.3 | 5,602 | 22.6 | 250,420 | 58,350 | 23.3 | 26,220 | 10.5 | 57,550 | 23.0 |
| RACE AND HISPANIC ORIGIN |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White | 205,980 | 37,770 | 18.3 | 14,300 | 6.9 | 37,230 | 18.1 | 207,960 | 38,940 | 18.7 | 14,720 | 7.1 | 38,400 | 18.5 |
| Black | 31,710 | 15,840 | 50.0 | 9,630 | 30.4 | 15,600 | 49.2 | 32,210 | 16,170 | - 50.2 | 9,810 | 30.5 | 15,930 | 49.5 |
| Hispanic origin | 22,180 | 10,490 | 47.3 | 4,460 | 20.1 | 10,430 | 47.0 | 25,000 | 11,900 | 47.6 | 5,050 | 20.2 | 11,840 | 47.4 |
| AGE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Under 16 years old | 59,050 | 21,550 | 36.5 | 9,140 | 15.5 | 21,490 | 36.4 | 60,370 | 22,370 | 37.1 | 9.500 | 15.7 | 22,310 | 37.0 |
| 16 to 24 years old | 30,450 | 7,660 | 25.2 | 3,540 | 11.6 | 7,610 | 25.0 | 32,160 | 8,200 | 25.5 | 3,780 | 11.8 | 8,140 | 25.3 |
| 25 to 34 years old | 41,570 | 9,350 | 22.5 | 3,570 | 8.6 | 9,280 | 22.3 | 42,010 | 9,520 | 22.7 | 3,620 | 8.6 | 9,460 | 22.5 |
| 35 to 44 years old | 39,160 | 6,890 | 17.6 | 2,810 | 7.2 | 6,800 | 17.4 | 39,540 | 7,040 | 17.8 | 2,870 | 7.3 | 6,950 | 17.6 |
| 45 to 54 years old | 27,080 | 3,340 | 12.3 | 1,920 | 7.1 | 3,250 | 12.0 | 26,760 | 3,320 | 12.4 | 1,900 | 7.1 | 3,240 | 12.1 |
| 55 to 64 years old | 20,130. | 2,660 | 13.2 | 1,580 | 7.9 | 2,530 | 12.6 | - 19,710 | 2,610 | 13.3 | 1,550 | 7.9 | 2,480 | 12.6 |
| 65 years old and over | 30,430 | 5,370 | 17.6 | 3,050 | 10.0 | 5,060 | 16.6 | 29,880 | 5,270 | 17.7 | 2,990 | 10.0 | 4,980 | 16.7 |
| EDUCATION |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 years and over | 158,370 | 27,610 | 17.4 | 12,920 | 8.2 | 26,920 | 17.0 | 157,900 | 27,780 | 17.6 | 12,940 | 8.2 | 27,100 | 17.2 |
| Elem.: Less than 8 years | 9,740 | 4,170 | 42.8 | 2,450 | 25.2 | 4,060 | 41.7 | 9,750 | 4,200 | 43.1 | 2,450 | 25.1 | 4,100 | 42.1 |
| 8 years | 6,280 | 1,890 | 30.0 | 1,020 | 16.3 | 1,800 | 28.6 | 6,240 | 1,890 | 30.3 | 1,020 | 16.3 | 1,800 | 28.9 |
| High School: 1 to 3 years | 18,390 | 5rs90 | 30.4 | 3,030 | 16.5 | 5,450 | 29.6 | 18,310 | 5,620 | 30.7 | 3,040 | 16.6 | 5,480 | 29.9 |
| 4 years | 58,630 | 10,150 | 17.3 | 4,200 | 7.2 | 9,920 | 16.9 | 58,400 | 10,200 | 17.5 | 4,200 | 7.2 | 9,980 | 17.1 |
| College 1 to 3 years | 30,550 | 3,750 | 12.3 | 1,490 | 4.9 | 3,690 | 12.1 | 30,550 | 3,790 | 12.4 | 1,500 | 4.9 | 3,730 | 12.2 |
| 4 years | 18,980 | 1,240 | 6.5 | 490 | 2.6 | 1,200 | 6.3 | 18,930 | 1,250 | 6.6 | 490 | 2.6 | 1,210 | 6.4 |
| 5 years or more | 15,790 | 820 | 5.2 | 240 | 1.5 | 800 | $5: 1$ | 15,700. | 830 | 5.3 | 240 | 1.5 | 810 | 5.1 |
| REGION |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Northeast | 51,660 | 10,940 | 21.2 | 5,340 | 10.3 | 10,840 | 21.0 | 52,030 | 11,180 | 21.5 | 5,510 | 10.6 | 11,080 | 21.3 |
| North Central | 62,650 | 11,390 | 18.2 | 5,140 | 8.2 | 11,100 | 17.7 | 62,790 | 11,510 | 18.3 | 5,210 | 8.3 | 11,220 | 17.9 |
| South | 80,100 | 21,530 | 26.9 | 9,200 | 11.5 | 21,200 | 26.5 | 81,050 | 22,130 | 27.3 | 9,400 | 11.6 | 21,810 | 26.9 |
| West | 53,460 | 12,960 | 24.2 | 5,930 | 11.1 | 12,890 | 24.1 | 54,560 | 13,530 | 24.8 | 6,110 | 11.2 | 13,450 | 24.7 |

Table 9. Selected Characteristics of Persons, by Labor Force Status: Monthly Average for 1991 Panel Wave 6

| LABOR FORCE ACTIVITY, AGE, AND SEX | Based on 1980 census population controls |  | Based on 1990 census population controls |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number (thous.) | Distribution | Number (thous.) | Distribution |
| BOTH SEXES |  |  |  |  |
| Total, 16 years and over | 188,819 | 100.0 | 190,053 | 100.0 |
| With some labor force activity | 124,945 | 66.2 | 126,127 | 66.4 |
| With job entire month | 114,431 | 60.6 | 115,349 | 60.7 |
| Worked each week | 111,399 | 59.0 | 112,298 | 59.1 |
| Full-time worker | 90,796 | 48.1 | 91,449 | 48.1 |
| Part-time worker | 20,603 | 10.9 | 20,850 | 11.0 |
| Absent one or more weeks | 3,032 | 1.6 | 3,051 | 1.6 |
| With job part of month | .2,717 | 1.4 | 2,783 | 1.5 |
| Spent time looking or on layoff | 1,364 | 0.7 | 1,399 | 0.7 |
| No job during month | 7,797 | 4.1 | 7,994 | 4.2 |
| Looking for work or on layoff entire month | 7,142 | 3.8 | 7,320 | 3.9 |
| Looking for work or on layoff part of month | 655 | 0.3 | 674 | 0.4 |
| With no labor force activity | 63,874 | 33.8 | 63,926 | 33.6 |
| MALE |  |  |  |  |
| Total, 16 years and over | 90,569 | 100.0 | 91,304 | 100.0 |
| With some labor force activity | 67,716 | 74.8 | 68,516 | 75.0 |
| With job entire month | 61,818 | 68.3 | 62,456 | 68.4 |
| Worked each week | 60,535 | 66.8 | 61,158 | 67.0 |
| Pull-time worker | 53,714 | 59.3 | 54,195 | 59.4 |
| Part-time worker | 6,821 | 7.5 | 6,962 | 7.6 |
| Absent one or more weeks | 1,284 | 1.4 | 1,298 | 1.4 |
| With job part of month | 1,373 | 1.5 | 1,415 | 1.5 |
| Spent time looking or on layoff | 788 | 0.9 | 811 | 0.9 |
| No job during month | 4,524 | 5.0 | 4,645 | 5.1 |

Table 9. cont'd Selected Characteristics of Persons, by Labor Force Status: Monthly Average for

| LABOR FORCE ACTIVITY, AGE. AND SEX | Based on 1980 census population controls |  | Based on 1990 census population controls |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number <br> (thous.) | Distribution | Number (thous.) | Distribution |
| Looking for work or on layoff entire month | 4,286 | 4.7 | 4,399 | 4.8 |
| Looking for work or on layoff part of month | 238 | 0.3 | 246 | 0.3 |
| With no labor force activity | 22,853 | 25.2 | 22,788 | 25.0 |
| FEMALE |  |  |  |  |
| Total, 16 years and over | 98,250 | 100.0 | 98,749 | 100.0 |
| With some labor force activity | 57,229 | 58.2 | 57,611 | 58.3 |
| With job entire month | 52,613 | 53.6 | 52,894 | 53.6 |
| Worked each week | 50,865 | 51.8 | 51,141 | 51.8 |
| Full-time worker | 37,082 | 37.7 | 37,253 | 37.7 |
| Part-time worker | 13,782 | 14.0 | 13,887 | 14.1 |
| Absent one or more weeks | 1,748 | 1.8 | 1,753 | 1.8 |
| With job part of month | 1,343 | 1.4 | 1,368 | 1.4 |
| Spent time looking or on layoff | 576 | 0.6 | 588 | 0.6 |
| No job during month | 3,273 | 3.3 | 3,349 | 3.4 |
| Looking for work or on layoff entire month | 2,856 | 2.9 | 2,920 | 3.0 |
| Looking for work or on layoff part of month | 416 | .. 0.4 | 429 | 0.4 |
| With no labor force activity | 41,021 | 41.8 | 41,138 | 41.7 |

Table 10. Selected Characteristics of Persons; by Health Insurance Coverage: Monthly Average for 1991 Panel Wave 6.

| CHIARACTERISTICS | Based on 1980 census population control |  |  |  |  |  |  | Based on 1990 census population control |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total (thous.) | Covered by private or government health insurance |  |  |  | Not covercd by private or government liealth insurance |  | Total (thous.) | Covered by private or government health insurance |  |  |  | Not covered by private or government healli insurame |  |
|  |  | Number | Percent of total | Covered by private health insurance |  |  |  | Number | Percent of total | Covered by private health insurance |  |  |  |
|  |  |  |  | Number | Percent of total | Number | Percent of total |  |  | Number | Percent of total | Number | Percent of ental |
| Total | 253,050 | 218,940 | 86.5 | 188,780 | 74.6 | 34,110 | 13:5 | 255.610 | 220,500 | 86.3 | 189,830 | 74.3 | 35,110 | 13.7 |
| RACE AND HISPANIC ORIGIN |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White | 210,980 | 184,610 | 87.5 | 164,730 | 78.1 | 26,370 | 12.5 | 212,960 | 185,740 | 87.2 | 165,440 | 77.7 | 27,220 | 12.8 |
| Black | 31,800 | 25,880 | 81.4 | 17,090 | 53.7 | 5,920 | 18.6 | 32,300 | 26,260 | 81.3 | 17,390 | 53.8 | 6,040 | 18.7 |
| Hispanic origin | 22,380 | 16,100 | 71.9 | 11,470 | 51.3 | 6,280 | 28.1 | 25,220 | 18,070 | 71.6 | 12,850 | 51.0 | 7,150 | 28.4 |
| AGE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Under 16 years old | 60,170 | 52,250 | 86.8 | -41,390 | 68.8 | 7,920 | 13.2 | 61,490 | 53,240 | 86.6 | 41,970 | 68.3. | 8,250 | 13.4 |
| 16 to 24 years old | 31,120 | 24,540 | 78.9 | 21,660 | 69.6 | 6,580 | 21.1 | 32,860 | 25,800 | 78.5 | 22,720 | 69.1 | 7,060 | 21.5 |
| 25 to 34 years old | 42,160 | 34,060 | 80.8 | 30,510 | 72.4 | 8,100 | 19.2 | 42,600 | 34,370 | 80.7 | 30,770 | 72.2 | 8,230 | 19.3 |
| 35 to 44 years old | 39,950 | 34,260 | 85.8 | 31,770 | 79.5 | 5,690 | 14.2 | 40,320 | 34,530 | 85.6 | 31,990 | 79.3 | 5,790 | 14.4 |
| 45 to 54 years old | 27,770 | 24,360 | 87.7 | 22,660 | 81.6 | 3,420 | 12.3 | 27,450 | 24,050 | 87.6 | 22,370 | 81.5 | 3,400 | 12.4 |
| 55 to 64 years old | 20,820 | 18,610 | 89.4 | 16,840 | 80.9 | 2,210 | 10.6 | 20,390 | 18,220 | 89.4 | 16,470 | 80.8 | 2,180 | 10.7 |
| 65 years old and over | 31,060 | 30,860 | 99.4 | 23,940 | 77.1 | 200 | 0.6 | 30,490 | 30,300 | 99.4 | 23,530 | 77.2 | 200 | 0.7 |
| REGION |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Northeast | 52,080 | 46,700 | 89.7 | 40,310 | 77.4 | 5,380 | 10.3 | 52,440 | 46,940 | 89.5 | 40,440 | 77.1 | 5,500 | 10.5 |
| North Central | 65,570 | 59,080 | 90.1 | 53,530 | 81.6 | 6,480 | 9.9 | 65,700 | 59,140 | 90.0 | 53,540 | 81.5 | 6,560 | 10.0 |
| South | 81,460 | 67,600 | 83.0 | 56,370 | 69.2 | 13,850 | 17.0 | 82,410 | 68,160 | 82.7 | 56,780 | 68.9 | 14,250 | 17.3 |
| West | 53,950 | 45,550 | 84.4 | 38,560 | 71.5 | 8,400 | 15.6 | 55,060 | 46,270 | 84.0 | 39,070 | 71.0 | 8,790 | 16.0 |

Factors for
use in State
or CMSA (MSA)
Tabulations
1.0387
1.2219
1.0000
1.2234
1.0000
1.0000
1.0096
1.2506
1.2219
1.0000
1.0336
---
1.2912
1.0328
1.0366
1.0756
1.6289
$1.0 . \overline{0} 233$

- 1.0188
$1.1574 \quad 1.1595$
1.6150 1.6179
$1.5593 \quad 1.5621$
$1.0000 \quad 1.0018$
$1.0140 \quad 1.0158$
$1.0142 \quad 1.0160$
$1.2120 \quad 1.2142$
1.0734 1.0753
$1.0000 \quad 1.0018$
--- 1.00018
$1.0000 \quad 1.0018$
$1.0793 \quad 1.0812$
1.0185 1.0203
1.0517 . 1.0536
$1.0113 \quad 1.0131$
$1.0521 \quad 1.0540$
-     -         - 

Factors for use in Regional
or National
Tabulations
1.0387
1.2219
1.0000
1.2234
1.0000
1.0000
1.0096
1.2506
1.2219
1.0110
1.0450
---
1.3055
1.0442
1.0480
1.0874
1.6468
---
1.0346
---
---

- indicates no metropolitan subsample is identified for the state

Table 11 cont'd. Metropolitan Subsample Factors to be Applied to Compute National and Subnational Estimates
$\left.\begin{array}{ccc} & \begin{array}{c}\text { Factors for } \\ \text { use in State } \\ \text { or CMSA (MSA) }\end{array} & \begin{array}{c}\text { Factors for } \\ \text { use in Regional } \\ \text { or National }\end{array} \\ \text { West: } & & \begin{array}{c}\text { Tabulations } \\ \text { Tabulations }\end{array} \\ & \text { Alaska } & 1.4339\end{array}\right]$

- indicates no metropolitan subsample is identified for the state

Table 12. 1991 CPS Coverage Ratios

| Age | non-Black |  | Black |  | All Persons |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Male | Female | Male | Female | Total |
| 0-14 | 0.963 | 0.965 | 0.927 | 0.926 | 0.957 | 0.959 | 0.958 |
| 15 | 0.962 | 0.949 | 0.899 | 0.919 | 0.952 | 0.944 | 0.948 |
| 16 | 0.969 | 0.936 | 0.923 | 0.907 | 0.962 | 0.932 | 0.947 |
| 17 | 0.981 | 0.975 | 0.945 | 0.862 | 0.975 | 0.957 | 0.966 |
| 18 | 0.939 | 0.926 | 0.883 | 0.846 | 0.930 | 0.913 | 0.922 |
| 19 | 0.860 | 0.872 | 0.754 | 0.801 | 0.844 | 0.861 | 0.853 |
| 20-24 | 0.913 | 0.927 | 0.734 | 0.832 | 0.889 | 0.913 | 0.901 |
| 25.26 | 0.927 | 0.940 | 0.688 | 0.877 | 0.897 | 0.931 | 0.914 |
| 27-29 | 0.910 | 0.954 | 0.707 | 0.864 | 0.885 | 0.941 | 0.914 |
| 30-34 | 0.893 | 0.948 | 0.691 | 0.883 | 0.870 | 0.939 | 0.905 |
| 35-39 | 0.910 | 0.949 | 0.763 | 0.899 | 0.895 | 0.942 | 0.919 |
| 40-44 | 0.929 | 0.951 | 0.824 | 0.906 | 0.919 | 0.946 | 0.933 |
| 45-49 | 0.956 | 0.966 | 0.903 | 0.956 | 0.951 | 0.965 | 0.958 |
| 50-54 | 0.940 | 0.961 | 0.807 | 0.877 | 0.927 | 0.951 | 0.940 |
| 55-59 | 0.944 | 0.941 | 0.826 | 0.825 | 0.932 | 0.928 | 0.930 |
| 60-62 | 0.965 | 0.956 | 0.792 | 0.850 | 0.948 | 0.944 | 0.946 |
| 63-64 | 0.905 | 0.907 | 0.669 | 0.872 | 0.884 | 0.903 | 0.894 |
| 65-67 | 0.935 | 0.979 | 0.783 | 0.875 | 0.921 | 0.969 | 0.947 |
| 68-69 | 0.925 | 0.942 | 0.789 | 0.831 | 0.913 | 0.931 | 0.923 |
| 70-74 | 0.926 | 0.993 | 0.856 | 1.014 | 0.920 | 0.995 | 0.962 |
| 75.99 | 0.977 | 0.989 | 0.764 | 0.912 | 0.961 | 0.983 | 0.975 |
| $15+$ | 0.928 | 0.953 | 0.782 | 0.883 | 0.912 | 0.944 | 0.929 |
| $0+$ | 0.936 | 0.955 | 0.827 | 0.895 | 0.923 | 0.947 | 0.935 |

Table 13: SIPP Indirect Generalized Variance Parameters for the 1991 Panel

Characteristics ${ }^{\text {i }}$
PERSONS
Total or White
$16+$ Program Participation and Benefits, Poverty
Both Sexes
Male
Female
$16+$ Income and Labor Force (5)
Both Sexes
Male
Female
(3)
$6+$ Pension plan ${ }^{2}$ (4)
Both Sexes
Male
Female

```
All Others \({ }^{2}\)
Both Sexes
Male
Female
```

(6)
lack
Poverty (1)
Both Sexes
Male
Female

All Others (2)
Both Sexes
Male
Female

Total or White
Black

## Parameters

| -0.0006397 | 18,800 |
| :--- | :--- |
| -0.0013668 | 18,800 |
| -0.0012028 | 18,800 |

0.83

$$
\begin{array}{ll}
-0.0003441 & 10,110 \\
-0.0007350 & 10,110 \\
-0.0006468 & 10,110
\end{array}
$$

$$
\begin{array}{lll}
-0.0001005 & 9,286 & 1.00 \\
-0.0006115 & 6,416 & 0.83
\end{array}
$$

$\begin{array}{ll}-0.0001134 & 27,327 \\ -0.0002334 & 27,327\end{array}$
$-0.0002203 \quad 27,327$
-0.0013668 18,800
$-0.0012028 \quad 18,800$

For cross-tabulations, use the parameters of the characteristic with the smaller number within the parentheses.program participation, $0+$ benefits, $0+$ income, and $0+$labor force tabulations, in addition to any other typesof tabulations not specifically covered by anothercharacteristic in this table.

Table 14. Factors to be Applied to Table 13 Base Parameters to Obtain Parameters for Various Reference Periods

| \# of available rotation months ${ }^{1}$ | factor |
| :---: | :---: |
| Monthly estimate |  |
| 1 | 4.0000 |
| 2 | 2.0000 |
| 3 | 1.3333 |
| 4 | 1.0000 |

Quarterly estimate
6
1.8519

8
1.4074

9
1.2222

10 . 1.0494
11 . 1.0370
12
1.0000
${ }^{1}$ The number of available rotation months for a given estimate is the sum of the number of rotations available for each month of the estimate.

Table 15. Standard Errors of Estimated Numbers of Households, Families or Unrelated Persons (Numbers in Thousands)

| Size of Estimate | Standard <br> Error | Size of Estimate | Standard <br> Error |
| :---: | :---: | :---: | :---: |
| 200 | 43 | 15,000 | 342 |
| 300 | 53 | 25,000 | 412 |
| 500 | 68 | 30,000 | 434 |
| 750 | 83 | 40,000 | 459 |
| 1,000 | 96 | 50,000 | 462 |
| 2,000 | 135 | 60,000 | 442 |
| 3,000 | 164 | 70,000 | 397 |
| 5,000 | 210 | 80,000 | 316 |
| 7,500 | 253 | 90,000 | 147 |
| 10,000 | 288 | 92,000 | 61 |

1
To account for sample attrition, multiply the standard error of the estimate by 1.04 for estimates which include data from Wave 5 and beyond.

Table 16. Standard Errors of Estimated Numbers of Persons (Numbers in Thousands)

| Size of Estimate | Standard <br> Error | Size of Estimate | Standard <br> Error |
| :---: | :---: | :---: | :---: |
| 200 | 74 | 50,000 | 1041 |
| 300 | 90 | 80,000 | 1208 |
| 600 | 128 | 100,000 | 1264 |
| 1,000 | 165 | 130,000 | 1279 |
| 2,000 | 233 | 135,000 | 1274 |
| 5,000 | 366 | 150,000 | 1244 |
| 8,000 | 460 | 160,000 | 1212 |
| 11,000 | 536 | 180,000 | 1116 |
| 13,000 | 580 | 200,000 | 964 |
| 15,000 | 620 | 210,000 | 859 |
| 17,000 | 657 | 220,000 | 723 |
| 22,000 | 739 | 230,000 | 535 |
| 26,000 | 796 | 240,000 | 163 |
| 30,000 | 847 |  |  |

1
To account for sample attrition, multiply the standard error of the estimate by 1.04 for estimates which include data from Wave 5 and beyond.

Table 17. Standard Errors of Estimated Percentages of Households Families or Unrelated Persons

| Base of Estimated Percentage (Thousands) | Estimated Percentages ${ }^{1}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\leq 1$ or $\geq 99$ | -2 or 98 | 5 or 95 | 10 or 90 | 25 or 75 | 50 |
| 200 | 2.1 | 3.0 | 4.7 | 6.5 | 9.3 | 10.8 |
| 300 | 1.8 | 2.5 | 3.8 | 5.3 | 7.6 | 8.8 |
| 500 | 1.4 | 1.9 | 3.0 | 4.1 | 5.9 | 6.8 |
| 750 | 1.1 | 1.6 | 2.4 | 3.3 | 4.8 | 5.6 |
| 1,000 | 1.0 | 1.3 | 2.1 | 2.9 | 4.2 | 4.8 |
| 2,000 | 0.68 | 1.0 | 1.5 | 2.0 | 3.0 | 3.4 |
| 3,000 | 0.55 | 0.78 | 1.2 | 1.7 | 2.4 | 2.8 |
| 5,000 | 0.43 | 0.60 | 0.9 | 1.3 | 1.9 | 2.2 |
| 7,500 | 0.35 | 0.49 | 0.8 | 1.1 | 1.5 | 1.8 |
| 10,000 | 0.30 | 0.43 | 0.66 | 0.9 | 1.3 | 1.5 |
| 15,000 | 0.25 | 0.35 | 0.54 | 0.75 | 1.1 | 1.2 |
| 25,000 | 0.19 | 0.27 | 0.42 | 0.58 | 0.8 | 1.0 |
| 30,000 | 0.18 | 0.25 | 0.38 | 0.53 | 0.76 | 0.9 |
| 40,000 | 0.15 | 0.21 | 0.33 | 0.46 | 0.66 | 0.76 |
| 50,000 | 0.14 | 0.19 | 0.30 | 0.41 | 0.59 | 0.68 |
| 60,000 | 0.12 | 0.17 | 0.27 | 0.37 | 0.54 | 0.62 |
| 70,000 | 0.11 | 0.16 | 0.25 | 0.35 | 0.50 | 0.58 |
| 80,000 | 0.11 | 0.15 | 0.23 | 0.32 | 0.47 | 0.54 |
| 90,000 | 0.10 | 0.14 | 0.22 | 0.30 | 0.44 | 0.51 |
| 92,000 | 0.10 | 0.14 | 0.22 | 0.30 | 0.44 | 0.50 |

1
To account for sample attrition, multiply the standard error of the estimate by 1.04 for estimates which include data from Wave 5 and beyond.

Table 18. Standard Errors of Estimated Percentages of Persons

| Base of Estimated Percentage (Thousands) | Estimated Percentages |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\leq 1$ or $\geq 99$ | 2 or 98 | 5 or 95 | 10 or 90 | 25 or 75 | 50 |
| 200 | 3.7 | 5.2 | 8.1 | 11.1 | 16.0 | 18.5 |
| 300 | 3.0 | 4.2 | 6.6 | 9.1 | 13.1 | 15.1 |
| 6.00 | 2.1 | 3.0 | 4.7 | 6.4 | 9.2 | 10.7 |
| 1,000 | 1.6 | 2.3 | 3.6 | 5.0 | 7.2 | 8.3 |
| 2,000 | 1.2 | 1.6 | 2.5 | 3.5 | 5.1 | 5.8 |
| 5,000 | 0.74 | 1.0 | 1.6 | 2.2 | 3.2 | 3.7 |
| 8,000 | 0.58 | 0.8 | 1.3 | 1.8 | 2.5 | 2.9 |
| 11,000 | 0.50 | 0.70 | 1.1 | 1.5 | 2.2 | 2.5 |
| 13,000 | 0.46 | 0.64 | 1.0 | 1.4 | 2.0 | 2.3 |
| 17,000 | 0.40 | 0.56 | 0.9 | 1.2 | 1.7 | 2.0 |
| 22,000 | 0.35 | 0.49 | 0.8 | 1.1 | 1.5 | 1.8 |
| 26,000 | 0.32 | 0.45 | 0.71 | 1.0 | 1.4 | 1.6 |
| 30,000 | 0.30 | 0.42 | 0.66 | 0.9 | 1.3 | 1.5 |
| 50,000 | 0.23 | 0.33 | 0.51 | 0.70 | 1.0 | 1.2 |
| 80,000 | 0.18 | 0.26 | 0.40 | 0.55 | 0.8 | 0.9 |
| 100,000 | 0.16 | 0.23 | 0.36 | 0.50 | 0.72 | 0.8 |
| 130,000 | 0.14 | 0.20 | 0.32 | 0.43 | 0.63 | 0.72 |
| 200,000 | 0.12 | 0.16 | 0.25 | 0.35 | 0.51 | 0.58 |
| 220,000 | 0.11 | 0.16 | 0.24 | 0.33 | 0.48 | 0.56 |
| 230,000 | 0.11 | 0.15 | 0.24 | 0.33 | 0.47 | 0.55 |
| 240,000 | 0.11 | 0.15 | 0.23 | 0.32 | 0.46 | 0.53 |

To account for sample attrition, multiply the standard error of the estimate by 1.04 for estimates which include data from Wave 5 and beyond.

Table 19. 1991 Topical Module Generalized Variance Parameters ${ }^{1}$

|  | a | $\underline{b}$ |
| :---: | :---: | :---: |
| Fertility |  |  |
| \# Women | -0.0000748 | 6,119 |
| Births | -0.0000670 | 11,158 |
| Educational Attainment ${ }^{2}$ |  |  |
| Wave 2 | -0.0000457 | 8,335 |
| Wave 5 | -0.0000511 | 9,085 |
| Wave 8 | -0.0000511 | 9,085 |
| Marital Status and |  |  |
| Person's Family Characteristics |  |  |
| Some HH members | -0.0000644 | 12,613 |
| All HH members | -0.0000804 | 15,326 |
| Child Support |  |  |
| Wave 3 | -0.0000883 | 9,286 |
| Support for non-household members |  |  |
| Health and Disability | -0.0000499 | 12,014 |
| 0-15 Child Care |  |  |
| Wave 3 | -0.0001340 | 7,514 |
| Welfare History and AFDC |  |  |
| Both sexes 18+ | -0.0001241 | 22,040 |
| Males 18+ | -0.0002604 | 22,040 |
| Females 18+ | -0.0002372 | 22,040 |

Use the "16+ Income and Labor Force" core parameter for tabulations of reasons for not working/reservation wage and work related income.

2
The parameter also applies to the School Enrollment and Finance Topical Module Subject.

Table 20. SIPP 1990, 1991 Combined Panel Topical Module Generalized Variance Parameters

|  | a | $\underline{b}$ |
| :--- | :---: | :---: |
| Educational Attainment |  |  |
| 1990 Wave $5 / 1991$ Wave 2 | -0.0000190 | 3,470 |
| 1990 Wave $8 / 1991$ Wave | -0.0000201 | 3,582 |
| Support for non-household members |  |  |
| 1990 Wave 6/1991 Wave 3 | -0.0000400 | 3,866 |
| Health and Disability |  |  |
| 1990 Wave 6/1991 Wave 3 | -0.0000208 | 5,001 |
| $0-15$ Child Care |  |  |
| 1990 Wave 6/1991 Wave 3 | -0.0000558 | 3,128 |
| Child Support |  |  |
| 1990 Wave 6/1991 Wave 3 | -0.0000368 | 3,866 |

Table 21. Distribution of Monthly Cash Income Among Persons 25 to 34 Years Old

| . | Total | under $\$ 300$ | $\begin{aligned} & \$ 300 \\ & \text { to } \\ & \$ 599 \\ & \hline \end{aligned}$ | $\begin{aligned} & \$ 600 \\ & \text { to } \\ & \$ 899 \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \$ 1,200 \\ & \text { to } \\ & \$ 1,499 \end{aligned}$ | $\begin{aligned} & \$ 1,500 \\ & \text { to } \\ & \$ 1,999 \\ & \hline \end{aligned}$ | $\begin{aligned} & \$ 2,000 \\ & \text { to } \\ & \$ 2,499 \end{aligned}$ |  | $\begin{aligned} & \$ 3,000 \\ & \text { to } \\ & \$ 3,499 \end{aligned}$ | $\begin{aligned} & \$ 3,500 \\ & \text { to } \\ & \$ 3,999 \\ & \hline \end{aligned}$ | $\begin{aligned} & \$ 4,000 \\ & \text { to } \\ & \$ 4,999 \\ & \hline \end{aligned}$ | $\begin{aligned} & \$ 5,000 \\ & \text { to } \\ & \$ 5,999 \end{aligned}$ | \$6,000 and over |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Thousands in interval | 39,851 | 1371 ; | 1651 | 2259 | 2734 | 3452 | 6278 | 5799 | 4730 | 3723 | 2519 | 2619 | 1223 | 1493 |
| Percent with at least as much as lower bound of interval | - | 100.0 | 96.6 | $92.4$ | 86.7 | 79.9 | 71.2 | 55.5 | 40.9 | 29.1 | 19.7 | 13.4 | 6.8 | 3.7 |

Table 22. SIPP Factors to be Applied to the 1991 Base Parameters to Obtain the 1990, 1991 Combined Panel Parameters ${ }^{1}$

```
Waves to be Combined
```

| 1990 panel | $\frac{1991 \text { panel }}{\text { g-factor }}{ }^{2}$ |  |
| :---: | :---: | :---: |
| 5 | 2 | 0.4163 |
| 6 | 3 | 0.4163 |
| 7 | 4 | 0.4163 |
| 8 | 5 | 0.3943 |

Table 23. Factors to be Applied to Base Parameters to Obtain Combined Panel Parameters for Estimates from Various Reference Periods.
\# of available
rotation months
for 2 panels combined ${ }^{2}$

factor

Monthly Estimate

| 2 | 4.0000 |
| :---: | :---: |
| 3 | 3.0000 |
| 4 | 2.0000 |
| 5 | 1.6667 |
| 6 | 1.3333 |
| 7 | 1. 1667 |
| 8 | 1.0000 |

Quarterly Estimates
1.8519

12
1.5631

15
1.2222

18
1.1470

19
1.0000

24

Annual Estimates
1.00 .00

96

1

2

Estimates are based on monthly averages.
The number of available rotation months for a given estimate is the sum of the number of rotations available for each month of the estimate for the two panels. There must be at least one rotation month available for each month from each panel for monthly and quarterly estimates.

## APPENDIX A-1

## Income Source Code List

## Code Income Sources

1 - Social Security
2 - U.S. Government Railroad Retirement pay.
3 - Federal Supplemental Security Income (SSI)
5 - State unemployment compensation
6 - Supplemental Unemployment Benefits
7 - Other unemployment compensation (Trade Adjustment Act benefits, strike pay, other)
8 - Veterans compensation or pensions
10 - Worker's compensation
12 - Employer or union temporary sickness policy
13 - Payments from a sickness, accident or disability insurance policy purchased on your own
20 - Aid to Families with Dependent Children (AFDC, ADC)
21 - General assistance or General relief
23 - Foster child care payments
24 - Other welfare
25 - WIC (Women, Infants and Children) Nutrition Program
27 - Food stamps
28 - Child support payments
29 - Alimony payments
30 - Pension from company or union
31 - Federal Civil Service or other Federal civilian employee pensions
32 - U.S. Military retirement pay
34 - State government pensions
35 - Local government pensions
36- Income from paid-up life insurance policles or annuities
37 - Estates and trusts
38 - Other payments for retirement, disability or survivor
40-G.I. Bill/VEAP education benefits
41 - Other VA educational assistance
50 - Income assistance from a charitable group
51 - Money from relatives or friends
52 - Lump sum payments
53 - Income from roomers or boarders
54 - National Guard or Reserve pay
55 - Incidental or casual earnings
56 - Other cash income not included elsewhere

- 75 - Categories combined and recoded for confidentiality reasons

State Administered Supplemental Security Income (old code 4).
Black lung payments (old code 9)
State temporary sickness or disability benefits (old code 11)
Indian, Cuban, or Refugee Assistance (old code 22)
National Guard or Reserve Force retirement (old code 33)

## Code Asset List

100 - Regular/passbook savings accounts in a bank, savings and loan or credit union
101 - Money market deposit accounts
102 - Certificates of Deposit or other savings certificates
103 - NOW, Super NOW or other interest earning checking accounts
104 - Money market funds
105 - U.S. Government securities
106 - Municipal or corporate bonds
107 - Other interest-earning assets
110 - Stocks or mutual fund shares
120 - Rental property
130 - Mortgages
140 - Royalties
150-Other financial investments

## Code Special Indicators

170 - Worked
171 - Disabled
172-Medicare
173 - Medicaid
174 - U.S. Saving Bonds (E, EE)
175 - College Work Study
176 - PELL Grant
177 - Supplemental Educational Opportunity Grant (SEOG)
178 - National Direct Student Loan (NSL)
179 - Guaranteed Student Loan
180 - JTPA Training
181 - Employer assistance
182-Fellowship/Scholarship
183- Other financial aid
200 - VA disability rating of $100 \%$
201 - VA disibility of less than $100 \%$

## APPENDIX A-2

## Income Sources Included in Monthly Cash Income

## Earnings from Employment

Wages and salaries
Nonfarm self-employment income
Farm self-employment income

## Income from Assets (Property Income)

Regular/passbook savings accounts in a bank, savings and loan or credit union
Money market deposit accounts
Certificates of Deposit or other savings certificates
NOW, Super NOW or other interest-earning checking accounts
Money market funds
U.S. Government securities

Municipal or corporate bonds
Other interest-earning assets
Stocks or mutual fund shares
Rental property
Mortgages
Royalties
Other financial investments

## Other Income Sources

## Social Security

U.S. Government Railroad Retirement pay

Federal Supplemental Security Income (SSI)
State Administered Supplemental Security Income
State unemployment compensation
Supplemental Unemployment Benefits
Other unemployment compensation (Trade Adjustment Act benefits, strike pay, other)
Veterans compensation or pensions
Black lung payments
Worker's compensation
State temporary sickness or disability benefits
Payments from a sickness, accident or disability insurance policy purchased on your own
Aid to Families with Dependent Children (AFDC, ADC)
General Assistance or General Relief
Indian, Cuban, or Refugee Assistance
Foster child care payments
Other welfare
Child support payments
Alimony payments
Pension from company or union
Federal Civil Service or other Federal civilian employee pensions
U.S. Military retirement pay

National Guard or Reserve Forces retirement -
State government pensions
Local government pensions
Income from paid-up life insurance policies or annuities
Estates and trusts

Other payments for retirement, disability or survivor benefits
G.I. Bill/VEAP education benefits

Income assistance from a charitable group
Money from relatives or friends
Lump sum payments
Income from roomers or boarders
National Guard or Reserve pay
Incidental or casual earnings
Other cash income not included elsewhere

## APPENDIX A-3

## Sources of Means-Tested Benefits Covered in SIPP

## Cash Benefits

Federal Supplemental Security Income (SSI)
State Administered Supplemental Security Income
Veterans' pensions
Aid to Families with Dependent Children (AFDC, ADC)
General Assistance or General Relief
Indian, Cuban, or Refugee Assistance
Other welfare
Foster child care payments

## Noncash Benefits

## Food Stamps

Special Supplemental Food Program for Women, Infants, and Children (WIC)
Low-Income Home Energy Assistance
Medicaid
Free or reduced price school lunches
Free or reduced price school breakfasts
Public or subsidized rental housing

## APPENDIX A-4

## 1980 Census of Population Occupation Classification System

(The numbers in parentheses refer to the 1980 Standard Occupational Classification code equivalents. Pt means part. N.e.c. means not elsewhere classified.)

# MANAGERIAL AND PROFESSIONAL SPECIALTY OCCUPATIONS 

1980
Code
003
004
005
006
007
008
009
013
014
015
016
017
018
019
023
024
025
026
027
028
029
033
034
035
036

## Legislators (111)

Chief executives and general administrators, public administration (112)
Administrators and officials, public administration (1132-1139)
Administrators, protective services (1131)
Financial managers (122)
Personnel and labor relations managers (123)
Purchasing managers (124)
Managers, marketing, advertising, and public relations (125)
Administrators, education and related fields (128)
Managers, medicine and health (131)
Managers, properties and real estate (1353)
Postmasters and mail superintendents (1344)
Funeral directors (pt 1359)
Managers and administrators, n.e.c. (121, 126, 127, 132-139, exc. 1344, 1353, pt 1359)
Management related occupations
Accountants and auditors (1412)
Underwriters (1414)
Other financial officers $(1415,1419)$
Management analysts (142)
Personnel, training, and labor relations specialists (143)
Purchasing agents and buyers, farm products (1443)
Buyers, wholesale and retail trade except farm products (1442)
Purchasing'agents and buyers, n.e.c. (1449)
Business and promotion arents (145)
Construction inspectors (1472)
Inspectors and compliance officers, exc. construction (1473)
Management related occupations, n.e.c. (149)

## Professional Specialty Occupations

Engineers, Architects, and Surveyors
Architects (161)
Engineers
Aerospace (1622)
Metallurgical and materials (1623)
Mining (1624)
Petroleum (1625)
Chemical (1626)
Nuclear (1627)
Civil (1628)
Agricultural (1632)
Electrical and electronic $(1633,1636)$
Industrial (1634)
Mechanical (1635)

Marine and naval architects (1637)
Engineers, n.e.c. (1639)
Surveyors and mapping scientists (164)
Mathematical and Computer Scientists
Computer systems analysts and scientists (171)
Operations and systems researchers and analysts (172)
Actuaries (1732)
Statisticians (1733)
Mathematical scientists, n.e.c. (1739)
Natural Scientists
Physicists and astronomers $(1842,1843)$
Chemists, except biochemists (1845)
Atmospheric and space scientists (1846)
Geologists and geodesists (1847)
Physical scientists, n.e.c. (1849)
Agricultural and food scientists (1853)
Biological and life scientists (1854)
Forestry and conservation scientists (1852)
Medical scientists (1855)
Health Diagnosing Occupations
Physicians (261)
Dentists (262)
Veterinarians (27)
Optometrists (281)
Podiatrists (283)
Health diagnosing practitioners, n.e.c. (289)
Health Assessment and Treating Occupations
Registered nurses (29)
Pharmacists (301)
Dietitians (302)
Therapists
Inhalation therapists (3031)
Occupational therapists (3032)
Physical therapists (3033)
Speech therapists (3034)
Therapists, n.e.c. (3039)
Physicians' assistants (304)
Teachers, Postsecondary
Earth, environmental, and marine science teachers (2212)
Biological science teachers (2213)
Chemistry teachers (2214)
Physics teachers (2215)
Natural science teachers, n.e.c. (2216)
Psychology teachers (2217)
Economics teachers (2218)
History teachers (2222)
Political science teachers (2223)
Sociology teachers (2224)
Social science teachers, n.e.c. (2225)
Engineering teachers (2226)
Mathematical science teachers (2227)
Computer science teachers (2228)
Medical science teachers (2231)
Health specialties teachers (2232)
Business, commerce, and marketing teachers (2233)
Agriculture and forestry teachers (2234)

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Art, drama, and music teachers (2235)
Physical education teachers (2236)
Education teachers (2237)
English teachers (2238)
Foreign language teachers (2242)
Law teachers (2243)
Social work teachers (2244)
Theology teachers (2245)
Trade and industrial teachers (2246)
Home economics teachers (2247)
Teachers, postsecondary, n.e.c. (2249)
Postsecondary teachers, subject not specified
Teachers, Except Postsecondary
Teachers, prekindergarten and kindergarten (231)
Teachers, elementary school (232)
Teachers, secondary school (233)
Teachers, special education (235)
Teachers, n.e.c. $(236,239)$
Counselors, educational and vocational (24)
Librarians, Archivists, and Curators
Librarians (251)
Archivists and curators (252)
Social Scientists and Urban Planners
Economists (1912)
Psychologists (1915)
Sociologists (1916)
Social scientists, n.e.c. $(1913,1914,1919)$
Urban planners (192)
Social, Recreation, and Religious Workers
Social workers (2032)
Recreation workers (2033)
Clergy (2042)
Religious workers, n.e.c. (2049)
Lawyers and Judges
Lawyers (211)
Judges (212)
Writers, Artists; Entertainers, and Athletes
Authors (321)
Technical writers (398)
Designers (322)
Musicians and composers (323)
Actors and directors (324)
Painters, sculptors, craft-artists, and artist printmakers (325)
Photographers (326)
Dancers (327)
Artists, performers, and related workers, n.e.c. $(328,329)$
Editors and reporters (331)
Public relations specialists (332)
Announcers (333)
Athletes (34)

## TECHNICAL, SALES, AND ADMINISTRATIVE SUPPORT OCCUPATIONS

## Technicians and Related Support Occupations

Health Technologists and Technicians
Clinical laboratory technologists and technicians (362)
Dental hygienists (363)
Health record technologists and technicians (364)
Radiologic technicians (365)
Licensed practical nurses (366)
Health technologists and technicians, n.e.c. (369)
Technologists and Technicians, Except Health
Engineering and Related Technologists and Technicians
Electrical and electronic technicians (3711)
Industrial engineering technicians (3712)
Mechanical engineering technicians (3713)
Engineering technicians, n.e.c. (3719)
Drafting occupations (372)
Surveying and mapping technicians (373)
Science Technicians
Biological technicians (382)
Chemical technicians (3831)
Science technicians, n.e.c. ( $3832,3833,384,389$ )
Technicians; Except Health, Engineering, and Science
Airplane pilots and navigators (825)
Air traffic controllers (392)
Broadcast equipment operators (393)
Computer programmers $(3971,3972)$
Tool programmers, numerical control (3974)
Legal assistants (396)
Technicians, n.e.c. (399)

## Sales Occupations

Supervisors and proprietors, sales occupations (40)
Sales Representatives, Finance and Business Services
Insurance sales occupations (4122)
Real estate sales occupations (4123)
Securities and financial services sales occupations (4124)
Advertising and related sales occupations (4153)
Sales occupations; other business services (4152)
Sales Representatives, Commodities Except Retail
Sales engineers (421)
Sales representatives, mining, manufacturing, and wholesale $(423,424)$
Sales Workers, Retail and Personal Services
Sales workers, motor vehicles and boats $(4342,4344)$
Sales workers, apparel (4346)
Sales workers, shoes (4351)
Sales workers, furniture and home furnishings (4348)
Sales workers; radio, TV, hi-fi, and appliances ( 4343,4352 )
Sales workers, hardware and building supplies (4353)
Sales workers, parts (4367)
Sales workers, other commodities (4345, 4347, 4354, 4356, 4359,4362, 4369)
Sales counter clerks (4363)
Cashiers (4364)
Street and door-to-door sales workers (4366)

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News vendors (4365)
Sales Related Occupations
Demonstrators, promoters and models, sales (445)
Auctioneers (447)
Sales support occupations, n.e.c. \((444,446,449)\)
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## Administrative Support Occupations, Including Clerical

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Supervisors, Administrative Support Occupations
Supervisors, general office ( \(4511,4513,4514,4516,4519,4529\) )
Supervisors, computer equipment operators (4512)
Supervisors, financial records processing (4521)
Chief communications operators (4523)
Supervisors; distribution, scheduling, and adjusting clerks (4522, 4524-4528)
Computer Equipment Operators
Computer operators (4612)
Peripheral equipment operators (4613)
Secretaries, Stenographers, and Typists
Secretaries (4622)
Stenographers (4623)
Typists (4624)
Information Clerks
Interviewers (4642)
Hotel clerks (4643)
Transportation ticket and reservation agents (4644)
Receptionists (4645)
Information clerks, n.e.c. (4649)
Records Processing Occupations, Except Financial
Classified-ad clerks (4662)
Correspondence clerks (4663)
Order clerks (4664).
Personnel clerks, except payroll and timekeeping (4692)
Library clerks (4694)
File clerks (4696)
Records clerks (4699)
Financial Records Processing Occupations
Bookkeepers, accounting, and auditing clerks (4712)
Payroll and timekeeping clerks (4713)
Billing clerks (4715)
Cost and rate clerks (4716)
Billing, posting, and calculating machine operators (4718)
Duplicating, Mail and Other Office Machine Operators
Duplicating machine operators (4722)
Mail preparing and paper handling machine operators (4723)
Office machine operators, n.e.c. (4729)
Communications Equipment Operators
Telephone operators (4732)
Telegraphers (4733)
Communications equipment operators, n.e.c. (4739)
Mail and Message Distributing Occupations
Postal clerks, exc. mail carriers (4742)
Mail carriers, postal service (4743).
Mail clerks, exc. postal service (4744)
Messengers (4745)
Material Recording, Scheduling, and Distributing Clerks
Dispatchers (4751)
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Production coordinators (4752)
Traffic, shipping, and receiving clerks (4753).
Stock and inventory clerks (4754)
Meter readers (4755)
Weighers, measurers, and checkers (4756)
Samplers (4757)
Expediters (4758)
Material recording, scheduling, and distributing clerks, n.e.c. (4759)
Adjusters and Investigators
Insurance adjusters, examiners, and investigators (4782)
Investigators and adjusters, except insurance (4783)
Eligibility clerks, social welfare (4784)
Bill and account collectors (4786)
Miscellaneous Administrative Support Occupations
General office clerks (463)
Bank tellers (4791)
Proofreaders (4792)
Data-entry keyers (4793)
Statistical clerks (4794)
Teachers' aides (4795)
Administrative support occupations, n.e.c. $(4787,4799)$
SERVICE OCCUPATIONS
Private Household Occupations
Launderers and ironers (503)
Cooks, private household (504)
Housekeepers and butlers (505)
Child care workers, private household (506)
Private household cleaners and servants $(502,507,509)$
Protective Service Occupations
Supervisors, Protective Service. Occupations
Supervisors, firefighting and fire prevention occupations (5111)
Supervisors, police and detectives (5112)
Supervisors, guards (5113)
Firefighting and Fire Prevention Occupations
Fire inspection and fire prevention occupations (5122)
Firefighting occupations (5123)
Police and Detectives
Police and detectives; public service (5132)
Sheriffs bailiffs, and other law enforcement officers (5134)
Correctional institution officers (5133)
Guards
Crossing guards (5142)
Guards and police, exc. public service (5144)
Protective service occupations, n.e.c. (5149)
Service Occupations, Except Protective and Household
Food Preparation and Service Occupations
Supervisors, food preparation and service occupations (5211)
Bartenders (5212)
Waiters and waitresses (5213)

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Cooks, except short order (5214)
Short-order cooks (5215)
Food counter, fountain and related occupations (5216)
Kitchen workers, food preparation (5217)
Waiters'/waitresses' assistants (5218)
Miscellaneous food preparation occupations (5219)
Health Service Occupations
Dental assistants (5232)
Health aides, except nursing (5233)
Nursing aides, orderlies, and attendants (5236)
Cleaning and Building Service Occupations, except Household
Supervisors, cleaning and building service workers (5241)
Maids and housemen $(5242,5249)$
Janitors and cleaners (5244)
Elevator operators (5245)
Pest control occupations (5246)
Personal Service Occupations
Supervisors, personal service occupations (5251)
Barbers (5252)
Hairdressers and cosmetologists (5253)
Attendants, amusement and recreation facilities (5254)
Guides (5255)
Ushers (5256)
Public transportation attendants (5257)
Baggage porters and bellhops (5262)
Welfare service aides (5263)
Child care workers, except private household (5264)
Personal service occupations, n.e.c. $(5258,5269)$
FARMING, FORESTRY, AND FISHING OCCUPATIONS
Farm Operators and Managers
Farmers, except horticultural (5512-5514)
Horticultural specialty farmers (5515)
Managers, farms, except horticultural (5522-5524)
Managers, horticultural specialty farms (5525)
Other Agricultural and Related Occupations
Farm Occupations, Except Managerial
Supervisors, farm workers (5611)
Farm workers (5612-5617)
Marine life cultivation workers (5618)
Nursery workers (5619)
Related Agricultural Occupations
Supervisors, related agricultural occupations (5621)
Groundskeepers and gardeners, except farm (5622)
Animal caretakers, except farm (5624)
Graders and sorters, agricultural products (5625)
Inspectors, agricultural products (5627)

## Forestry and Logging Occupations

Supervisors, forestry, and logging workers (571)
Forestry workers, except logging (572)
Timber cutting and logging occupations $(573,579)$
Fishers, Hunters, and Trappers
Captains and other officers, fishing vessels (pt 8241)
Fishers (583)
Hunters and trappers (584)

# PRECISION PRODUCTION, CRAFT, AND REPAIR OCCUPATIONS 

## Mechanics and Repairers

Supervisors, mechanics and repairers (60)
Mechanics and Repairers, Except Supervisors
Vehicle and Mobile Equipment Mechanics and Repairers
Automobile mechanics (pt 6111)
Automobile mechanic apprentices (pt 6111)
Bus, truck, and stationary engine mechanics (6112)
Aircraft engine mechanics (6113)
Small engine repairers (6114)
Automobile body and related repairers (6115)
Aircraft mechanics, exc. engine (6116)
Heavy equipment mechanics (6117)
Farm equipment mechanics (6118)
Industrial machinery repairers (613)
Machinery maintenance occupations (614)
Electrical and Electronic Equipment Repairers
Electronic repairers, communications and industrial equipment (6151, 6153, 6155)
Data processing equipment repairers (6154)
Household appliance and power tool repairers (6156)
Telephone line installers and repairers (6157)
Telephone installers and repairers (6158)
Miscellaneous electrical and electronic equipment repairers $(6152,6159)$
Heating, air conditioning, and refrigeration mechanics (6161)
Miscellaneous Mechanics and Repairers
Camera, watch, and musical instrument repairers $(6171,6172)$
Locksmiths and safe repairers (6173)
Office machine repairers (6174)
Mechanical controls and valve repairers (6175)
Elevator installers and repairers (6176)
Millwrights (6178)
Specified mechanics and repairers, n.e.c. $(6177,6179)$
? Not specified mechanics and repairers

## Construction Trades

Supervisors, construction occupations

Supervisors; brickmasons, stonemasons, and tile setters (6312)
Supervisors, carpenters and related workers (6313)
Supervisors, electricians and power transmission installers (6314)
Supervisors; painters, paperhangers, and plasterers (6315)
Supervisors; plumbers, pipefitters, and steamfitters (6316)

Supervisors, n.e.c. $(6311,6318)$
Construction Trades, Except Supervisors
Brickmasons and stonemasons (pt 6412, pt 6413)
Brickmason and stonemason apprentices (pt 6412, pt 6413)
Tile setters, hard and soft (6414, pt 6462)
Carpet installers (pt 6462)
Carpenters (pt 6422)
Carpenter apprentices (pt 6422)
Drywall installers (6424)
Electricians (pt 6432)
Electrician apprentices (pt 6432)
Electrical power installers and repairers (6433)
Painters, construction and maintenance (6442)
Paperhangers (6443)
Plasterers (6444)
Plumbers, pipefitters, and steamfitters (pt 645)
Plumber, pipefitter, and steamfitter apprentices (pt 645)
Concrete and terrazzo finishers (6463)
Glaziers (6464)
Insulation workers (6465)
Paving, surfacing, and tamping equipment operators (6466)
Roofers (6468)
Sheetmetal duct installers (6472)
Structural metal workers (6473)
Drillers, earth (6474)
Construction trades, n.e.c. $(6467,6475,6476,6479)$
Extractive Occupations
Supervisors, extractive occupations (632)
Drillers, oil well (652)
Explosives workers (653)
Mining machine operators (654)
Mining occupations, n.e.c. (656)
Precision Production Occupations
Supervisors, production occupations $(67,71)$
Precision Metal Working Occupations
Tool and die makers (pt 6811)
Tool and die maker apprentices (pt 6811)
Precision assemblers, metal (6812)
Machinists (pt 6813)
Machinist apprentices (pt 6813)
Boilermakers (6814)
Precision grinders, filers, and tool sharpeners (6816)
Patternmakers and model makers, metal (6817)
Lay-out workers (6821)
Precious stones and metals workers (Jewelers) $(6822,6866)$
Engravers, metal (6823)
Sheet metal workers (pt 6824)
Sheet metal worker apprentices (pt 6824)
Miscellaneous precision metal workers (6829)
Precision Woodworking Occupations
Patternmakers and model makers, wood (6831)
Cabinet makers and bench carpenters (6832)
Furniture and wood finishers (6835)
Miscellaneous precision woodworkers (6839)
Precision Textile, Apparel, and Furnishings Machine Workers
Dressmakers (pt 6852, pt 7752)

| 667 | Tailors (pt 6852) |
| :---: | :---: |
| 668 | Upholsterers (6853) |
| 669 | Shoe repairers (6854) |
| 673 | Apparel and fabric patternmakers (6856) |
| 674 | Miscellaneous precision apparel and fabric workers (6859, pt 7752) |
|  | Precision Workers, Assorted Materials |
| 675 | Hand molders and shapers, except jewelers (6861) |
| 676 | Patternmakers, lay-out workers, and cutters (6862) |
| 677 | Optical goods workers (6864, pt 7477, pt 7677) |
| 678 | Dental laboratory and medical appliance technicians (6865) |
| 679 | Bookbinders (6844) |
| 683 | Eiectrical and electronic equipment assemblers (6867) |
| 684 | Miscellaneous precision workers, n.e.c. (6869) |
|  | Precision Food Production Occupations |
| 686 | Butchers and meat cutters (6871) |
| 687 | Bakers (6872) |
| 688 | Food batchmakers (6873, 6879) |
|  | Precision Inspectors, Testers, and Related Workers |
| 689 | Inspectors, testers, and graders (6881, 828) |
| 693 | Adjusters and calibrators (6882) |
|  | Plant and System Operators |
| 694 | Water and sewage treatment plant operators (691) |
| 695 | Power plant operators (pt 693) |
| 696 | Stationary engineers (pt 693, 7668) |
| 699 | Miscellaneous plant and system operators (692, 694, 695, 696) |
|  | OPERATORS, FABRICATORS, AND LABORERS |
|  | Machine Operators, Assemblers, and Inspectors |
|  | chine Operators and Tenders, except Precision |
|  | Metal working and Plastic Working Machine Operators |
| 703 | - Lathe and turning machine set-up operators (7312) |
| 704 | Lathe and turning machine operators (7512) |
| 705 | Milling and planing machine operators ( 7313,7513 ) |
| 706 | Punching and stamping press machine operators ( $7314,7317,7514,7517$ ) |
| 707 | Rolling machine operators ( 7316,7516 ) |
| 708 | Drilling and boring machine operators $(7318,7518)$ |
| 709 | Grinding, abrading, buffing, and polishing machine operators (7322, 7324, 7522) |
| 713 | Forging machine operators ( 7319,7519 ) |
| 714 | Numerical control machine operators (7326) |
| 715 | Miscellaneous metal, plastic, stone, and glass working machine operators (7329, 7529) |
| 717 | Fabricating machine operators, n.e.c. (7339, 7539) |
|  | Metal and Plastic Processing Machine Operators |
| 719 | Molding and casting machine operators (7315, $7342,7515,7542$ ) |
| 723 | Metal plating machine operators ( 7343,7543 ) |
| 724 | Heat treating equipment operators ( 7344,7544 ) |
| 725 | Miscellaneous metal and plastic processing machine operators ( 7349,7549 ) |
|  | Woodworking Machine Operators |
| 726 | Wood lathe, routing, and planing machine operators (7431, 7432, 7631, 7632) |
| 727 | Sawing machine operators (7433, 7633) |
| 728 | Shaping and joining machine operators ( 7435,7635 ) |
| 729 | Nailing and tacking machine operators (7636) |
| 733 | Miscellaneous woodworking machine operators (7434, 7439, 7634, 7639) |

Printing Machine Operators
Printing machine operators $(7443,7643)$
Photoengravers and lithographers ( $6842,7444,7644$ )
Typesetters and compositors $(6841,7642)$
Miscellaneous printing machine operators $(6849,7449,7649)$
Textile, Apparel, and Furnishings Machine Operators
Winding and twisting machine operators $(7451,7651)$
Knitting, looping, taping, and weaving machine operators $(7452,7652)$
Textile cutting machine operators (7654)
Textile sewing machine operators (7655)
Shoe machine operators (7656)
Pressing machine operators (7657)
Laundering and dry cleaning machine operators ( 6855,7658 )
Miscellaneous textile machine operators $(7459,7659)$
Machine Operators, Assorted Materials
Cementing and gluing machine operators (7661)
Packaging and filling machine operators $(7462,7662)$
Extruding and forming machine operators $(7463,7663)$
Mixing and blending machine operators (7664)
Separating, filtering, and clarifying machine operators $(7476,7666,7676)$
Compressing and compacting machine operators $(7467,7667)$
Painting and paint spraying machine operators (7669)
Roasting and baking machine operators, food $(7472,7672)$
Washing, cleaning, and pickling machine operators (7673)
Folding machine operators $(7474,7674)$
Furnace, kiln, and oven operators, exc. food (7675)
Crushing and grinding machine operators (pt 7477, pt 7677)
Slicing and cutting machine operators $(7478,7678)$
Motion picture projectionists (pt 7479)
Photographic process machine operators (6863, 6868, 7671)
Miscellaneous machine operators, n.e.c. (pt 7479, 7665, 7679)
Machine operators, not specified
Fabricators, Assemblers, and Hand Working Occupations
Welders and cutters $(7332,7532,7714)$
Solderers and brazers $(7333,7533,7717)$
Assemblers $(772,774)$
Hand cutting and trimming occupations (7753)
Hand molding, casting, and forming occupations (7754, 7755)
Hand painting, coating, and decorating occupations (7756)
Hand engraving and printing occupations (7757)
Hand grinding and polishing occupations (7758)
Miscellaneous hand working occupations (7759)
Production Inspectors, Testers, Samplers, and Weighers
Production inspectors, checkers, and examiners $(782,787)$
Production testers (783)
Production samplers and weighers (784)
Graders and sorters, exc. agricultural (785)

Transportation and Material Moving Occupations
Motor Vehicle Operators
Supervisors, motor vehicle operators (8111)
Truck drivers, heavy $(8212,8213)$
Truck drivers, light (8214)
Driver-sales workers (8218)
Bus drivers (8215)

809 Taxicab drivers and chauffeurs (8216)
813 Parking lot attendants (874)
814 Motor transportation occupations, n.e.c. (8219)
Transportation Occupations, Except Motor Vehicles
Rail Transportation Occupations
Railroad conductors and yardmásters (8113)
Locomotive operating occupations (8232)
Railroad brake, signal, and switch operators (8233)
Rail vehicle operators, n.e.c. (8239)
Water Transportation Occupations
Ship captains and mates, except fishing boats (pt 8241, 8242)
Sailors and deckhands (8243)
Marine engineers (8244)
Bridge, lock, and lighthouse tenders (8245)
Material Moving Equipment Operators
Supervisors, material moving equipment operators (812)
Operating engineers (8312)
Longshore equipment operators (8313)
Hoist and winch operators (8314)
Crane and tower operators (8315)
Excavating and loading machine operators (8316)
Grader, dozer, and scraper operators (8317)
Industrial truck and tractor equipment operators (8318)
Miscellaneous material moving equipment operators (8319)

## Handlers, Equipment Cleaners, Helpers, and Laborers

Supervisors, handlers, equipment cleaners, and laborers, n.e.c. (85)
Helpers, mechanics and repairers (863)
Helpers, Construction and Extractive Occupations
Helpers, construction trades (8641-8645, 8648)
Helpers, surveyor (8646)
Helpers, extractive occupations (865)
Construction laborers (871)
Production helpers $(861,862)$
Freight, Stock, and Material Handlers
Garbage collectors (8722)
Stevedores (8723)
Stock handlers and baggers (8724)
Machine feeders and offbearers (8725)
Freight, stock, and material handlers, n.e.c. (8726)
Garage and service station related occupations (873)
Vehicle washers and equipment cleaners (875)
Hand packers and packagers (8761)
Laborers, except construction (8769)
Member of the Armed Forces

## APPENDIX A-5

1980 Census of Population Industry Ciassification System
(Alphabets parentheses are the 1972 SIC code equivalents ${ }^{1}$ )
Census
Code

## AGRICULTURE, FORESTRY, AND FISHERIES

010 (A) Agricultural production, crops (01)
011 Agricultural production, livestock (02)
020 Agricultural services, except horticultural (07, except 078)
021 Horticultural services (078)
030 Forestry (08)
031 Fishing, hunting, and trapping (09)
MiNiNG
040 Metal mining (10)
041 Coal mining $(11,12)$
042 Crude petroleum and natural gas extraction (13)
050 Nonmetallic mining and quarrying, except fuel (14)
060 (B) CONSTRUCTION $(15,16,17)$
MANUFACTURING
Nondurabie Goods
Food and kindred products
Meat products (201)

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Dairy products (202)
Canned and preserved fruits and vegetables (203)
Grain mill products (204)
Bakery products (205)
Sugar and confectionery products (206)
Beverage industries (208)
Miscellaneous food preparations and kindred products $(207,209)$
Not specified food industries
Tobacco manufactures (21)
Textile mill products
Knitting mills (225)
Dyeing and finishing textiles, except wool and knit goods (226)
Floor coverings, except hard surface (227)
Yarn, thread, and fabric mills (221-224, 228)
Miscellaneous textile mill products (229)

[^1]Apparel and other finished textile products
Apparel and accessories, except knit (231-238)
Miscellaneous fabricated textile products (239)
Paper and allied products
Pulp, paper, and paperboard mills (261-263, 266)
Miscellaneous paper and pulp products (264)
Paperboard containers and boxes (265)
Printing, publishing, and allied industries
Newspaper publishing and printing (271)
Printing, publishing, and allied industries, except newspapers (272-279)
Chemicals and allied products
Plastics, synthetics, and resins (282)
Drugs (283)
Soaps and cosmetics (284)
Paints, varnishes, and related products (287)
Agricultural chemicals (287)
Industrial and miscellaneous chemicals (281, 286, 289)
Petroleum and coal products
Petroleum refining (291)
Miscellaneous petroleum and coal products $(295,299)$
Rubber and miscellaneous plastics products
Tires and inner tubes (301)
Other rubber products, and plastics footwear and belting (302-304, 306)
Miscellaneous plastics products (307)
Leather and leather products
Leather tanning and finishing (311)
Footwear, except rubber and plastic $(313,314)$
Leather products, except footwear $(315-317,319)$

## Durable Goods

Lumber and wood products, except furniture
Logging (241)
Sawmills, planing mills, and millwork $(242,243)$
Wood buildings and mobile homes (245)
Miscellaneous wood products $(244,249)$
Furniture and fixtures (25)
Stone, clay, glass, and concrete products
Glass and glass products (321-323)
Cement, concrete, gypsum, and plaster products $(324,327)$
Structural clay products (325)
Pottery and related products (326)
Miscellaneous nonmetallic mineral and stone products $(328,329)$.
Metal industries
Blast furnaces, steelworks, rolling and finishing mills (331)
Iron and steel foundries (332)
Primary aluminum industries (3334, part 334, 3353-3355, 3361)
Other primary metal industries (3331-3333, 3339, part 334, 3351, 3356, 3357, 3362, 3369, 339)
Cutlery, handtools, and other hardware (342)
Fabricated structural metal products (344)
Screw machine products (345)
Metal forgings and stampings (346)
Ordnance (348)

Miscellaneous fabricated metal products ( $341,343,347,349$ )
Not specified metal industries
Machinery, except electrical
Engines and turbines (351)
Farm machinery and equipment (352)
Construction and material handling machines (353)
Metalworking machinery (354)
Office and accounting machines (357, except 3573)
Electronic computing equipment (3573)
Machinery, except electrical, n.e.c. $(355,356,358,359)$
Not specified machinery
Electrical machinery, equipment, and supplies
Household appliances (363).
Radio, T.V., and communication equipment $(365,366)$
Electrical machinery, equipment, and supplies, n.e.c. (361, 362, 364, 367, 369)
Not specified electrical machinery, equipment, and supplies
Transportation equipment
Motor vehicles and motor vehicle equipment (371)
Aircraft and parts (372)
Ship and boat building and repairing (373)
Railroad locomotives and equipment (374)
Guided missiles, space vehicles, and parts (376)
Cycles and miscellaneous transportation equipment $(375,379)$
Professional and photographic equipment, and watches
Scientific and controlling instruments ( 381,382 )
Optical and health services supplies $(383,384,385)$
Photographic equipment and supplies (386)
Watches, clocks, and clockwork operated devices (387)
Not specified professional equipment
Toys, amusement, and sporting goods (394)
Miscellaneous manufacturing industries ( 39 exc. 394)
Not specified manufacturing industries

## TRANSPORTATION, COMMUNICATIONS, AND OTHER PUBLIC UTILITIES

Transportation
Railroads (40)
Bus service and urban transit (41, except 412)
Taxicab service (412)
Trucking service $(421,423)$
Warehousing and storage (422)
U.S. Postal Service (43)

Water transportation (44)
Air transportation (45)
Pipe lines, except natural gas (46)
Services incidental to transportation (47)
Communications
Radio and television broadcasting (483)
Telephone (wire and radio) (481)
Telegraph and miscellaneous communication services $(482,489)$
Utilities and sanitary services
Electric light and power (491)

Gas and steam supply systems $(492,496)$
Electric and gas, and other combinations (493)
Water supply and irrigation $(494,497)$
Sanitary services (495)
Not specified utilities
WHOLESALE TRADE

## Durable Goods

500 Motor vehicles and equipment (501)
501 Furniture and home furnishings (502)
502 Lumber and construction materials (503)
510 Sporting goods, toys, and hobby goods (504)
511 Metals and minerals, except petroleum (505)
512 Electrical goods (506)
521 : Hardware, plumbing and heating supplies (507)
522 Not specified electrical and hardware products
530 Machinery, equipment, and supplies (508)
531 Scrap and waste materials (5093)
532 Miscellaneous wholesale, durable goods $(5094,5099)$

## Nondurable Goods

540. Paper and paper products (511)

541 Drugs, chemicals and allied products $(512,516)$
542 Apparel, fabrics, and notions (513)
550 Groceries and related products (514)
551 Farm products - raw materials (515)
552 Petroleum products (517)
560 Alcoholic beverages (518)
561 Farm supplies (5191)
562 Miscellaneous wholesale, nondurable goods (5194, 5198, 5199)
571 Not specified wholesale trade

## RETAIL TRADE

580 Lumber and building material retailing $(521,523)$
$581 \quad$ Hardware stores (525)
582 . Retail nurseries and garden stores (526)
590 . Mobile home dealers (527)
591 (D) Department stores (531)
592 Variety stores (533)
600 Miscellaneous general merchandise stores (539)
601 (E) Grocery stores (541)
602 Dairy products stores (545)
610 Retail bakeries (546)
611 Food stores, n.e.c. $(542,543,544,549)$
612 . Motor vehicle dealers $(551,552)$
620 Auto and home supply stores (553)
621 Gasoline service stations (554)
622 Miscellaneous vehicle dealers (555, 556, 557, 559)
630 Apparel and accessory stores, except shoe (56, except 566)
631 Shoe stores (566)

```
6 3 2
Furniture and home furnishings stores (571)
Household appliances, TV, and radio stores \((572,573)\)
(F) Eating and drinking places (58)
Drug stores (591)
Liquor stores (592)
Sporting goods, bicycles, and hobby stores (5941, 5945, 5946)
Book and stationery stores \((5942,5943)\)
Jewelry stores (5944)
Sewing, needlework and piece goods stores (5949)
Mail order houses (5961)
Vending machine operators (5962)
Direct selling establishments1 establishments (5963)
Fuel and ice dealers (598)
Retail florists (5992)
Miscellaneous retail stores (593, 5947, 5948, 5993, 5994, 5999)
Not specified retail trade
```


## FINANCE, INSURANCE, AND REAL ESTATE

```
700 (G) Banking (60)
701 Savings and loan associations (612)
702 Credit agencies, n.e.c. (61, except 612)
710 Security, commodity brokerage, and investment companies \((62,67)\)
711 (H) Insurance \((63,64)\)
712 Real estate, including real estate-insurance-law offices \((65,66)\)
```


## BUSINESS AND REPAIR SERVICES

721 Advertising (731)
722 Services to dwellings and other buildings (734)
730 Commercial research, development, and testing labs (7391, 7397)
731 Personnel supply services (736)
732 Business management and consulting services (7392)
$740 \quad$ Computer and data processing services (737)
741 Detective and protective services (7393)
742 Business services, n.e.c. (732, 733, 735, 7394, 7395, 7396, 7399)
750 Automotive services, except repair (751, 752, 754)
$751 \quad$ Automotive repair shops (753)
752 Electrical repair shops (762, 7694)
760
Miscellaneous repair services (763, 764, 7692, 7699)

## PERSONAL SERVICES

761 (J) Private households (88)
762 Hotels and motels (701)
770 Lodging places, except hotels and motels $(702,703,704)$
771 Laundry, cleaning, and garment services (721)
772 Beauty shops (723)
780 Barber shops (724)
781 Funeral service and crematories (726)
$782 \quad$ Shoe repair shops (725)
790 . Dressmaking shops (part 729)

## PROFESSIONAL AND RELATED SERVICES

812 Offices of physicians (801, 803)
820 Offices of dentists (802)
821 Offices of chiropractors (8041)
822 Offices of optometrists (8042)
830 Offices of health practitioners, n.e.c. (8049)
831 (K) Hospitals (806)
832 Nursing and personal care facilities (805)
840 Health services, n.e.c. $(807,808,809)$
841 Legal services (81)
842 (L) Elementary and secondary schools (821)
850 (M) Colleges and universities (822)
851 Business, trade, and vocational schools (824)
852 Libraries (823)
860 Educational services, n.e.c. (829)
861
862
870
871
872
880
881
882
Miscellaneous personal services (722, part 729)
ENTERTAINMENT AND RECREATION SERVICES
Theaters and motion pictures $(78,792)$
Bowling alleys, billiard and pool parlors (793)
Miscellaneous entertainment and recreation services (791, 794, 799)

Job training and vocational rehabilitation services (833)
Child day care services (835)
Residential care facilities, without nursing (836)
Social services, n.e.c. (832, 839)
Museums, art galleries, and zoos (84)
Religious organizations (866)
Membership organizations (861-865, 869)
Engineering, architectural, and surveying services (891)
Accounting, auditing, and bookkeeping services (893)
Noncommercial educational and scientific research (892)
Miscellaneous professional and related services (899)

## PUBLIC ADMINISTRATION

Executive and legislative offices (911-913)
General government, n.e.c. (919)
Justice, public order, and safety (92)
Public finance, taxation, and monetary policy (93)
Administration of human resources programs (94)
Administration of environmental quality and housing programs (95)
Administration of economic programs (96)
National security and international affairs (97)
Member of the Armed Forces








| Section 5 - TOPICAL MODULES (Continued) |  |  |
| :---: | :---: | :---: |
| Part B - LIVING CONDITIONS (Continued) |  |  |
| B. CRIME |  |  |
| 7a. In the past month, have there been any times when you wanted to go somewhere but stayed at home instead because you thought it would be unsafe to leave home? |  | 8154  <br> 1 $\square \mathrm{Yes}$ <br> 2 $\square \mathrm{No}$ <br>   <br> $x$ $\square \mathrm{DK}$ |
| b. When you go out, do you ever carry anything to protect yourself? |  | $\begin{array}{ll}  & \square \mathrm{Yes} \\ 18156 & \text { 2 } \\ & \mathrm{No} \end{array}$ |
|  | IF PERSONAL VISIT, SHOW FLASHCARD DD FOR QUESTIONS 8 AND 9 | I |
| 8. | Do you consider your neighborhood very safe from crime, fairly safe, fairly unsafe, or very unsafe? |  |
| 9. | How about your home? Do you consider it very safe from crime, fairly safe, fairly unsafe, or very unsafe? | 8160 1 $\square$ Very safe <br>  $2 \square$ Fairly safe <br>  3 Fairly unsafe <br>  4 $\square$ Very unsafe <br>  xi $\square$ DK |
| 10. | We are interested in finding out if people do anything in particular to keep thieves or intruders out of their homes. Does your household have a dog for the purpose of keeping thieves and intruders out, or any special DEVICES such as electric timers for lights, or an alarm system? | $\begin{aligned} & 8162 \\ & \text { 1 } \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \\ & \mathrm{x} \square \mathrm{DK} \end{aligned}$ |
| C. NEIGHBORHOOD CONDITIONS |  |  |
| 11. | IF PERSONAL VISIT, SHOW FLASHCARD EE |  |
|  | Do you think any of the following conditions are problems in this neighborhood? | 1 |
|  | a. Street noise or heavy street traffic |  |
|  | b. Streets in need of repair | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \mathrm{No} \\ & x \\ & x \mathrm{DK} \end{aligned}$ |
|  | c. Crime , |  |
|  | d. Trash, litter, or garbage in the streets and lots | $\begin{aligned} 1 & \square \mathrm{Yes} \\ 2 & \square \mathrm{No} \\ x_{1} & \square \mathrm{DK} \end{aligned}$ |
|  | e. Rundown or abandoned houses or buildings | $\begin{aligned} & 8178 \quad \begin{array}{l} 1 \\ 2 \\ \\ \\ x_{1} \end{array} \square \mathrm{Yos} \\ & \square \mathrm{DK} \end{aligned}$ |
|  | f. Industries, businesses, or other non-residential activities |  |
|  | g. Odors, smoke, or gas fumes |  |
| 12. | Do you feel that neighborhood conditions are unsatisfactory enough that you would like to move? | $\begin{array}{cc} 8184 \\ & \text { 1 } \square \mathrm{Yes} \\ & \text { x } \square \mathrm{No} \\ & \square \mathrm{DK} \end{array}$ |



NOTES



## APPENDIX C

## Working Papers

This appendix provides a list of a SIPP Working Papers. Any of these papers are free of charge. See the order form on page C-7.

## 1990

9001 - "Recent Developments in the Survey of Income and Program Participation", Census Bureau
9002 - "An Analysis of Leaving Home Using Data From the 1984 Panel of the SIPP", by Alden Speare, Roger Avery, Frances Goldscheider, Brown University

9003 - "The Effect of the Marriage Market on First Marriages: Evidence From SIPP", John Fitzgerald, Bowdoin College

9004 - "Counting Spells of Unemployment", Paul Ryscavage and Kathleen Short, Census Bureau
9005 - "The Elderly and Their Sources of Income: Implications for Rural Development", Robert Hoppe, Economic Research Service, U.S. Department of Agriculture

9006 - "Alternative Estimates of Economic Well-Being by Age Using Data on Wealth and Income, Daniel Radner, Social Security Administration

9007 - "Longitudinal Analysis of Federal Survey Data", Patricia Ruggles, Joint Economic Committee
9008 - "Measurement Errors in SIPP. Program Reports", Kent H. Marquis and Jeffrey C. Moore, Census Bureau
9009 - "Handling Single Wave Nonresponse in Panel Survey," R. Singh, V. Huggins, and D. Kasprzyk, Census Bureau

9010 - "Nonresponse Research for SIPP," R. Petroni, Census Bureau
9011 - "The Seam Effect in Panel Surveys," G. Kalton, D. Hill, and M. Miller, University of Michigan
9012 - "The Effects of Being Uninsured on Health Care Service Use: Estimates from the SIPP," S. Long and J. Rodgers, Congressional Budget Office

9013 - "Wage Differential and Job Changes," S. Seninger and D. Greenberg, University of Maryland
9014 - "Wages and Employment Among the Working Poor: New Evidence From SIPP," S. Long and A. Martini, The Urban Institute and Mathematica Policy Research

9015 - "Pension Portability \& Labor Mobility: Evidence from SIPP," A. Gustman and T. Steinmeier, Dartmouth College and Texas Tech University

9016 - "Response \& Procedural Error Variance in Surveys: An Application of Poisson and Newman Type A Regression," D. Hill, University of Toledo

9017 - "Aging and the Income Value of Housing Wealth," S.F. Venti and D.A. Wise, Darmouth College and Harvard University

9018 - "Welfare Participation and Welfare Recidivism: The Role of Family Events," S.K. Long, The Urban Institute

9019 - "Racial Differences in Health and Health Care Service Utilization: The Effect of Socioeconomic Status," J.E. Mutchler and J.A. Burr, State University of New York at Buffalo

9020 - "Living Benefits: Closing the Gap for LTC Financing," D.G. Shea, Pennsylvania State University
9021 - "SIPP Record Check Results: Implications for Measurement Principles and Practice," K.H. Marquis and J.C. Moore, Census Bureau

9022 - "Workers with Disabilities in Large and Small Firms: Profiles from the SIPP," D. Drury, Berkeley Planning Associates

9023 - "Entry into Marriage and the Transition to Adulthood Among Recent Firth Cohorts of Young Adults in the United States and the Federal Republic of Germany," J. Witte, Harvard University

9024 - "The Saving Effect of Tax-Deferred Retirement Accounts: Evidence from the SIPP," S. Venti and D.A. Wise, Dartmouth College and Harvard University

9025 - "Children and Welfare: Patterns of Multiple Program Participations," S.K. Long, The Urban Institute
9026 - "Household and Nonhousehold Living Arrangements in Later Life: A Longitudinal Analysis of A Social Process," J.E. Mutchler and J.A. Burr, University of Buffalo

9027 - "The SIPP Event History Calendar: Aiding Respondents in the Dating of Longitudinal Process," R. Kominski, Census Bureau

9028 - "Estimates of Employer Contributions for Health Insurance by Worker Characteristics," S. Haber, George Washington University

9029 - "Two Notes on Relating the Risk of Disclosure for Microdata and Geographic Area Size," B. Greenberg and L. Voshell, Census Bureau

9030 - "Childcare Effects on Social Security Benefits (91 ARC)," H.M. lams, Social Security Administration
9031 - "The Effect of the Medicaid Program on Welfare Participation \& Labor Supply,"'R. Moffit and B. Wolfe, Brown University and University of Wisconsin

9032 - "Proxy Reports: Results from a Record Check Study," J.C. Moore, Census Bureau
9033 - "Spells Without Health Insurance: What Affects Spell Durations and Who are the Chronically Uninsured?," T. McBride and K. Swartz; The Urban Institute

9034 - "Spells Without Health Insurance: Distributions of Durations and their Link to Point-in-Time Estimates of the Uninsured," K. Swartz and T. McBride, The Urban Institute

9035 - "Discrete Time Models of Entry into Marriage Based on Retrospective Marital Histories of Young Adults in the U.S. and the Federal Republic of Germany," J. Witte, Harvard University

## 1989

8901 - "Quality of SIPP Estimates," R. P. Singh, L. Weidman, and G. Shapiro, Census Bureau
8902 - "Two Notes on Sampling Variance Estimates from the 1984 SIPP Public-Use Files," by B. Bye and S. J. Gallicchio, Social Security Administration

8903 - "Longitudinal vs. Retrospective Measures of Work Experience," P. Ryscavage and J. Coder, Census Bureau

8904 - "Analyzing the Characteristics of Blacks: A Comparison of Data from SIPP and CPS," R. Farley and L. J. Neidert, University of Michigan

8905 - "Enhanced Demographic-Economic Data Sets," R. Herriot, C. Bowie, D. Kasprzyk, and S. Haber, Census Bureau

8906- "Reflections on the Income Estimates from the Initial Panel of The Survey of Income and Program Participation (SIPP)," D. Vaughan, Social Security Administration

8907 - "Measuring Spells of Unemployment and Their Outcomes," P. Ryscavage, Census Bureau
8908 - "Welfare Dependency and its Causes: Determinants of the Duration of Welfare Spells," P. Ruggles, The Urban Institute

8909- "Measuring the Duration of Poverty Spells," P. Ruggles, The Urban Institute and R. Williams, Congressional Budget Office

8910 - "Methods of Processing Unit Data Longitudinally on the SIPP,".K. Smith, Congressional Budget Office
8911 - "Composite Estimation for SIPP Annual Estimates;" R. P. Chakrabarty, Census Bureau
8912 - "Research and Evaluation Conducted on the Survey of Income and Program Participation," R. Petroni, T. Carmody, and V. Huggins, Census Bureau

8913 - "A Poisson Model of Response and Procedural Error Analysis of SIPP Reinterview Data," D. Hill, University of Michigan
8914. "The Economic Resources of the Edlerly," S. Crystal and D. Shea, Rutgers University.

8915 - "Multivariate Analysis by Users of SIPP Micro-Data Files," R. P. Chakrabarty, Census Bureau
8916 - "A Resource-Based Model of Living Arrangements Among the Unmarried Elderly," J. E. Mutchler and J. A. Burr, University of Buffalo

8917 - "Measuring Household Change at The individual Level Using Data From SIPP," A. Speare, Jr. and R. Avery, Brown University

8918 - "The Effect of Child Care Costs on Married Women's Labor Force participation," R. Connelly, Bowdoin College

8919 - "Income and Assets of Social Security Beneficiaries by Type of Benefit," S. Grad, Social Security Administration

8920- "Development and Evaluation of a Survey-Based Type of Benefit Classification for the Social Security Program," D. Vaughan, Social Security Administration

8921 - "Wave Seam Effects in the SIPP," N. Young, The Urban Institute
8922 - "Components of Longitudinal Household Change for 1984-1985: An Evaluation of National Estimates from the SIPP," by Donald J. Hernandez, Bureau of the Census

8923 - "Database Design for Large-Scale Complex Data," by Martin H. David and Alice Robbin, University of Wisconsin-Madison

8924 - "Measuring the Frequency and Consequences of Job Separations: Data from the Survey of Income and Program Participation," by John M. McNeil and Enrique J. Lamas, Bureau of the Census

8925 - "The Regular Receipt of Child Support: A Multi-step Process," by James L. Peterson and Christine Winquist Nord, Child Trends, Inc.

1988
8801 - "The Impact of the Unit of Analysis on Measures of Serial Multiple Program Participation," by P. Doyle and S. E. Long, Mathematica Policy Research, Inc.

8802 - "Short-Term Fluctuations in Income and Their Impacts on the Characteristics of the Low-Income Population: New Data From the Survey of Income and Program Participation," by P. Ruggles, Urban Institute

8803 - "Residential Mobility of One-Person Households," by J. Witte and H. Lahmann, German Institute for Economic Research

8804 - "Year-Apart Estimates of Household Net Worth From the Survey of Income and Program Participation," by John M. McNeil and Enrique J. Lamas, Bureau of the Census

8805 - "Measuring Poverty and Crises: A Comparison of Annual and Subannual Accounting Program Participation," by Martin David and John Fitzgerald, Institute for Research on Poverty

8806-"Using Administrative Record Data to Evaluate the Quality of Survey Estimates," by Jeffrey C. Moore and Kent H. Marquis, Bureau of the Census

8807 - "'The Wealth of the Aged and Nonaged, 1984," by Daniel B. Radner, HHS
8808 - "Examining the Dynamics of Health Insurance Loss: A Tale of Two Cohorts," by Alan C. Monheit and Claudia L. Schur, NCHSR

8809 - "The Dynamics of Medicaid Enrollment," by Pam Farley Short, Joel C. Cantor, and Alan C. Monheit, NCHSR
8810 - "The Discouraged Worker Effect: A Reappraisal Using Spell Duration Data," by Alberto Martini, University of Wisconsin-Madison

8811 - "Income as a Proxy for the Economic Status of the Elderly," by Deborah J. Chollet and Robert B. Friedland, Employee Benefit Research Institute

8812 - "The SIPP: Data from the Social Security Administration's 1987 Annual Statistical Supplement"
8813 - "Participation in Industrial Training Programs," by Sheldon Haber, George Washington University
8814 - "A Methodological Study Using Administrative Records: The Special Frames Study of the Income Survey Development Program," by W. J. Logan, Social Security Administration, D. Kasprzyk and R. Cavanaugh, Census Bureau

8815 - "The Effect of Income Taxation on Labor Supply When Deductions are Endogenous," by R. K. Thriest, Johns Hopkins University

8816- "A Comparison of Gross Change in Labor Force Status From SIPP and CPS," by P. Ryscavage and A. Feldman-Harkins, Census Bureau

8817 - "How are the Elderly Housed? New Data from the 1984 Survey of Income and Program Participation," by A. Goldstein, Census Bureau

8818 - "Welfare Recipiency as Observed in the SIPP," by J. Coder, Census Bureau and P. Ruggles, The Urban Institute

8819 - "Reservation Wages and Subsequent Acceptance Wages of Unemployed Persons," by P. Ryscavage, Census Bureau

8820 - "Selected References From the Income Survey Development Program (ISDP) and Survey of Income and Program Participation (SIPP)"

8821 - . "Training, Wage Growth, Firm Size," by S. Haber, The George Washington University and E. Lamas, Census Bureau

8822 - "Defining and Measuring Normetro Poverty: Results From The Survey of Income and Program Participation," by R. Hoppe, USDA-ERS-ARED

8823 - "Nonresponse Adjustment Methods For Demographic Surveys at the U.S. Bureau of the Census," by R. Singh and R. Petroni, Census Bureau

8824 - "Testing Telephone Interviewing in the Survey of Income.and Program Participation and Some Early Results," by S. Durant and P. Gbur, Census Bureau

8825 - "Excluding Sample That Misses Some Interviews From SIPP Longitudinal Estimates," by L. Ernst and D. Gillman, Census Bureau

8826 - "The Employment of Mothers and the Prevention of Poverty," by M. Hill, University of Michigan and H. Hartmann, Rutgers University

8827 - "Using Administrative Record Data To Describe SIPP Response Errors," by J. Moore and K. Marquis, Census Bureau

8828 - "A Look at Welfare Dependency Using The 1984 SIPP Panel File," by J. Coder, D. Burkhead, and A. Feldman-Harkins, Census Bureau

8829 - "Census Bureau Microdata: Providing Useful Research Data While Protecting The Anonymity of Respondents," by G. Gates, Census Bureau

8830 - "The Survey of Income and Program Participation: An Overview and Discussion of Research Issues," by D. Kasprzyk, Census Bureau

8701 - "Tracking Persons Over Time," by A. C. Jean and E. K. McArthur, Census Bureau
8702 - "Preliminary Data From the SIPP 1983-84 Longitudinal Research File," by J. F. Coder, D. Burkhead. A. Feldman-Harkins, and J. McNeil, Census Bureau

8703 - "Work Experience Data From SIPP," by P. Ryscavage and A. Feldman-Harkins, Census Bureau
8704 - "The Treatment of Person -Wave Nonresponse in Longitudinal Surveys," by G. Kalton, J. Lepkowski, S. Heeringa, Ting-Kwong Lin, and M. E. Miller, Survey Research Center, University of Michigan

8705 - "SIPP: Filling Data Gaps on the Poverty and Social Welfare Fronts," by P. Ryscavage, Census Bureau
8706 - "Response Errors in Labor Surveys: Comparisons Self and Proxy," by D. Hill University of Michigan

8707 - "Differences Between SIPP and Food and Nutrition Service Program Data on Child Nutrition and WIC Program Participation, by L. Ku and R. Dalrymple, Food and Nutrition Service, U.S. Department of Agriculture

8708 - "Quality Profile for the Survey of Income and Program Participation," by K. King, R. Petroni, and R. Singh, Census Bureau

8709 - "Survey of Income and Program Participation SIPP Sample Loss and the Efforts to Reduce It," by D. Nelson, C. Bowie, and A. Walker, Census Bureau

8710 - "The Impact of Imputation Procedures on Distributional Characteristics of the Low Income Population," by P. Doyle, Mathematica Policy Research, Inc., and R. Dalrymple, Food and Nutrition Service, U. S. Department of Agriculture

8711 - "Job Tenure, Lifetime Work Interruptions and Wage Differentials," by J. McNeil, E. Lamas, Census Bureau, and S. Haber, George Washington University

8712 - "Measuring the Bias in Gross Flows in the Presence of Auto-Correlated Response Errors," by D. Hubble, Census Bureau, and D. Judkins, Westat, Inc.

8713 - "Investigation of Possible Causes of Transition Patterns from SIPP," by L. Weidman, Census Bureau
8714 - "Households and Income Sources: Monthly Averages for 1984," by J. Moorman, Census Bureau
8715 - "Creating SIPP Longitudinal Files Using OSIRIS IV," by M. Servais, University of Michigan
8716 - "Transition In and Out of Poverty: New Data From the Survey of Income and Program Participation," by P. Ruggles, Urban Institute and R. Williams, Congressional Budget Office

8717 - "On their own: The Self-employed and Others in Private Business," by S. Haber, George Washington University, E. Lamas Bureau of the Census, and J. Lichtenstein, U.S. Small Business Administration.

8718 - "Factors Associated With Household Net Worth," by E. Lamas and J. McNeil, Bureau of the Census
8719 - "Exploring Changes in Health Care Coverage Using the SIPP Longitudinal Research File," by D. Burkhead and A. Feldman, Bureau of the Census

8720 - "The Analysis of Geographical Mobility and Life Events with the SIPP," by D. Dahmann and E. McArthur, Bureau of the Census

8721-"A Review of the Use of Administrative Records in the Survey of Income and Program Participation, by C. Bowie and D. Kasprzyk, Census Bureau

8722 - "Survey of Income and Program Participation Update," by D. Kasprzyk, Bureau of the Census
8723. "Measuring Poverty with the SIPP and the CPS," by R. Williams, Congressional Budget Office

8724 - "The Statistical Invisible Minority Aged," by C. Tầeuber, Bureau of the Census, and E. Attah, Atlanta University
8725 - "An Analysis of the SIPP Asset and Liability Feedback Experiment," by E. Lamas and J. McNeil, Bureau of the Census

8601 - "Some Aspects of SIPP,"' compiled and edited by R. A. Herriot and D. Kasprzyk, Census Bureau
8602 - "Nonsampling Error Issues in the SIPP," by G. Kalton, University of Michigan, and D. B. McMillen and D. Kasprzyk, Census Bureau

8603 - "An Investigation of Model-Based Imputation Procedures Using Data From the Income Survey Development Program," by V. J. Huggins and L. Weidman, Census Bureau

8604 - "Food Stamp Participation: A Comparison of SIPP With Administrative Records," by S. Carlson and R. Dalrymple, Food and Nutrition Service

8605 - "SIPP Longitudinal Household Estimation for the Proposed Longitudinal Definition," by L. R. Ernst, Census Bureau

8606- "A Comparison of Seven Imputation Procedures for the 1979 Panel of the Income Survey Development Program," by V. J. Huggins, Census Bureau

8607- "An Investigation of the Imputation of Monthly Earnings for the Survey of Income and Program Participation Using Regression Models," by V. J. Huggins and L. Weidman; Census Bureau

8608 - "Evaluation of Training Materials and Methods for the Survey of Income and Program Participation," by M. Holt, Survey Research Consultant

8609 - "Patterns of Household Composition and Family Status change," by C. F. Citro, ASA/Census Research Fellow, and-H.W. Watts, Department of Economics, Columbia-University

8610 - "Composite Estimation for SIPP: A Preliminary Report," by R. P. Chakrabarty, Census Bureau
8611 - "Longitudinal Household Concepts in SIPP: Preliminary Results," by C. F. Citro, ASA/Census Research Fellow, D. J. Hernandez, and R. A. Herriot, Census Bureau

8612 - "Following Children in the Survey of Income and Program Participation," by E. K. McArthur, K. S. Short, and S. Bianchi, Census Bureau

8613 - "SIPP Labor Transitions: Problems and Promises," by P. Ryscavage and K. S. Short, Census Bureau
8614 - "Augmenting Data Reported in the Survey of Income and Program Participation With Administrative Record Data - A Brief Discussion," by D.K. Sater, Census Bureau

## 1985

8501 - "The Survey of Income and Program Participation: Uses and Application," by K.S. Short, Census Bureau
8502 - "Application of a Matched File Linking the Bureau of the Census Survey of Income and Program and Participation and Economic Data," by S. Haber, George Washington University

8503 - "Using the Survey of Income and Program Participation for Research on the Older Population," by D. B. McMillen, C. M. Taeuber, and J. Marks, Census Bureau

8504 - "Summary of the Content of the 1984 Panel of the Survey of Income and Program Participation," by D. T. Frankel, Census Bureau

8505 - "Enhancing Data From the Survey of Income and Program Participation With Data From Economic Censuses and Surveys," by D. K. Sater, Census Bureau

8506 - "Methodologies for Imputing Longitudinal Survey Items," by V. J. Huggins, L. Weidman, and M. E. Samuhel, Census Bureau

8507 - "New Household Survey and the CPS: A Look at Labor Force Differences," by P. M. Ryscavage, Census Bureau, and J. E. Bregger, Bureau of Labor Statistics

8401-(Update No. 1, Revised 12/85) "An Overview of the Survey of Income and Program Participation," by D. Nelson, D.B. McMillen, and D. Kasprzyk, Census Bureau

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| 9005 | 9012 | 9019 | 9026 | 9033 |
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| 9007 | 9014 | 9021 | 9028 | 03 |

## APPENDIX D

## Machine-Readable Data Dictionary Layout

Data dictionary lines are 46 characters. The character on the first position determines the type of lines. Each variable may have the following lines:

1. COMMENTS ("*") lines
2. DATA DICTIONARY ( " $D$ ") ; line and DATA DESCRIPTION
3. UNIVERSE (" $U$ ") lines
4. VALUE DESCRIPTION lines
5. One blank line at the end

## FORMAT

"*" LINE COMMENTS
a. "*" in the first position indicates that this is a comment line. This line can appear any place in the dictionary. It will be used for short comments or to nullify any value codes.
b. " "*" in the first two positions is also comments but it has additional meaning. It indicates this is a block of comments which will be applied to several variables. The first line of this block will ave the COMMENT NO. so that subsequent variable can refer back to this comment block.

## "D" LINE DATA DICTIONARY

This-line-contains the following information:

| ID | "D" | COL. | $1-1$ |
| :--- | :--- | :--- | ---: |
| NAME | Variable name | COL. | $3-10$ |
| SIZE | Size of data field | COL. | $14-15$ |
| BEGIN | Begin position of data field | COL. | $19-22$ |
| TYPE | Character variable indicator "CHAR" |  |  |
|  | or blanks if numeric variable | COL. | $26-29$ |
| DEC | Implied decimal places | COL. | $33-34$ |
| IND | TABLE variable indicator "TABLE" with "(aa)" for |  |  |
|  | its dimension; otherwise blanks |  | COL. |
|  |  |  | $38-46$ |

Text describing the variable will follow this " $D$ " line. Use COL. 6-46 and repeat as many lines as necessary. "U'" LINE UNIVERSE DEFINITION

This line contains the universe definition. Use COL. 3-46 and repeat as many lines as necessary.

|  | "U" | "UL. | COL |
| :--- | :--- | :--- | :--- |
| DESCRIPTION | Universe description |  | COL |
| $3-46$ |  |  |  |

(For continuation use COL. 3-46 and repeat as many lines as necessary.)
"V" LINE VALUE DEFINITION

| ID | "V" | COL. | $1-1$ |
| :--- | :--- | :--- | ---: |
| VALUE | Value code-right justified | COL: | $3-12$ |
| DESCRIPTION | "." | COL. | 14 |
|  | Value description | COL. | $15-46$ |

(Repeat COL. 14-46 format for continued value description.)


[^0]:    1 See "The 1990 Post-Enumeration Survey: Operations and Results" by Howard Hogan in the 1993 Proceedings of the Undercount in the 1990 Census Section, American Statistical Association.

[^1]:    1 See Executive Office of the President, Office of Management and Budget, Standard Industrial Classification Manual, 1972 and the 1977 Supplement.

