TECHNICAL DOCUMENTATION

ANNUAL DEMOGRAPHIC FILE

(MARCH SUPPLEMENT OF CURRENT POPULATION SURVEY)

1973-1975

U.S. CENSUS BUREAU
WASHINGTON, D.C. 20233

TECHNICAL CONDITIONS AFFECTING THE USE OF THE FILES

1. Technical Characteristics of Magnetic Tape Recording for Annual Demographic File

Characteristics	Type of Tape	
	IBM compatible 7-track tape	IBM compatible 9-track tape
Width	0.5 inch	0.5 inch
Reel size	10.5-inch diameter; maximum 2,400 foot length	10.5-inch diameter; maximum 2,400 foot length
Recording mode	NRZI (nonreturn to zero)	NRZI (nonreturn to zero)
Number of recording tracks	7 (6 data, 1 parity)	9 (8 data, 1 parity)
Density (characters or bytes per inch)	556/800	800
Language	Binary Coded Decimal (BCD)	Extended Binary Coded Decimal Interchange Code (EBCDIC) USA Standard Code for Information Interchange (USASCII or ASCII)
Error controls	Character--even parity Track - longitudinal redundancy check	Character (byte)--odd parity Block - cyclical code check based on an 8-bit character which is computed from data characters during write operation and recorded at end of tape block as hardware function
Recorded tape representation	One 6-bit character per tape frame	One 8-bit character (byte) per tape frame
Interblock spacing	0.75 inch	0.6 inch (nominal)

2. File Size

   (a) Approximately 200 thousand logical records for the annual files, comprising four tapes, three tapes for 1975.

   (b) Physical record size (block size): 7,200 characters (1968-74)
   4,800 characters (1975)

ILLUSTRATION OF TYPICAL LABEL

Sequence on Annual Demographic File

VOL1TE1445

TAPE ID. 1/

HDR1MARCHCPSSUPPLYR68F TE144500010001 71081 00000 000000

FILE IDENTIFIER 2/ FILE SET 3/ VOLUME 4/ CREATION DATE 5/

HDR2F072000036020 ET

** TAPE MARK *

Data

** TAPE MARK **

EOF1HDR1MARCHCPSSUPPLYR68F TE144500010001 71081 00000 007200

LABEL TYPE 6/ FILE INDICATOR FILE SET VOLUME CREATION DATE BLOCK COUNT 7/

EOF2F072000036021

LABEL TYPE ** TAPE MARK **

1/ Physical tape identifier: This designation should agree with the written label on the outside of the tape.

2/ File identifier: This 17-character identifier actually consists of 17 characters. Character numbers 15 and 16 denote the March supplement survey year.

3/ File set: The physical tape identifier of the first reel of the file

4/ Volume: "0001" for single tape files or the first tape of multi-tape files; augmented by one for each additional volume within a multi-tape file.

5/ Creation date: This refers to the date of creation of the original master tape; not relevant for a copy.

6/ Trailer label type: "EOF" indicates the end of file. On multi-tape files an "EOV" is used here on all but the last of the volumes.

7/ The block count is the total number of 360-character physical records on the tape.

3. File Format

a. Labels

Each public use sample tape contains three header labels and two trailer labels. Each label is an 80-character physical record. Tape marks are used at the beginning and end of the group of header labels and the group of trailer labels. Most of the information is constant for all labels.

Tape label fields are described so that a user can specify on his system control cards exactly what contents a tape label should have. Some users may wish to use an option to not specify label contents and thereby accept whatever tape reel gets mounted on the tape drive.

b. File Format

The file contains two record types, Family records (Character F1) and Person records (Character P1). In total, there are approximately 200,000 records. The March CPS supplement records are designed for cross-referencing the Person record for each person to the Family record for that person using Characters (F35-36).

There is one March CPS Supplement Family record associated with each primary family, secondary family, subfamily, and unrelated individual (primary and secondary). In general, the Family record contains information resulting from combining information for more than one person in the family, such as family size and family income. In addition to family characteristics, each Family record includes a few selected items of information about the household.

There may be from one to six secondary Family records for a household. Each person in a secondary family will have an identical code in Character P39.

For subfamilies, there are two Family records. One of these is the record for the primary family of which the subfamily is a part and includes the primary family members' data along with the subfamily members' income and other data accumulated on a family basis. The other is a record for the subfamily itself, consisting of data accumulated for subfamily members. There may be from one to six subfamily records for a household. Each person in a subfamily will have an identical code in Character P40.

For each unrelated individual (primary and secondary), the Family record consists of data for just that individual. There will be only one primary individual's Family record for secondary individuals in a household or group quarters. There is a Person record for each: (1) Civilian 14+, (2) Member of the Armed Forces (all are 14+), (3) Persons under 14 years.

The order of procedures in arranging records in a household is: (1) Primary Family record (or primary individual's Family record), (2) Head of primary family (or primary individual, followed by secondary Family

records), (3) Wife of primary family head, (4) Child(ren) of primary family head, (5) Other relative of primary family head, (6) Subfamily record, (7) Head of subfamily, (8) Wife of subfamily head, (9) Child(ren) of subfamily head, (10) records for the second through the sixth subfamily, (11) Secondary Family record, (12) Head of secondary family head, (13) Wife of secondary family head, (14) Child(ren) of secondary family head, (15) Other relative of secondary family head, (16) records for the second through the sixth secondary family, (17) Secondary individual's Family record, (18) Secondary individual's record (19) other secondary individual's records.

The arrangement of records in a group quarter is: (1) Secondary individual's Family record, (2) Secondary individual's record, (3) other secondary individuals' Family record, followed by that secondary individuals' Person record.

The items described as "In Universe" or "Not in Universe" were designed to identify or select often used categories and can be used for this purpose. Records for a household may be split between two reels since no attempt was made to insure that the last records on a tape comprise a complete household.

c. Data

Each file consists of 360-character[1/] records in which all information is recorded as numeric codes. There are two record types: (1) Family records and (2) Person records. Each Family record is followed by a variable number of Person records.

In this documentation the numeric identification of a particular data item is the same as its character location within the 360-character records. Items on the Family record are prefixed with an F; Person records are prefixed with a P. For instance, Current Occupation, item P172-174, is a three-digit code beginning in character 172 of the Person record.

d. Discrepancies

Some situations exist that may require the user to exert extra care in handling the data files of the Bureau. There may be minor discrepancies and inconsistencies which a user may have to correct if the materials are to be employed in intensive special analyses or with tabulation programs that require exactly consistent conditions in the data file. The Bureau will deliver machine-readable copies of its data files as they stand; it does not take the responsibility for correction, for individual users, of deficiencies that may be discovered in further processing of these records. These tapes lack the additional review which is given printed reports before publication. The Bureau will maintain a list of corrections to the CPS tapes, but the price of the tapes would increase if they were changed each time errors were detected, thus these alterations will not be made.

1/ 1975 - 240 character records.

Geographic Concepts

Geographic Division--This is an area composed of contiguous States, with Alaska and Hawaii also included in one of the divisions. There are 9 geographic divisions which have been used largely unchanged for the presentation of summary statistics since the 1910 Census.

Region--A unit composed of two or more geographic divisions. There are 4 regions: Northeast, North Central, South, and West. The 9 geographic divisions and 4 regions are presented below:

Northeast Region

New England Division

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Middle Atlantic Division

New Jersey
New York
Pennsylvania

North Central Region

East North Central Division

Illinois
Indiana
Michigan
Ohio
Wisconsin

West North Central Division

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

South Region

South Atlantic Division

Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia

East South Central Division

Alabama
Kentucky
Mississippi
Tennessee

West South Central Division

Arkansas
Louisiana
Oklahoma
Texas

West Region

Mountain Division

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

Pacific Division

Alaska
California
Hawaii
Oregon
Washington

Standard Metropolitan Statistical Areas (SMSA's)--The concept of an SMSA has been developed in order to present general-purpose statistics. The geographical boundaries of SMSA's are drawn by the Statistical Policy Division in the Office of Management and Budget with the advice of representatives of the major Federal statistical agencies.

In 1970, there were 247 SMSA's in the United States. Generally speaking, an SMSA consists of a county or group of counties containing at least one city (or twin cities) having a population of 50,000 or more plus adjacent counties which are metropolitan in character and are economically and socially integrated with the central city. In New England, towns and cities rather than counties are the units used in defining SMSA's. The name of the central city or cities is used as the name of the SMSA. There is no limit to the number of adjacent counties included in the SMSA as long as they are integrated with the central city nor is an SMSA limited to a single State; boundaries may cross State lines, as in the case of the Washington, D. C. - Maryland - Virginia SMSA.

The 34 SMSA's identified in the 1973 Annual Demographic File are as delineated for the 1970 Census with the exception of the Nassau-Suffolk SMSA which is identified although it was not designated as a separate SMSA until November 1972. Except for Nassau-Suffolk, these SMSA's do not reflect teritorial changes resulting from the 1970 Census or redefinitions by the Office of Management and Budget since that time.

Current Population Survey

March CPS Public Use Sample File

1973-1975

State Code List

Code	Name	Code	Name
69	Alabama	49	Missouri
99	Alaska	89	Montana
89	Arizona	49	Nebraska
79	Arkansas	89	Nevada
92	California	19	New Hampshire
89	Colorado	22	New Jersey
16	Connecticut	89	New Mexico
57	Delaware	21	New York
53	District of Columbia	56	North Carolina
59	Florida	49	North Dakota
58	Georgia	31	Ohio
99	Hawaii	79	Oklahoma
89	Idaho	99	Oregon
33	Illinois	23	Pennsylvania
32	Indiana	19	Rhode Island
49	Iowa	58	South Carolina
49	Kansas	49	South Dakota
67	Kentucky	67	Tennessee
79	Louisiana	72	Texas
19	Maine	89	Utah
57	Maryland	19	Vermont
14	Massachusetts	57	Virginia
39	Michigan	99	Washington
49	Minnesota	57	West Virginia
69	Mississippi	39	Wisconsin
		89	Wyoming

ANNUAL DEMOGRAPHIC FILE CONCEPTS

Index

Current Population Survey

Annual Demographic File

Concepts

Age--The age classification is based on the age of the person at his last birthday. (P29-30)

Duration of Unemployment--Duration of unemployment represents the length of time (through the current survey week) during which persons classified as unemployed had been continuously looking for work. For persons on layoff, duration of unemployment represents the number of full weeks since the termination of their most recent employment. A period of 2 weeks or more during which a person was employed or ceased looking for work is considered to break the continuity of the present period of seeking work. Average duration is an arithmetic mean computed from a distribution by single weeks of unemployment.

Earners, Number of--This number includes all persons in the household with $1 or more in wages and salaries, or $1 or more or a loss in net income from farm or nonfarm self-employment. (F114)

Earnings--See "Income."

Education--See "Years of School Completed."

Family--The term "Family," as used in this report, refers to a group of two or more persons related by blood, marriage, or adoption and residing together; all such persons are considered as members of the same family. Thus, if the son of the head of the household and the son's wife are in the household, they are treated as part of the head's family. On the other hand, a lodger and his wife not related to the head of the household or an unrelated servant and his wife are considered as additional families, and not a part of the household head's family. (F53-54) (P41-42)

Family Weight--The weight used for tabulating family characteristics from family records. The family weight is the same as the person weight of the head of the family or secondary family or of unrelated individuals. (F205-216)

Farm Self-employment Net Income--This is defined as net money income (gross receipts minus operating expenses) from the operation of a farm by a person on his own account, as an owner, renter, or sharecropper. Gross receipts include the value of all products sold, government crop loans, money received from the rental of farm equipment to others, and incidental receipts from the sale of wood, sand, gravel, etc. Operating expenses include cost of feed, fertilizer, seed, and other farming supplies, cash wages paid to farmhands,

depreciation charges, cash rent, interest on farm mortgages, farm building repairs, farm taxes (not State and Federal income taxes), etc. The value of fuel, food, or other farm products used for household living is not included as part of net income. Inventory changes were considered in determining net income only when they were accounted for in replies based on income tax returns or other official records which reflect inventory changes; otherwise, inventory changes were not taken into account. (F111-112; F119; P79-84; P129-130)

Full-time Work—Persons who worked 35 hours or more in the survey week are designated as working "full time." (P132; P181)

Group Quarters—Group quarters are living arrangements for institutional inmates regardless of the number of inmates, or for other groups containing five or more persons unrelated to the person in charge. (F47-48)

Head of Household—One person in each household was designated as the "head." The number of heads, therefore, is equal to the number of households. The head of a household is usually the person regarded as the head by members of the household. Women are not classified as heads if their husbands are resident members of the household at the time of the survey. Married couples related to the head of a household are included in the head's household and are not classified as separate households. (P38)

Head With No Other Relatives in Household—A household head who has no relatives living in the household. This would be the entry for a person living alone. Another example would be the designated head of an apartment shared by two or more unrelated persons. (P38)

Head With Other Relatives (incl. wife) in Household—The person designated as head of the household if he has one or more relatives (including his wife) living in the household. (P38)

Highest Grade of School Attended—See "Years of School Attended."

Hours of Work—Hours of work statistics relate to the actual number of hours worked during the survey week. For example, a person who normally works 40 hours a week but who was off on the Veterans Day holiday would be reported as working 32 hours even though he was paid for the holiday.

For persons working in more than one job, the figures relate to the number of hours worked in all jobs during the week. However, all the hours are credited to the major job. (P153-154)

Household—A household consists of all the persons who occupy a house, an apartment, or other group of rooms, or a room, which constitutes a housing unit. A group of rooms or a single room is regarded as a

housing unit when it is occupied as a separate living quarters; that is, when the occupants do not live and eat with any other persons in the structure, and when 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. The count of households excludes persons living in group quarters, such as rooming houses, military barracks, and institutions. (F47-48; P41-44)

Husband in Armed Forces--When a woman was reported as married but her husband was not enumerated as a member of the same household, an additional question was asked to determine whether her husband was in the Armed Forces. Women who were reported as separated were not asked the additional question. (P45)

Income--For each person in the sample 14 years old and over, questions were asked on the amount of money income received from each of the following sources: (1) Money wages or salary; (2) net income from nonfarm self-employment; (3) net income from farm self-employment; (4) Social Security, Source A; (5) dividends, interest (on savings or bonds), income from estates or trusts or net rental income, Source B; (6) public assistance or welfare payments, Source C; (7) unemployment compensation, government employee pensions, or veterans' payments, Source D; (8) private pensions, annuities, alimony, regular contributions from persons not living in this household, net royalties, and other periodic income, Source E.

The amounts received represent income before deductions for personal taxes, Social Security, bonds, etc. If any amount was $10,000 or more, it was recorded as a specific amount whenever possible. When the respondent did not know the specific amount but reported it within specified limits, the midpoint of the amount was coded (i.e.,"$10,000 to $15,000" was coded as "12,500"). If an indefinite amount was reported such as "over $10,000," the information was coded as "15,100." It should be noted that although the income statistics refer to receipts during the preceding year, the characteristics of the person, such age, labor force status, etc., and the composition of households refer to March. The income of the household does not include amounts received by persons who were members of the family during all or part of the preceding calendar year if these persons no longer resided with the family at the time of enumeration. On the other hand, household income includes amounts reported by related persons who did not reside in the household during the prior year but who were members of the family at the time of enumeration. Data on consumer income collected by the Bureau of the Census cover money income (exclusive of certain money receipts such as capital gains) prior to deductions for taxes. The fact that many farm households receive part of their income in the form of rent-free housing and goods produced and consumed on the farm, rather than in money, should be taken into consideration in comparing the

income of farm and nonfarm residents. It should be noted that nonmoney incomes are also received by some nonfarm residents. They often take the form of business expense accounts, use of business transportation and facilities, full or partial compensation by business for medical and educational expenses, etc. In analyzing size distributions of income, it should be recognized that captial gains tend to be concentrated more among higher income units than among lower ones. (F111-112; F85-90)

Source A--Social Security or Railroad Retirement--This is defined as Social Security pensions and survivors' benefits, and permanent disability insurance payments made by the Social Security Administration prior to deductions for medical insurance and railroad retirement insurance checks from the U.S. Government. (A) (F120; P85-90; P115; P129-130)

Source B--Dividends, interest (on savings or bonds), income from estates or trusts, or net rental income--This category includes dividends from stockholdings or membership in associations, interest on savings or bonds, periodic receipts from estates or trust funds, net income from rental of a house, store, or other property to others, and receipts from boarders or lodgers. (B) (~~F121~~; P91-96; P116-118)

Source C--Public assistance or welfare payments--This category includes public assistance payments such as old-age assistance, aid to families with dependent children, and aid to the blind or totally disabled. (C) (~~F122~~; P97-102; P119)

Source D--Unemployment compensation, government employee pensions, or veterans' payments--This category includes: (1) Unemployment compensation received from government unemployment insurance agencies or private companies during periods of unemployment and any strike benefits received from union funds; (2) government employee pensions received from retirement pensions paid by Federal, State, county, or other governmental agencies to former employees (including members of the Armed Forces) or their survivors; (3) money paid periodically by the Veterans' Administration to disabled members of the Armed Forces or to survivors of deceased veterans, subsistence allowances paid to veterans for education and on-the-job training, as well as so-called "refunds" paid to ex-servicesmen as GI insurance premiums; also includes (4) workmen's compensation received periodically from public or private insurance companies for injuries incurred at work. The cost of this insurance must have been paid by the employer and not by the person. (D) (P103-108; P120-123)

Source E--Private pensions, annuities, alimony, regular contributions from persons not living in the household, net royalties, and other periodic income--The following types of income are included in this group: (1) Private pensions or retirement benefits paid to a retired person or his survivors by a former employer or by

(a former employer or by) a union, either directly or through an insurance company; (2) periodic receipts from annuities or insurance; (3) alimony and child support; (4) contributions received periodically from persons not living in the household; (5) net royalties; and (6) other periodic income such as military family allotments, net gambling winnings, and other kinds of periodic income other than earnings. (E) (P109-114; P124-127)

Industry--See codes in Industry Section.

Job, But Not at Work--All those who were not working but who had jobs or businesses from which they were temporarily absent because of illness, bad weather, vacation, labor-management dispute, or personal reasons, whether or not they were paid by their employers for the time off, and whether or not they were seeking other jobs. (F116; P151)

Job Leavers--Job leavers are persons who quit or otherwise terminated their employment voluntarily and immediately began looking for work. (P162)

Job Losers--Job losers are persons whose employment ended involuntarily who immediately began looking for work and persons on layoff. (P162)

Keeping House--Engaged in own housework. (F116; P151)

Labor Force--Persons are classified as in the labor force if they were employed as civilians, unemployed, or in the Armed Forces during the survey week. The "civilian labor force" is comprised of all civilians classified as employed or unemployed. (P147; F113)

Layoff--Being laid off from a job, but not actually looking for a job because one expects to be called back to work. (P145)

Looking for Work--Trying to get work or trying to establish a business or profession. (F116; P151; P145)

Marital Status--The marital status classification identifies four major categories: Single, married, widowed, and divorced. These terms refer to the marital status at the time of enumeration.

The category "married" is further divided into "married, spouse present," "separated," and "other married, spouse absent." A person was classified as "married, spouse present" if the husband or wife was reported as a member of the household even though he or she may have been temporarily absent on business or on vacation, visiting, in a hospital, etc., at the time of the enumeration. Persons reported as "separated" included those with legal separations, those living apart with intentions of obtaining a divorce, and other persons permanently or temporarily estranged from their spouses because of marital discord. The group "other married, spouse absent" includes

married persons employed and living for several months at a considerable distance from their homes, those whose spouses were absent in the Armed Forces, in-migrants whose spouses remained in other areas, husbands or wives of inmates of institutions, and all other married persons (excepted those reported as separated) whose places of residence were not the same as that of their spouses.

For the purpose of this report, the group "other marital status" includes "widowed and divorced," "separated," and "other married, spouse absent." (P45)

Metropolitan-Nonmetropolitan Residence--The population residing in standard metropolitan statistical areas constitute the metropolitan population. Except in New England a standard metropolitan statistical area is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more. In addition to the county, or counties, containing such a city or cities, contiguous counties are included in a standard metropolitan statistical area if according to certain criteria they are essentially metropolitan in character and socially and economically integrated with the central city. In New England, standard metropolitan statistical areas have been defined on a town rather than county basis. Standard metropolitan statistical areas of this report are identical with the standard metropolitan statistical areas of the 1960 Census and do not include any subsequent additions or other changes. (F42)

Mobility Status (1971 only)--The population of the United States has been classified according to mobility status on the basis of a comparison between the place of residence of each individual at the survey date and the place of residence 5 years earlier. This comparison restricts the classification in terms of mobility status to the population 1 year old and over at the survey date.

The information on mobility status was obtained from the responses to a series of inquiries. The first of these was "Was ... living in this house March 1 5 years ago?" If the answer was "No," the enumerator asked, "Was ... living in this same county on March 1 5 years ago?" If the response was "No" again, the enumerator asked, "What State (or foreign country) was ... living in on March 1 a year ago?" In the classification three main categories are distinguished: Nonmovers; movers; Persons abroad. ~~(P36-37)~~ (P225-227)

Month-In-Sample--The number of times a unit has been interviewed. Each unit will be interviewed eight times during the life of the sample. (Also see discussion of sample design.) (P56)

Movers--Mobile persons are subdivided in terms of type of mobility into the following two major groups.

1. Same county (intracounty)--Those persons living in a different house but in the same county at the beginning and end of the specified period.

2. Migrants, or different county (intercounty movers)--This group consists of persons living in a different county in the United States at the beginning and end of the period.

Migrants are further classified by type of migration on the basis of a comparison of the State of residence at the end of the period with the State of residence at the beginning of the period.

1. Migrants within a State (intrastate migrants), excludes intracounty movers.

2. Migrants between States (interstate migrants).

Mobile persons or movers--This group consists of all persons who were living in a different house in the United States at the end of the period than at the beginning of the period. ~~(P36; P37)~~ (P225-227)

Never Worked--One who never before held a full-time civilian job lasting two consecutive weeks or more. (P175)

New Entrants--Are persons who never worked at a full-time job lasting two weeks or longer. (P168)

Nonfarm Self-employment Net Income--This is defined as net money income (gross receipts minus expeses) from his own business, professional enterprise, or partnership. Gross receipts include the value of all goods sold and services rendered. Expenses include costs of goods purchased, rent, heat, light, power, depreciation charges, wages and salaries paid, business taxes (not personal income taxes), etc. In general, inventory changes were considered in determining records do reflect inventory changes; however, when values of inventory changes were not reported, net income figures exclusive of inventory changes were accepted. The value of salable merchandise consumed by the proprietors of retail stores is not included as part of net income. (P73-78; P129-130)

Nonmovers (nonmobile persons)--This group consists of persons who were living in the same house at the end of the period as at the beginning of the period. ~~(P36-37)~~ (P225-227)

Nonrelative of Head With No Own Relatives in Household--A nonrelative of the head who has no relative(s) of his own in the household. This category includes such nonrelatives as a foster child, a ward, a lodger, a servant, or a hired hand, who has no relatives of his own living with him in the household. (P38)

Nonrelative of Head With Own Relatives (including wife) in Household--Any household member who is not related to the head but has relatives of his own in the household. For example, a lodger, his wife, and their son. (P38)

Not Year-Round Work—Less than 40 weeks work. (P132)

Occupation, Last Week—Occupation, industry, and class-of-worker for the employed apply to the job held in the survey week. Persons with two or more jobs are classified in the job at which they worked the greatest number of hours during the survey week. The unemployed are classified according to their latest full-time civilian job lasting two weeks or more. The occupation and industry groups used in data derived from the CPS household interviews are defined as in the 1960 Census of Population. (P172-174)

Other Nonworkers—The "Other" group includes for the most part retired persons, those reported as too old to work, the voluntarily idle, and seasonal workers for whom the survey week fell in an "off" season and who were not reported as unemployed. (F116; P151)

Other Relative of Head—Any relative of the household head other than his wife; for example, his child, father, mother, grandson, daughter-in-law, etc. (P38; P41-44)

Own Child—Child related by blood, marriage, or adoption to the family head.

Part-time, Economic Reasons—"Economic reasons" include: Slack work, material shortages, repairs to plant or equipment, start or termination of job during the week, and inability to find full-time work. (P181)

Part-time, Other Reasons—"Other reasons" include: Labor dispute, bad weather, own illness, vacation, demands of home housework, school, no desire for full-time work, and full-time worker only during peak season. (P182)

Part-time Work—Persons who worked between 1 and 34 hours are designated as working "part time." (P132)

Persons Abroad—This group consists of persons, either citizens or aliens, whose place of residence was outside the United States at the beginning of the period, that is, in an outlying area under the jurisdiction of the United States or in a foreign country. These persons are distinguished from "movers" who are defined here as persons who moved from one place to another within the United States. (P36-37)

Population Coverage—The population covered includes the civilian population of the United States plus approximately 1,161,000 members of the Armed Forces in the United States living off post or with their families on post, but excludes all other members of the Armed Forces. This excludes inmates of institutions and persons residing in group quarters.

Poverty Definition--Poverty statistics published in previous Census Bureau reports were based on the poverty index developed by the Social Security Administration (SSA) in 1964.[1] This index provided a range of poverty income cutoffs adjusted by such factors as family size, the sex of the family head, the age of family members, and place of residence. At the core of this definition of poverty was a nutritionally adequate food plan ("economy" plan) designated by the Department of Agriculture for "emergency or temporary use when funds are low." Annual revisions of the poverty income cutoffs were based on price changes of the items in the economy food budget.

In determining the proportion of total family income that should be consumed by food requirements, the SSA observed that the percentage of income expended for necessities, in particular food, reflects the relative well-being of both individuals and the society in which they live. In general, families that need to use about the same proportion of their income for a given level of food expenditure are considered to share the same level of living.

For families of three or more persons the poverty level was set at three times the cost of the economy food plan. This was the average food cost-to-family income relationship reported by the Department of Agriculture on the basis of a 1955 survey of food consumption.[2] For smaller families and persons residing alone, the cost of the economy food plan was multiplied by factors that were slightly larger to compensate for the relatively higher fixed expenses of these smaller households. The SSA poverty cutoffs also took account of differences in the cost of living between farm and nonfarm families.

As a result of its deliberations the committee accepted the following two recommendations: (1) that the SSA poverty thresholds for nonfarm families be retained for the base year 1963, but that the annual adjustments in the levels be based on the changes in the Consumer Price Index (CPI) rather than on changes in the cost of food included in the economy food plan; and (2) that the farm poverty thresholds be raised from 70 to 85 percent of the corresponding nonfarm levels. The combined impact of these two modifications resulted in a net increase of 360,000 poor families and of 1.6 million poor persons in 1967. (F103-108)

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[1] For a detailed discussion of the SSA poverty standards, see Mollie Orshansky, "Counting the Poor: Another Look at the Poverty Profile," Social Security Bulletin, January 1965; and "Who's Who Among the Poor: A Demographic View of Poverty," Social Security Bulletin, July 1965.

[2] See U.S. Department of Agriculture, Food Consumption and Dietary Levels of Households in the United States, (ARS 626), August 1957.

Primary Families and Individuals--The term "primary family" refers to the head of a household and all other persons in the household related to the head by blood, marriage, or adoption. If nobody in the household is related to the head, then the head himself constitutes a "primary individual." A household can contain one and only one primary family or primary individual. The number of "primary" families and individuals is identical with the number of households. (F27-28; P27-28; P39; P43-44)

Primary Individual--A primary individual is a household head living alone or with nonrelatives only. (F27-28; P27-28; P39; P43-44)

Race--The population is divided into three groups on the basis of race: White, Negro, and "Other races." The last category includes Indians, Japanese, Chinese, and any other race except white and Negro. In most of the tables "other races" are shown in combination with the Negro population. (F33; P33)

Receipts Not Counted as Income--Receipts from the following sources were not included as income: (1) Money received from the sale of property, such as stocks, bonds, a house, or a car (unless the person was engaged in the business of selling such property, in which case the net proceeds would be counted as income from self-employment); (2) withdrawals of bank deposits; (3) money borrowed; (4) tax refunds; (5) gifts; and (6) lump-sum inheritances or insurance payments. (P61-66)

Reentrants--Are persons who previously worked at a full-time job lasting two weeks or longer but who were out of the labor force prior to beginning to look for work.

Related Children--Children related to the family head by blood, marriage, or adoption.

School--A person who spent most of his time during survey week attending any kind of public or private school, including trade or vocational schools in which students receive no compensation in money or kind. (F116; P151)

Secondary Family--A secondary family is a family that does not include among its members the head of a household. Members of secondary families may include persons such as guests, lodgers, or resident employees and their relatives living in a household.

Persons living with relatives in group quarters were formerly considered as members of secondary families. However, the number of such families became so small (37,000 in 1967) that beginning with the data for 1968 (and beginning with the census data for 1960) the Bureau of the Census includes persons in these families in the count of secondary individuals. (F27-28; P39; P41-44)

Secondary Individual--A secondary individual is a person in a household or group quarters such as a guest, lodger, or resident employee (excluding primary individuals and inmates of institutions) who is not related to any other person in the household or group quarters. (P27-28; P39; P41-44)

Self-employed--Self-employed persons are those who work for profit or fees in their own business, profession, or trade, or operate a farm. (P139; P175)

Stretches of Unemployment--A continuous stretch is one that is not interrupted by the person getting a job or leaving the labor market to go to school, to keep house, etc. A period of two weeks or more during which a person was employed or ceased looking for work is considered to break the continuity of the period of seeking work. (P148)

Subfamily--A subfamily is a married couple with or without children, or one parent with one or more own single children under 18 years old, living in a household and related to, but not including, the head of the household or his wife. The most common example of a subfamily is a young married couple sharing the home of the husband's or wife's parents. Members of a subfamily are also members of a primary family. The number of subfamilies, therefore, is not included in the number of families. (F27-28; P27-28; P40)

Total Money Income--This is defined as the arithmetic sum of money wages and salaries, net income from self-employment, and income other than earnings. The total income of a household is the arithmetic sum of the amounts received by all income recipients in the household. (F73-78; F91-102; P61-66)

Unable--"Unable to work" because of long-term physical or mental illness, lasting six months or longer. (F116; P151)

Unemployed--Unemployed persons are those civilians who, during the survey week, had no employment but were available for work and (1) had engaged in any specific jobseeking activity within the past four weeks, such as registering at a public or private employment office, meeting with prospective employers, checking with friends or relatives, placing or answering advertisements, writing letters of application, or being on a union or professional register; (2) were waiting to be called back to a job from which they had been laid off; or (3) were waiting to report to a new wage or salary job within 30 days. (P148)

Unpaid Family Workers--Are persons working without pay for 15 hours a week or more on a farm or in a business operated by a member of the household to whom they are related by blood or marriage. (P139; P175)

Unrelated Individuals--Are persons (other than inmates of institutions) who are not living with any relatives. An unrelated individual may be (1) a household head living alone or with nonrelatives only, (2) a lodger or resident employee with no relatives in the household, or (3) a group quarters member who has no relatives living with him. Thus, a widow who occupies her house alone or with one or more other persons not related to her, a roomer not related to anyone else in the housing unit, a maid living as a member of her employer's household but with no relatives in the household, and a resident staff member in a hospital living apart from any relatives are all examples of unrelated individuals. (P39)

Veteran Status--If a person served at any time during the three major wars of this century, the code for the most recent wartime service is entered. The following codes are used:

1. Korean War - June 1950-January 1955
2. World War II - September 1940-July 1947
3. World War I - April 1917-November 1918
4. Peace time "PA" - Peacetime service only, any of which was after January 1955--includes Vietnam war service
5. Peacetime "PB" - Peacetime service only, any of which was before June 1950
6. Nonveterans - Persons who never served on active duty

(P55)

Wage and Salary Workers--Receive wages, salary, commission, tips, or pay in kind from a private employer or from a governmental unit. (P139; P175)

Wages or Salary--This is defined as the total money earnings received for work performed as an employee during the calendar year. It includes wages, salary, Armed Forces pay, commissions, tips, piece-rate payments, and cash bonuses earned, before deductions were made for taxes, bonds, pensions, union dues, etc. (F79-84; F111-112; F117; P67-72; P129-130)

Wife of Head--The wife of the household head. There can be only one wife of the head, even if there are two or more married couples living in the same unit. (P38)

Work--All those who during the survey week did any work at all as paid employees, in their own business, profession, or farm, or who worked 15 hours or more as unpaid workers in an enterprise operated by a member of the family. (F116; P131; P151)

Year-Round Work--Forty weeks or more work. (P132)

Years of School Completed--Data on years of school completed were derived from the combination of answers to questions concerning the highest grade of school attended by the person and whether or not that grade

was finished. Educational attainment applies only to progress in "regular" schools. Such schools include graded public, private, and parochial elementary and high schools (both junior and senior high), colleges, universities, and professional schools, whether day schools or night schools. Thus, regular schooling is that which may advance a person toward an elementary school certificate or high school diploma, or a college, university, or professional school degree. Schooling in other than regular schools was counted only if the credits obtained were regarded as transferable to a school in the regular school system. (P57-58)

Current Population Survey
Annual Demographic File

Family Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
F1	Record Type 4 - Family	All family records (01-09 in F27-28)
F2-3	Noninterview Cluster[1/] 00 - 76	All records
F4-6	Keyfitz Cluster[1/] 000 - 076	All records
F7-11	Random Cluster[1/] 00100 - 99999	All records
F12-16	Segment Number 10010 - 89999	All records
F17-21	"A" Weight (implied decimal)[1/] 0.0000 - 1.0000	All records
F22-26	"P" Weight (implied decimal)[1/] 0.0000 - 1.1277	All records

1/ See Variance Estimator for Current Population Survey, Attachment A

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Annual Demographic File

Family Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
F27-28	Type of Family 01 - Primary family containing no subfamily 02 - Primary family containing one or more subfamily 03 - Secondary family 04 - Subfamily - 05 - Primary individual 06 - Secondary individual 14+ in a household 07 - Secondary individual 14+ in a group quarters 08 - Secondary individual under 14 in a household 09 - Secondary individual under 14 in a group quarters	All records
F29-30	Age of Head (or unrelated individual) 00 - Less than one year 01 - 98 - Actual years 99 - 99 years old or older	All family records
F31	Month in Sample 1-8 Month in Sample	
F32	Sex of Head 1 - Male 2 - Female	All family records
F33	Race of Head 1 - White 2 - Negro 3 - Race other than white or Negro	All family records
F34	Not Used	
F35-36	Number of Person Records for This Family 01-39 - Actual number	All family records

Current Population Survey
March CPS Public Use Sample File
Family Characteristics
1973-1975

March CPS Public Use Sample Item Description

Character	Characteristic Code and Description of Code	Universe
F37-38	State	All family records
	19 Maine	
	19 New Hampshire	
	19 Vermont	
	14 Massachusetts	
	19 Rhode Island	
	16 Connecticut	
	21 New York	
	22 New Jersey	
	23 Pennsylvania	
	31 Ohio	
	32 Indiana	
	33 Illinois	
	39 Michigan	
	39 Wisconsin	
	49 Minnesota	
	49 Iowa	
	49 North Dakota	
	49 South Dakota	
	49 Nebraska	
	49 Kansas	
	49 Missouri	
	57 Delaware	
	57 Maryland	
	53 District of Columbia	
	57 Virginia	
	57 West Virginia	
	56 North Carolina	
	58 South Carolina	
	58 Georgia	
	59 Florida	
	67 Kentucky	
	67 Tennessee	
	69 Alabama	
	69 Mississippi	
	79 Arkansas	
	79 Louisiana	
	79 Oklahoma	
	72 Texas	

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March CPS Public Use Sample File
Family Characteristics
1973-1975

March CPS Public Use Sample Item Description

Character	Characteristic Code and Description of Code	Universe
F37-38 (cont.)	State (continued) 89 Montana 89 Idaho 89 Wyoming 89 Colorado 89 New Mexico 89 Utah 89 Nevada 89 Arizona 99 Washington 99 Oregon 92 California 99 Alaska 99 Hawaii	All family records

Current Population Survey

March CPS Public Use Sample File

Family Characteristics

1973-1975

March CPS Public Use Sample Item Descriptions

Character	Characteristic Code and Description of Code	Universe
F39-40	Selected Standard Metropolitan Statistical Areas 00 - Not listed below 01 - New York, N.Y. 02 - Los Angeles-Long Beach, Calif. 03 - Chicago, Ill. 04 - Philadelphia, Pa. 05 - Detroit, Mich. 06 - San Francisco-Oakland, Calif. 07 - Washington, D.C.-Md.-Va. 08 - Boston, Mass. 09 - Nassau-Suffolk, N.Y. 10 - Pittsburgh, Pa. 11 - St. Louis, Mo.-Ill. 12 - Baltimore, Md. 13 - Cleveland, Ohio 14 - Houston, Texas 15 - Newark, N.J. 16 - Minneapolis-St. Paul, Minn. 17 - Dallas, Texas 18 - Seattle-Everett, Wash. 19 - Anaheim-Santa Ana-Garden Grove, - Calif. 20 - Milwaukee, Wis. 21 - Atlanta, Ga. 22 - Cincinnati, Ohio 23 - Patterson-Clifton-Passaic, N.J. 24 - San Diego, Calif. 25 - Buffalo, N.Y. 26 - Miami, Fla. 27 - Kansas City, Mo.-Kan. 28 - Denver, Colo. 29 - San Bernardino-Riverside-Ontario, Calif. 30 - Indianapolis, Ind. 31 - San Jose, Calif. 32 - New Orleans, La. 33 - Tampa-St. Petersburg, Fla. 34 - Portland, Ore.-Wash. 35 - Phoenix. Ariz.	All family records
F41	Not Used	

Current Population Survey
Annual Demographic File
Family Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
F42	Metropolitan-Nonmetropolitan Residence 1 - In SMSA, central city 2 - In SMSA, not central city 3 - Not in SMSA	All family records
F43	Household Identification Number 1-8 Actual number	All family records
F44	Not used	
F45-46	Type of Living Quarters Housing Unit 01 - House, apartment, flat 02 - Housing unit in nontransient hotel, etc. 03 - Housing unit permanent, in transient hotel, motel, etc. 04 - Housing unit in rooming house 05 - Trailer, permanent 06 - Trailer, mobile 07 - Housing unit not specified above Group Quarters 08 - Quarters not housing unit in room or boarding house 09 - Unit not permanent in transient hotel, motel, etc. 10 - Tent or trailer site 11 - Other group quarters	All family records
F47-48	Number of Family Records for This Household 01-07 - Households (actual number) 01-39 - Group quarters (actual number) 00 - Second or subsequent family records within a household or group quarters	First family record in household or group quarters

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Annual Demographic File

Family Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
F49-50	Number of Persons Record for This Household 01-39 - Actual number 00 - Second or subsequent family records within a household or group quarters	First family record in household or group quarters
F51	Number of nonrelatives of Head of Household 0 - None 1-4 - Actual number 5 - Not in universe	Families or unrelated individuals in household (1 in F52)
F52	Type of Living Quarters 1 - In household 2 - In group quarters	All family records
F53-54	Size of Family 02-19 - Actual number of persons 20 - 20 or more 00 - Not in universe	Families (01-04 in F27-28)
F55-56	Number of Family Members Under 18 Years Old 00 - None 01-08 - Actual number 09 - 9 or more 10 - Not in universe	Families (01-04 in F27-28)
F57	Number of Family Members 18-64 Years Old 0 - None 1-6 - Actual number 7 - 7 or more 8 - Not in universe	Families (01-04 in F27-28)

Current Population Survey
Annual Demographic File
Family Characteristics
1973-1975

Character	Characteristics Code and Description of Code	Universe
F58	Number of Family Members 65 Years and Over 0 - None 1-4 - Actual number 5 - 5 or more 6 - Not in universe	Families (01-04 in F27-28)
F59-60	Number of Own Children (of any age, of any marital status) 00 - None 01-08 - Actual number 09 - 9 or more 10 - Not in universe	Families (01-04 in F27-28)
F61-62	Number of Own Children Under 25 (of any marital status) 00 - None 01-08 - Actual number 09 - 9 or more 10 - Not in universe	Families (01-04 in F27-28)
F63-64	Number of Own (never married) Children Under 18 00 - None 01-08 - Actual number 09 - 9 or more 10 - Not in universe	Families (01-04 in F27-28)
F65	Number of Own Children Under 3 Years Old 0-4 - Actual number 5 - 5 or more 6 - Not in universe	Families (01-04 in F27-28)
F66	Number of Own Children Under One Year Old 0-2 - Actual number 3 - 3 or more 4 - Not in universe	Families (01-04 in F27-28)

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Family Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
F67	Presence of Own (never married) Children Under 18 Years Old, of Specific Age 1 - No own children under 18 1 or more own children under 18: 2 - All under 6 3 - Some under 6, some 6-17 4 - All 6-17 0 - Not in universe	Families (01-04 in F27-28)
F68	Not Used	
F69-70	Number of Related Children Under 18 Years Old (of any marital status) in household 00 - None 01-08 - Actual number 09 - 9 or more 10 - Not in universe	Families (01-04 in F27-28)
F71-72	Not Used	
F73-78	Total Family Income (in dollars; may be a loss)1/ -00001 to -09998 - Loss of $1 to $9998 -09999 - Loss of $9999 or more 000000 - No income 000001 to 049999 - $1 to $49,999 050000 - $50,000 or more 099999 - Not in universe	Families or unrelated individuals (01-07 in F27-28)
F79-84	Total Family Earnings (in dollars; may be a loss)1/ -00001 to -09998 - Loss of $1 to $9998 -09999 - Loss of $9999 or more 000000 - No income 000001 to 049999 - $1 to $49,999 050000 - $50,000 or more 099999 - Not in universe	Families or unrelated individuals (01-07 in F27-28)

1/ Loss is expressed by alpha numeric dash in first character of six-character field - e.g., F73, F79

Current Population Survey

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Family Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
F85-90	Total Family Income Other Than Earnings (in dollars; may be a loss)1/ -00001 to -09998 - Loss of $1 to $9998 -09999 - Loss of $9999 or more 000000 - No income 000001 to 049999 - $1 to $49,999 050000 - $50,000 or more 099999 - Not in universe	Families or unrelated individuals (01-07 in F27-28)
F91-96	Total Household Income (in dollars; may be a loss)1/ -00001 to -09998 - Loss of $1 to $9998 -09999 - Loss of $9999 or more 000001 to 049999 - $1 to $49,999 050000 - $50,000 or more 099999 - Not in universe	Family members In hous e 14 years or over in household (01-09 in F27-28 and 1 in F52)
F97-102	Total Income of Husband and Wife (in dollars; may be a loss)1/ -00001 to -09998 - Loss of $1 to $9998 -09999 - Loss of $9999 or more 000000 - No income 000001 to 049999 - $1 to $49,999 050000 - $50,000 or more 099999 - Not in universe	Husband - wife families
F103-108	Economy (poverty) Cut-off Dollar Amount Poverty - Level cut-offs	Families (excluding subfamilies) individuals 14+ (01-03, 05-07 in F27-28)
F109	Poverty Level 1 - Income below poverty level 2 - Income not below poverty level 0 - Not in universe	Families (excluding subfamilies) and unrelated individuals 14+ (01-03, 05-07 in F27-28)

1/ Loss is expressed by alpha numeric dash in first character of six-character field - e.g., F85, F91

Current Population Survey
Annual Demographic File
Family Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
F110	Not Used	
F111-112	Source of Family Income 01 - No income 02 - Wage/salary only 03 - Nonfarm self-employed only 04 - Farm self-employed only 05 - Nonfarm and farm self-employed only 06 - Wage/salary, nonfarm self-employed only 07 - Wage/salary, farm self-employed only 08 - Wage/salary, farm and nonfarm self-employed only 09 - Wage/salary and other only 10 - Nonfarm self-employed and other only 11 - Farm self-employed and other only 12 - Nonfarm and farm self-employed and other only 13 - Wage/salary, nonfarm self-employed and other only 14 - Wage/salary, farm self-employed and other only 15 - All types of income 16 - Other only, no earnings.	Families or unrelated individuals (01-07 in F27-28)
F113	Number of Members in Labor Force 0 - No members in labor force 1 - 1 member in labor force 2 - 2 members in labor force 3 - 3 or more members in labor force 4 - Not in universe	Families or unrelated individuals (01-07 in F27-28)

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Family Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
F114	Number of Earners 0 - No earners 1-4 - 1-4 earners 5 - 5 or more earners 6 - Not in universe	Families (excluding subfamilies) and unrelated individuals 14+ (01-03, 05-07 in F27-28)
F115	Sex and Marital Status of Family (or subfamily) Head and Labor Force Status of Wife Male head: Married, wife present: 1 - Wife in paid labor force 2 - Wife not in paid labor force 3 - Other marital status 4 - Female head 0 - Not in universe	Families (01-04 in F27-28)
F116	Employment Status Recode of Head 1 - Working 2 - With a job 3 - Looking 4 - House 5 - School 6 - Unable 7 - Other 0 - Not in universe	Families or unrelated individuals (01-07 in F27-28)
F117	Family Wage or Salary Income 1 - Allocated Blank - Not allocated	Families or unrelated individuals (01-07 in F27-28)
F118	Family Nonfarm Self-employed Income 1 - Allocated Blank - Not allocated	Families or unrelated individuals (01-07 in F27-28)

Current Population Survey

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Family Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
F119	Family Farm Self-Employed Income 1 - Allocated Blank - Not allocated	Families or unrelated individuals (01-07 in F27-28)
F120	Family Source A Income 1 - Allocated Blank - Not allocated	Families or unrelated individuals (01-07 in F27-28)
F121-126	Not Used	
F127	Family Source B Income 1 - Allocated Blank - Not allocated	Families or unrelated individuals
F128	Family Source C Income 1 - Allocated Blank - Not allocated	Families or unrelated individuals (01-07 in F27-28)
F129	Family Source D Income 1 - Allocated Blank - Not allocated	Families or unrelated individuals (01-07 in F27-28)
F130	Family Source E Income 1 - Allocated Blank - Not allocated	Families or unrelated individuals (01-07 in F27-28)
F131- 138	Padding	

Current Population Survey
Annual Demographic File
Family Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
F139-145	Not Used	
F146	Spanish Origin of Family Head 1 - Head Spanish 2 - Head Not Spanish 3 - Head NA	
F147-204	Not Used in 1974-75	
F147-201	Not Used in 1973	
F202	In 1973 only Flag - Panel number assigned from previous household	
F203-204	In 1973 only Panel number	
F205-216	Family Weight Expressed to two decimals, point assumed. May in remote instances be negative. Negative symbol (-) to the left of the most significant digit (F205).	All Family Rec
F217-218	Serial Number	
F219-240	Not Used	

Current Population Survey
Annual Demographic File
Persons Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
P1	Population Status 1 - Civilian 14+ 2 - Armed Forces (all are 14+) 3 - Persons under 14	All persons records
P2-3	Noninterview Cluster[1/]	All records
P4-6	Keyfitz Cluster[1/]	All records
P7-11	Random Cluster[1/]	All records
P12-16	Segment Number	All records
P17-21	"A" Weight	All records
P22-26	"P" Weight	All records
P27-28	Type of Family 01 - Primary family containing no subfamily 02 - Primary family containing one or more subfamily 03 - Secondary family 04 - Subfamily - unrelated individual 05 - Primary individual 06 - Secondary individaul 14+ in a household 07 - Secondary individual 14+ in a group quarters 08 - Secondary individual under 14 in a household 09 - Secondary individaul under 14 in a group quarters	All records

1/ See Variance Estimator for Current Population Survey, Attachment A

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P29-30	Age 00 - Under 1 year 01-98 - 1-98 years 99 - 99 years or older	All persons records
P31	Padding	
P32	Sex 1 - Male 2 - Female	All persons records
P33	Race 1 - White 2 - Negro 3 - Race other than white or Negro	All persons records
P34-35	Line Number 01-39 - Actual number	All persons records
P36	Padding	

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P37	Padding	
P38	Relationship to Household Head 1 - Head with other relatives (incl. wife) in household 2 - Head with no other relatives in household 3 - Wife of head 4 - Other relative of head 5 - Nonrelative of head with own relative (incl. wife) in household 6 - Nonrelative of head with no own relatives in household 0 - Not in universe	Civilian 14 years or over (1 in P1)
P39	Family Membership Key (Recode) 1-6 - Member of secondary family No. 1-6 7 - Member of primary family (including members of sub-families) 8 - Unrelated individual (primary or secondary individual)	All persons records
P40	Subfamily Membership Key (Recode) 1-6 - Member of subfamily No. 1-6 0 - Not in a subfamily	Person is a subfamily member

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P41-42	Detailed Household Relationship (Recode) In household, in primary family: 01 - Head of family 02 - Wife of family head Child of family head, under 18, never married: 03 - Head of subfamily 04 - Not in subfamily Child of family head, under 18, ever married 05 - Head of subfamily 06 - Wife of subfamily head 07 - Not in subfamily Child of family head, 18 and over, never married: 08 - Head of subfamily 09 - Not in subfamily Child of family head, 18 and over, ever married 10 - Head of subfamily 11 - Wife of subfamily head 12 - Not in subfamily 13 - Grandchild of family head, under 18, never married Other relative of family head: 14 - Under 18, single, head of subfamily 15 - Under 18, single, child of subfamily head 16 - Under 18, single, not in a subfamily 17 - Under 18, ever married, head of subfamily 18 - Under 18, ever married, wife of subfamily head 19 - Under 18, ever married, not in subfamily 20 - 18 and over, never married, head of subfamily	All persons records

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P41-42 (cont.)	21 - 18 and over, never married, not in subfamily 22 - 18 and over, ever married, head of subfamily 23 - 18 and over, ever married, wife of subfamily head 24 - 18 and over, ever married, not in subfamily In household, in secondary family: 25 - Head of secondary family 26 - Wife of secondary family head 27 - Child under 18 of family head, never married Other relative of family head 28 - Under 18, never married 29 - Under 18, ever married 30 - 18 and over, never married 31 - 18 and over, ever married 32 - In household, primary individual 33 - In household, secondary individual 34 - In group quarters, secondary individual	All persons records

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Persons Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
P43-44	Family Relationship Summary (Recode) In a family (primary and secondary families combined): 01 - Head of family 02 - Wife of head 03 - Child of head, under 18, never married 04 - Child of head, under 18, ever married 05 - Child of head, 18 and over 06 - Grandchild of head 07 - Other relative of family head, under 18, never married 08 - Other relative of head, under 18, ever married 09 - Other relative of head, 18 and over Not in a family - unrelated individual 10 - Primary individual 11 - Secondary individual	All persons records
P45	Marital Status 1 - Single (never married) Ever married: 2 - Married, spouse present Married, spouse absent: 3 - Separated 4 - Husband absent in armed forces (female only) 5 - Other, spouse absent 6 - Widowed 7 - Divorced 0 - Under 14 years of age (not in universe)	All persons 14 years of age and over

Current Population Survey
Annual Demographic File
Persons Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
P46	Padding	
P47-48	Padding	
P49-50	Padding	
P51-52	Padding	
P53-54	Padding	
P55	Veteran Status 1968 1 - Korean War 2 - World War II 3 - World War I 4 - Peace time "PA" 5 - Peace time "PB" 6 - Nonveteran 0 - Not in universe 1969 or later 1 - Vietnam Era 2 - Korean War 3 - World War II 4 - World War I 5 - Other service 6 - Nonveteran 0 - Not in universe	Males 14 years and over (1, 2, in P1 and 1 in P32)

Current Population Survey
Annual Demographic File
Persons Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
P56	Month in Sample 1-8 Sample month	All persons
P57-58	Highest Grade of School Attended 01 - None 02-09 - Elementary 1 to 8 10-13 - High school 1 to 4 14-17 - College 1 to 4 18 - College 5 19 - College 6+ 00 - Not in universe (under 14 years)	Persons 14 years and over (1, 2, in P1)
P59	Grade Completed 1 - Yes 2 - No 0 - Not in universe (under 14 years)	Persons 14 years and over (1, 2, in P1)
P60	Not Used	
P61-66	Total Income (each dollar)	Persons 14 years and over (1, 2, in P1)
P67-72	Wage or Salary Income	Persons 14 years and over (1, 2, in P1)
P73-78	Nonfarm Self-employment Income	Persons 14 years and over (1, 2, in P1)
P79-84	Farm Self-employment Income	Persons 14 years and over (1, 2, in P1)

Current Population Survey
Annual Demographic File
Persons Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
	Income From Unearned Sources	
P85-90	A - Social Security or Railroad Retirement	Persons 14 years and over (1, 2, in P1)
P91-96	B - Dividend Interest Net rental income	Persons 14 years and over (1, 2, in P1)
P97-102	C - Welfare or Public assistance	Persons 14 years and over (1, 2, in P1)
P103-108	D - Unemployment compensation Workmen's compensation Government employee pension	Persons 14 years and over (1, 2, in P1)
P109-114	E - Alimony Contribution Anything else	Persons 14 years and over (1, 2, in P1)
	Codes for Characters P85-114: -00001 to -09998 - Loss of $1 to $9998 -09999 - Loss of $9999 or more 000000 - No income 000001 to 049999 - $1 to $49,999 050000 - $50,000 or more 099999 - Not in universe	

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
	1969 or Later: (Unedited yes/no)	
P115	Social Security or Railroad Retirement 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P116	Dividends 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P117	Interest 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P118	Net rental income 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P119	Welfare or public assistance 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P120	Unemployment Compensation 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P121	Workmen's Compensation 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P122	Government employee pensions 0 - Yes 1 - No	Persons 14 years and Persons 14 years and over (1,2, in P1)
P123	Veterans payments 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)

Current Population Survey
Annual Demographic File
Persons Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
	1969 or Later: (continued)	
P124	Private pensions 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P125	Alimony 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P126	Contributions 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P127	Anything else 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)
P128	Railroad Retirement 0 - Yes 1 - No	Persons 14 years and over (1, 2, in P1)

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P129-130	Source of Income (Recode) 00 - Not in universe 01 - No income 02 - Wage or salary income only 03 - Nonfarm self-employment income only 04 - Farm self-employment income only 05 - Nonfarm self-employment income and farm self-employment income only 06 - Wage or salary income and nonfarm self-employment income only 07 - Wage or salary income and farm self-employment income only 08 - Wage or salary income and nonfarm self-employment income and farm self-employment income only 09 - Wage or salary income and income other than earnings 10 - Nonfarm self-employment income and income other than earnings 11 - Farm self-employment income and income other than earnings 12 - Nonfarm self-employment income and farm self-employment income and income other than earnings 13 - Wage or salary income and nonfarm self-employment income and income other than earnings 14 - Wage or salary income and farm self-employment income and income other than earnings 15 - Wage or salary income and nonfarm self-employment income and farm self-employment income and income other than earnings 16 - Income other than earnings only	Persons 14 years and over (1, 2, in P1)

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P131	Weeks Worked Last Year 1 - None (no weeks) 2 - 1-13 weeks 3 - 14-26 weeks 4 - 27-39 weeks 5 - 40-47 weeks 6 - 48-49 weeks 7 - 50-52 weeks 0 - Not in universe	Civilians 14 years and over (1 in P1)
P132	Full-time/Part-time (not year round) Year round: 1 - Full-time 2 - Part-time Not year round: 3 - Full-time 4 - Part-time 0 - Not in universe	Civilians 14 years and over who worked last year (2-7 in P131)
P133-135	Industry of Longest Job Held Last Year 016-936 - (See list of codes) 000 - Not in universe	Civilians 14 years and over who worked last year (2-7 in P131)
P136-138	3-Digit Occupation of Longest Job Held Last Year 000-985 - (See list of codes) 999 - Not in universe	Civilians 14 years and over who worked last year (2-7 in P131)
P139	Class of Worker of Longest Job Held Last Year 0 - Not in universe 1 - Private wage or salary 2 - Government (Federal, State, Local) 3 - Self-employed in own business, etc 4 - Without pay in family farm or business	Civilians 14 years and over who worked last year (2-7 in P131)

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Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P140	Not Used	
P141-142	Summary Detailed Industry of Longest Job Held Last Year (Recode) 01-51 - (See list of recodes) 00 - Not in universe	Civilian workers 14 years and over (2-7 in P131)
P143-144	Summary Detailed Occupation of Longest Job Held Last Year (Recode) 01-44 - (See list of recodes) 00 - Not in universe	Civilian workers 14 years and over (2-7 in P131)
P145	Weeks Looking or on Layoff 1 - None 2 - 1 to 4 weeks 3 - 5 to 10 weeks 4 - 11 to 14 weeks 5 - 15 to 26 weeks 6 - 27 to 39 weeks 7 - 40+ weeks 0 - Not in universe	Part-year civilian workers 14 years and over (2-6 in P131)
P146	Main Reason for Part-year Work 1 - Looking 2 - Ill 3 - Home (females only) 4 - School 5 - Armed Forces 6 - Retired 7 - Other 0 - Not in universe	Part-year civilian workers 14 years and over (2-6 in P131)

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Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P147	Weeks in Labor Force - Part-year Workers 1 - 1 to 13 weeks 2 - 14 to 26 weeks 3 - 27 to 39 weeks 4 - 40 to 47 weeks 5 - 48-49 weeks 6 - 50-52 weeks 0 - Not in universe	Part-year civilian workers 14 years and over (2-6 in P131)
P148	Stretches of Unemployment 1 - 1 stretch 2 - 2 stretches 3 - 3+ stretches 0 - Not in universe	Part-year civilian workers 14 years and over who looked for work or were on layoff (2-6 in P145)
P149	Main Reason Not Working 1 - Ill 2 - Home (females only) 3 - School 4 - Unable to find work 5 - Armed Forces 6 - Retired 7 - Other 0 - Not in universe	Civilians 14 years and over who did not work last year (1 in P131)
P150	Weeks in Labor Force - Nonworkers 1 - None (not looking for work) 2 - 1 to 4 weeks looking 3 - 5 to 14 weeks looking 4 - 15 to 26 weeks looking 5 - 27 to 39 weeks looking 6 - 40+ weeks looking 0 - Not in universe	Civilians 14 years and over who did not work last year (1 in P131)

Current Population Survey
Annual Demographic File
Persons Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
P151	WHAT WAS ... DOING MOST OF LAST WEEK? (Major activity) 1 - Working 2 - With a job 3 - Looking 4 - Housework 5 - School 6 - Unable 7 - Other 0 - Not in universe	Civilians 14 years and over (1 in P1)
P152	Employment Status (Recode) 1 - Working 2 - With a job, not at work 3 - Looking 4 - Housework 5 - School 6 - Unable 7 - Other 0 - Not in universe	Civilians 14 years and over (1 in P1)
P153-154	Hours Worked Last Week at All Jobs 01-99 - Actual number 00 - Not in universe	Civilians 14 years and over who were at work last week (1 in P1 and 1 in ESR)
P155	USUALLY WORK 35 HOURS OR MORE AT THIS JOB 1 - Yes 2 - No 0 - Not in universe	Civilians 14 years and over who worked less than 35 hours per week (1 in P1 and 1 in ESR (P152) and P153-154 is 01-34)
P156	Not Used	

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P157-158	Reason Less Than 35 Hours a Week 01 - Slack work 02 - Material shortage 03 - Plant or machine repairs 04 - New job started 05 - Job terminated 06 - Could find only part-time work 07 - Holiday 08 - Labor dispute 09 - Bad weather 10 - Own illness 11 - On vacation 12 - Too busy with house, school 13 - Did not want full-time job 14 - Full-time work week under 35 hrs. 15 - Other 00 - Not in universe	Civilians 14 years and over who worked less than 35 hours per week (1 in P1 and 1 in ESR (P152) and P153-154 is 01-34)
P159	Reason Absent From Work 1 - Own illness 2 - On vacation 3 - Bad weather 4 - Labor dispute 5 - New job to begin within 30 days 6 - Temporary layoff 7 - Indefinite layoff 8 - Other 0 - Not in universe	Civilians 14 years and over with a job but not at work or looking for work (1 in P1 and 2 or 3 in ESR (P152))
P160	Wages or Salary for Any of the Time Off Last Week 1 - Yes 2 - No 3 - Self-employed 0 - Not in universe	Civilians 14 years and over with a job but not at work (1 in P1 and 2 in ESR (P152))

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P161	Usually Work 35 Hours or More a Week at This Job 1 - Yes 2 - No 0 - Not in universe	Civilians 14 years and over with a job but not at work (1 in P1 and 2 in ESR (P152))
P162	Reason Start Looking for Work 1 - Lost job 2 - Quit job 3 - Left school 4 - Wanted temporary work 5 - Other 0 - Not in universe	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P163-164	Weeks Unemployed 00-99 - Actual number	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P165	HAS ... BEEN LOOKING FOR FULL-TIME OR PART-TIME WORK? 1 - Full 2 - Part 0 - Not in universe	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P166	IS THERE ANY REASON WHY ... COULD NOT TAKE JOB LAST WEEK? (Y/N) 1 - Yes 2 - No 0 - Not in universe	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P167	IS THERE ANY REASON WHY ... COULD NOT TAKE JOB LAST WEEK? 1 - Already had a job 2 - Temporary layoff 3 - Going to school 4 - Other 0 - Not in universe	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152) and Yes in P166)

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P168	WHEN DID ... LAST WORK AT A FULL-TIME JOB OR BUSINESS LASTING 2 CONSECUTIVE WEEKS OR MORE? 1 - Less than 5 years ago 2 - More than 5 years ago 3 - Never worked full-time 2 weeks or more 4 - Never worked at all 0 - Not in universe	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P169-171	Industry 016-936 (See Census Codes) 000 - Not in universe	Civilians 14 years and over (1 in P1) and a) ESR (P152) 3 and b) ESR (P152) 3 and P168 is 1 or 2 c) ESR (P152) 4-7, Month in sample (P26) is 1 or 5 and P183 is 1-5
P172-174	Occupation 000-985 (See Census Codes) 999 - Not in universe	Civilians 14 years and over (1 in P1) and a) ESR (P152) 1 or 2 b) ESR (P152) 3 and P168 is 1 or 2 c) ESR (P152) 4-7, Month in sample (P26) is 1 or 5 and P183 is 1-5
P175	Class of Worker 1 - Private 2 - Government 3 - Self-employed 4 - Without pay 5 - Never worked 0 - Not in universe	Civilians 14 years and over (1 in P1) and a) ESR (P152) 1 or 2 b) ESR (P152) 3 and P168 is 1 or 2 c) ESR (P152) 4-7, Month in sample (P26) is 1 or 5 and P183 is 1-5

Current Population Survey

Annual Demographic File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P176	Not Used	
P177-178	Detailed Industry 00 - Not in universe 01-51 - P169-171 (Recoded)	Civilians 14 years and over (1 in P1) and a) ESR (P152) 1 or 2 b) ESR (P152) 3 and P168 is 1 or 2 c) ESR (P152) 4-7, Month in sample (P26) is 1 or 5 and P183 is 1-5
P179-180	Detailed Occupation Group 00 - Not in universe 01-44 - P172-174 (Recoded)	Civilians 14 years and over (1 in P1) and a) ESR (P152) 1 or 2 b) ESR (P152) 3 and P168 is 1 or 2 c) ESR (P152) 4-7, Month in sample (P26) is 1 or 5 and P183 is 1-5

Current Population Survey

Annual Demographic File

Persons Characteristics

1973 -1975

Character	Characteristic Code and Description of Code	Universe
P181-182	Hours Worked 00 - Usually full time, part time for noneconomic reasons Usually work full time, part time for economic reasons 01 - 1-4 hours 02 - 5-14 hours 03 - 15-29 hours 04 - 30-34 hours Usually work part time, economic reasons 05 - 1-4 hours 06 - 5-14 hours 07 - 15-29 hours 07 - 30-34 hours Usually work part time, noneconomic reasons 09 - 1-4 hours 10 - 5-14 hours 11 - 15-29 hours 12 - 30-34 hours 13 - Not in universe	Civilians 14 years and over who worked less than 35 hours per
P183	LAST WORKED AT A REGULAR FULL- OR PART-TIME JOB OR BUSINESS LASTING 2 CONSECUTIVE WEEKS OR MORE 1 - Within past 12 months 2 - 1 up to 2 years ago 3 - 2 up to 3 years ago 4 - 3 up to 4 years ago 5 - 4 up to 5 years ago 6 - 5 or more years ago 7 - Never worked 0 - Not in universe	Civilians 14 years and over (1 in P1 and ESR (P152) 4-7) and month in sample is 1 or 5 for 1968-1969. 1970-1971 month in sample is 4 or 8
P184	Not Used	

Current Population Survey

March CPS Public Use Sample File

Persons Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P185-186	Major Occupational Group (Recode) 1/ 01 - Professional, technical, and kindred workers 02 - Managers and administrators, except farm 03 - Sales workers 04 - Clerical and kindred workers 05 - Craftsmen and kindred workers 06 - Operatives, except transport 07 - Transport equipment operatives 08 - Nonfarm laborers 09 - Private household workers 10 - All other service workers 11 - Farmers and farm managers 12 - Farm laborers and foremen 13 - No previous full-time work experience 1/ See list of recodes	Civilian labor force 1-3 in ESR (P152)

Current Population Survey

March CPS Public Use Sample File

Persons Characteristics

1973-1975

Character	Characteristic: Code and Description of Code	Universe
P187-188	Major Industry (Recode)[1/] 00 - Agriculture, Private Household workers & New Worked and unemployed 01 - Mining 02 - Construction 03 - Durable goods 04 - Nondurable goods 05 - Railroads and Railway express 06 - Other transportation 07 - Other utilities 08 - Wholesale trade 09 - Retail trade 10 - Finance, insurance, and real estate 11 - Business and repair 12 - Personal, except private household 13 - Entertainment and recreation 14 - Medical, except hospitals 15 - Hospitals 16 - Welfare and religious 17 - Education 18 - Other professional services 19 - Forestry and fisheries 20 - Public administration	Civilian labor force 1-3 in ESR (P152)
P189-195	METHODS USED IN THE LAST 4 WEEKS TO FIND WORK 0 - Not in universe Blank - Method not used 1 - Method used	

1/ See list of recodes

Current Population Survey
Annual Demographic File
Persons Characteristics
1973-1975

Character	Characteristic Code and Description of Code	Universe
P189-195	METHODS USED IN THE LAST 4 WEEKS TO FIND WORK	
P189	Checked with public employment agency	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P190	Checked with private employment agency	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P191	Checked with employer directly	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P192	Checked with friends or relatives	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152)
P193	Placed or answered ads	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P194	Nothing 0 - Not in universe Blank - Method not used 1 - Method used	Civilians 14 years and over looking for work (1 in P1 and 3 in ESR (P152))
P195 1	Other 0 - Not in universe Blank - Method not used 1 - Method used	Civilians 14 years and over not in labor force (1 in P1 and 4-7 in ESR (P152))
P196-204	1968-1970 - Not used	

Current Population Survey

Annual Demographic File

Person Characteristics

1973-1975

Character	Characteristic Code and Description of Code	Universe
P197-198	ETHNIC ORIGIN (WHAT IS...ORIGIN OR DESCENT?) 01 - German 02 - Italian 03 - Irish 04 - French 05 - Polish 06 - Russian 07 - English, Scot, Welsh 08 - Mexicano, Chicano 09 - Puerto Rican 10 - Cuban 11 - Central or South American 12 - Other Spanish 13 - Negro 14 - Other 15 - Don't Know 16 - NA	All Persons Records
P199	Padding	
P200-204	Not Used	
P205-216	1973-1975 - Persons Supplement Weight (implied decimal) Expressed to two decimals, point assumed. May in remote instances be negative. Negative symbol (-) to the left of the most significant digit (P205).	All Persons Records
P217-218	Serial Number	
P219-240	Not Used (1973 and 1974) The 1975 file contains additional migration data.	

MARCH 1975 CPS ADDENDUM TO ANNUAL DEMOGRAPHIC PUBLIC USE FILE

ADDITIONS TO PERSON'S RECORD

Character	Characteristic Code and Description of Code	Universe
P219-P223	Not Used	
P224	UAC PLACE 1 - Central City 2 - Balance 3 - Non SMSA	All Persons Records
P225-P226	Migration Type (MTR1) 01 - Nonmover Within SMSA: 02 - Within Central City 03 - Balance to Balance 04 - Central City to Balance 05 - Balance to Central City Between SMSA: 06 - Central City to Central City 07 - Balance to Balance 08 - Central City to Balance 09 - Balance to Central City 10 - Central City to Non SMSA 11 - Balance to Non-SMSA 12 - Non-SMSA to Central City 13 - Non-SMSA to Balance 14 - Non-SMSA to Non-SMSA 15 - Abroad 16 - UAC = State Code Only 17 - Not in Migration Sample under 2 years 18 - SMSA to SMSA 19 - NA	All Persons Records
P227	Migration Type (MTR2) 01 - Nonmover 02 - Same County, Same State 03 - Different County, Same State 04 - Different County, Different State 05 - Same State, County NA 06 - Abroad 07 - Not in Migration Sample 08 - NA	All Persons Records

ADDITIONS TO PERSON'S RECORD

Character	Characteristic Code and Description of Code	Universe
228	State Contiguity Recode 1 - Contigious 2 - Non contigious	All Persons Records When MTR2=4
P229	Region of residence 5 years ago 1 - Northeast 2 - Northcentral 3 - South 4 - West	All Persons Records When MTR2=2 thru 5
P230-P240	Not Used	

ANNUAL MARCH DEMOGRAPHIC SUPPLEMENT FILE CONTROL COUNTS FOR MARCH 1973

FAMILY PERSON CHARACTERISTICS	UNWEIGHTED COUNTS	WEIGHTED COUNTS*
TYPE OF FAMILY		
TOTAL FAMILIES	47671	7273418732
01 - PRIMARY FAMILY CONTAINING NO SUBFAMILY	34983	5304927056
02 - PRIMARY FAMILY CONTAINING ONE OR MORE SUBFAMILIES	801	121511432
03 - SECONDARY FAMILY	71	10892337
04 - SUBFAMILY	818	125013844
UNRELATED INDIVIDUAL		
05 - PRIMARY INDIVIDUAL	9115	1398613286
06 - SECONDARY INDIVIDUAL 14+ IN A HOUSEHOLD	1441	241935402
07 - SECONDARY INDIVIDUAL 14+ IN GROUP QUARTERS	243	40567457
08 - SECONDARY INDIVIDUAL UNDER 14 IN A HOUSEHOLD	114	17281408
09 - SECONDARY INDIVIDUAL UNDER 14 IN GROUP QUARTERS	85	12676510
POPULATION STATUS		
TOTAL PERSONS	136221	20630325251
1 - CIVILIAN 14+	100643	15348798776
2 - ARMED FORCES (ALL ARE 14+)	644	97986169
3 - PERSONS UNDER 14	34934	5183540306

* INCLUDES TWO UNDERSTOOD DECIMAL PLACES

NUMBER OF RECORDS WRITTEN IN LAST BLOCK=12
NUMBER OF BLOCKS WRITTEN ON REEL 1= 2750 ✓

NUMBER OF BLOCKS WRITTEN ON REEL 2= 2750 ✓

NUMBER OF BLOCKS WRITTEN ON REEL 3= 2750 ✓

NUMBER OF BLOCKS WRITTEN ON REEL 4= 945 ✓

ANNUAL MARCH DEMOGRAPHIC SUPPLEMENT FILE CONTROL COUNTS FOR MARCH 1974

FAMILY PERSON CHARACTERISTICS	UNWEIGHTED COUNTS	WEIGHTED COUNTS*
TYPE OF FAMILY		
TOTAL FAMILIES	47684	7481826290
01 = PRIMARY FAMILY CONTAINING NO SUBFAMILY	34532	5380118797
02 = PRIMARY FAMILY CONTAINING ONE OR MORE SUBFAMILIES	720	111595065
03 = SECONDARY FAMILY	85	13590225
04 = SUBFAMILY	739	117782855
UNRELATED INDIVIDUAL		
05 = PRIMARY INDIVIDUAL	9600	1494173014
06 = SECONDARY INDIVIDUAL 14+ IN A HOUSEHOLD	1535	273026439
07 = SECONDARY INDIVIDUAL 14+ IN GROUP QUARTERS	289	58750852
08 = SECONDARY INDIVIDUAL UNDER 14 IN A HOUSEHOLD	92	13988138
09 = SECONDARY INDIVIDUAL UNDER 14 IN GROUP QUARTERS	92	18798885
POPULATION STATUS		
TOTAL PERSONS	133282	20794885223
1 = CIVILIAN 14+	99467	15621712391
2 = ARMED FORCES (ALL ARE 14+)	662	106714691
3 = PERSONS UNDER 14	33153	5066458141

* INCLUDES TWO UNDERSTOOD DECIMAL PLACES

NUMBER OF RECORDS WRITTEN IN LAST BLOCK= 6

NUMBER OF BLOCKS WRITTEN ON REEL 1= 2750

NUMBER OF BLOCKS WRITTEN ON REEL 2= 2750

NUMBER OF BLOCKS WRITTEN ON REEL 3= 2750

NUMBER OF BLOCKS WRITTEN ON REEL 4= 799

ANNUAL MARCH DEMOGRAPHIC SUPPLEMENT FILE CONTROL COUNTS FOR MARCH 1975

FAMILY PERSON CHARACTERISTICS	UNWEIGHTED COUNTS	WEIGHTED COUNTS*
TYPE OF FAMILY		
TOTAL FAMILIES	46959	7616136392
01 = PRIMARY FAMILY CONTAINING NO SUBFAMILY	33706	5428379711
02 = PRIMARY FAMILY CONTAINING ONE OR MORE SUBFAMILIES	805	127583126
03 = SECONDARY FAMILY	94	14960398
04 = SUBFAMILY	827	134593552
UNRELATED INDIVIDUAL		
05 = PRIMARY INDIVIDUAL	9600	1555749040
06 = SECONDARY INDIVIDUAL 14+ IN A HOUSEHOLD	1501	238679748
07 = SECONDARY INDIVIDUAL 14+ IN GROUP QUARTERS	220	46529195
08 = SECONDARY INDIVIDUAL UNDER 14 IN A HOUSEHOLD	83	12940026
09 = SECONDARY INDIVIDUAL UNDER 14 IN GROUP QUARTERS	63	9860332
POPULATION STATUS		
TOTAL PERSONS	130139	20957163966
1 = CIVILIAN 14+	97708	15688304177
2 = ARMED FORCES (ALL ARE 14+)	647	106449417
3 = PERSONS UNDER 14	31784	4962410392

* INCLUDES TWO UNDERSTOOD DECIMAL PLACES

NUMBER OF RECORDS WRITTEN IN LAST BLOCK=18

NUMBER OF BLOCKS WRITTEN ON REEL 1= 2750

NUMBER OF BLOCKS WRITTEN ON REEL 2= 2750

NUMBER OF BLOCKS WRITTEN ON REEL 3= 2750

NUMBER OF BLOCKS WRITTEN ON REEL 4= 505

Annual Demographic File

Character (P177-183 and P141-142)

Detailed Industry	Recodes	IND
Goods-producing industries		(017-019, 047-398)
Agricultural production	01	017
Agricultural services	02	018-019
Mining	03	047-057
Construction	04	067-077
Manufacturing		(107-259)
Durable goods		
Ordnance	05	258
Lumber	06	107-109
Furniture	07	118
Stone, clay, glass	08	119-138
Primary metals	09	139-149
Fabricated metals (incl. not spec. metal)	10	157-169
Machinery, exc. elect.	11	177-198
Electrical equipment	12	199-209
Transportation equipment		(219-238)
Automobiles	13	219
Aircraft	14	227
Other transportation equipment	15	228-238
Instruments	16	239-257
Miscellaneous	17	259
Nondurable goods		(268-398)
Food	18	268-298
Tobacco	19	299
Textiles	20	307-318
Apparel	21	319-327
Paper	22	328-337
Printing	23	338,339
Chemicals	24	347-369
Petroleum	25	377,378
Rubber and plastics	26	379-387
Leather and not specified manufacturing	27	388-398

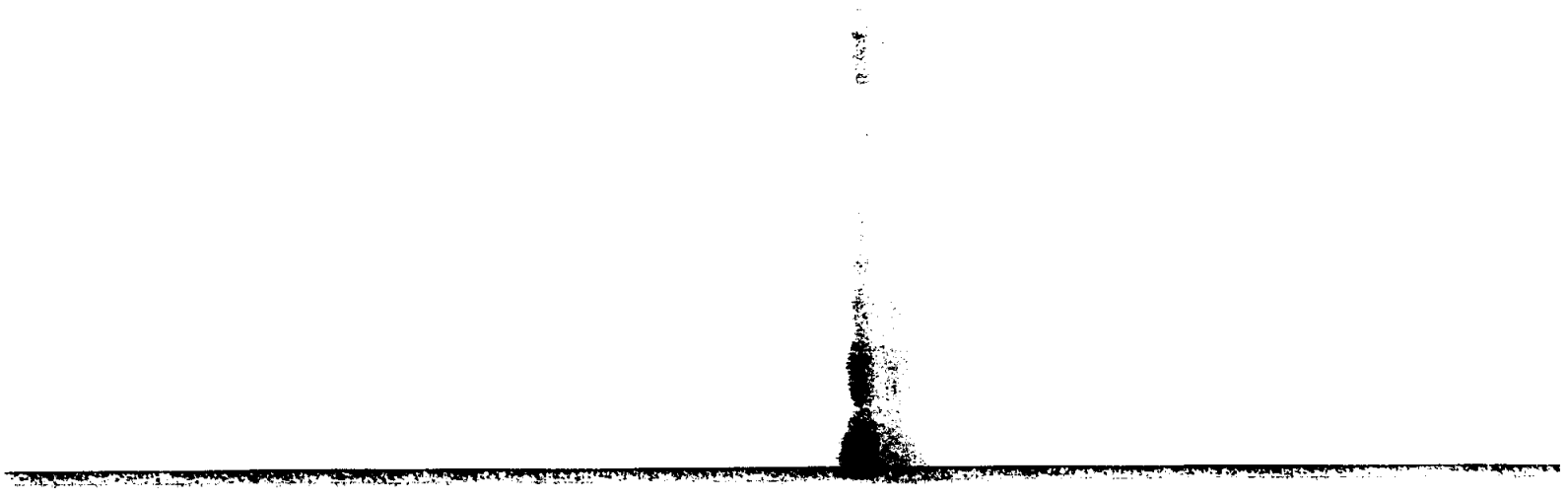
Detailed Industry	Records	IIHD
Service Producing Industries		(027,028,407-937)
Transportation and public utilities		(407-479)
Railroads and railway express	28	407
Other Transportation	29	408-429
Communications	30	447-449
Other public utilities	31	467-479
Trade		(507-698)
Wholesale	32	507-588
Retail		(607-698
Eating and drinking places	33	669
Other retail	34	607-668, 677--698
Finance, insurance, and real estate		(707-718)
Banking and other finance	35	707-709
Insurance and real estate	36	717, 718
Private Household service	37	769
Miscellaneous services		
Business and repair		(727-759
Business	38	727-748
Repair	39	749-759
Personal services, except private household	40	777-798
Entertainment and recreation	41	807-809
Professional services		
Medical, except hospitals	42	828-837, 839--848
Hospitals	43	838
Welfare and religious	44	877-879
Educational	45	857-868
Other professional	46	849, 869, 887-897
Forestry and fisheries	47	027, 028
Public administration		(907-937)
Postal	48	907
Other federal	49	917
State	50	927
Local	51	937

1970 Major Industry (1)	Recodes	IND
(Excludes Agriculture & Private Household)	00	
Mining	01	047-057
Construction	02	067-077
Manufacturing		(107-398)
Durable goods	03	107-259
Nondurable goods	04	268-398
Transportation and public utilities		(407-479)
Railroads and railway express	05	407
Other transportation	06	408-429
Other utilities	07	447-479
Wholesale and retail trade		(507-698)
Wholesale trade	08	507-588
Retail trade	09	607-698
Finance, insurance, and real estate	10	707-718
Miscellaneous service		
Business and repair	11	727-759
Personal, except private household	12	777-798
Entertainment and recreation	13	807-809
Medical, except hospitals	14	828-837, 839-848
Hospitals	15	838
Welfare and religious	16	877-879
Education	17	857-868
Other professional services	18	849,869,887-897
Forestry and fisheries	19	027,028
Public administration	20	907-937

1970 Detailed 2-digit Occupation	Recodes	Occ. Codes	IND
Professional, technical, and kindred workers		(001-195)	
Engineers	01	006-023	
Physicians, dentists, and related practitioners	02	061-073	
Health workers, except practitioners	03	074-085	
Teachers, except college	04	141-145	
Engineering and science technicians	05	150-162	
Other professionals-salaried (1,2 Class of Worker)	06	All other 0__&1__	
Other professionals-self-employed (3,4 Class of Worker)	07		
Managers and administrator, except farm		(201-245)	
Salaried-Manufacturing (1,2 Class of Worker)	08		107-398
Salaried-Other industries (1,2 Class of Worker)	09		All other ind.
Self-employed--retail trade (3,4 Class of worker)	10		607-698
Self-employed—other industries (3,4 Class of worker)	11		017-588, 707-937
Sales workers		(260-285)	
Retail trade	12		607-698
Other	13		017-588, 707-937
Clerical workers		(301-395)	
Bookkeepers	14	305	
Office machine operators	15	341-355	
Stenographers, typists, and secretaries	16	370-372,376,391	
Other clerical workers	17	All other 3___	
Craftsmen and kindred workers		(401-575)	
Carpenters	18	415,416	
Other construction craftsmen	19	410-412,421,430,431, 436,440,510-512,520-523,534,550,560	
Foremen (n.e.c.)	20	441	

1970 Detailed 2-digit Occupation	Recodes	Occ. Codes	IND
Machinists and job setters	21	454,461,462	
Metal craftsmen, except mechanics and machinists and job setters	22	403,404,442,446, 502-504,514,533, 535,536,540,561, 562	
Mechanics--auto	23	472-474	
Mechanics, except auto	24	470,471,475-495	
All other craftsmen	25	All other 4__ & 5__ (601-695)	
Operatives except transport			
Mine workers	26		047-057
Motor vehicles and equipment	27		219
Other durable goods	28		107-209,227-259
Nondurable goods	29		268-398
All other	30		017-028,067=077, 407-937
Transport equipment operatives		(701-715)	
Drivers and deliverymen	31	703,705,714,715	
All others	32	701,704,706-713 (740-785)	
Nonfarm laborers			
Construction	33		067-077
Manufacturing	34		107-398
All other	35		017-057,407-937
Private household workers	36	980-984	
Service workers, except private household		(901-965)	
Cleaning service	37	901-903	
Food service	38	910-916	
Health service	39	921-926	
Personal service	40	931-954	
Protective service	41	960-965	
Farmers and farm managers	42	801-802 (821-824)	
Farm laborers and foremen			
Paid laborers and foremen	43	821,822,824	
Unpaid family laborers	44	823	

1970 Major Occupation Group	Recodes	1960
White-collar workers		(001-395)
Professional, technical, and kindred workers	01	001-195
Managers and administrators, except farm	02	201-245
Clerical and kindred workers	03	260-285
Sales workers	04	301-395
Blue-collar workers		(401-785)
Craftsmen and kindred workers	05	401-575
Operatives, except transport	06	601-695
Transport equipment operatives	07	701-715
Nonfarm laborers	08	740-785
Service workers		(901-984)
Private household workers	09	980-984
All other service workers	10	901-965
Farm workers		(801-824)
Farm and farm managers	11	801-802
Farm laborers and foremen	12	821-824
No previous full-time work experience	13	(X) I23Edl--(Edited)=Never Worked



APPENDIX A

Table of Contents

FOREWORD

ESTIMATION OF SAMPLING ERRORS FOR THE CURRENT POPULATION SURVEY -- ANNUAL DEMOGRAPHIC FILE (1973 - 1975)

This appendix describes three methods of estimating sampling errors for U.S. data collected from the Current Population Survey, Annual Demographic File, for the years 1973 - 1975. The first source is tables of generalized sampling errors of estimated U. S. totals and percentages already derived by the Census Bureau from the CPS estimates of selected Characteristics. The second source is a procedure for directly computing rough approximations to the sampling errors from the CPS data files; this process requires the use of certain codes and weights which are provided. The direct computation of sampling errors should be resorted to only for items unrelated to any of the sampling errors presented in the tables or for those items whose sampling errors can not be easily generalized (e.g., aggregate total income or mean income). The third source utilizes the method by which the generalized sampling error tables are derived and is discussed in Attachment B. For intermediate values not shown in the standard error tables either linear interpolation may be performed (first method), or direct computation (3rd method) may be used. Direct computation will result in more accurate approximations. A detailed description of the present sample design, the monthly CPS weighting procedure, and the additional March supplemental weighting procedure is given to aid in the understanding and utilization of these three methods.

The CPS sample has been redesigned to employ 1970 Census data in the sample selection and estimation processes. The changes in the sample brought about by the redesign were instituted gradually beginning in December of 1971 and were completed as of March 1973. Although at this time changes in the process of estimating standard errors are being implemented which are more appropriate for the new design, these new standard errors are not yet available. The methods and standard errors provided in this appendix do, however, reflect the redesign.

Also, a section (attachment C) is included which deals with the problem of producing state and SMSA tabulations from the Current Population Survey - Annual Demographic File, (1973 - 1975). This section presents recommended guidelines to follow when producing these tabulations as well as standard errors which are applicable to the resulting estimates.

CPS SAMPLE DESIGN

Historical summary

The sample design of the CPS has had many changes since its inception. The number of strata and the number of housing units designated for the sample have been increased periodically since late in 1943 when the program was taken over by the Census Bureau.

Initially, the sample was drawn by stratifying the population of the country into 68 strata and selecting one primary sampling unit (PSU) out of each stratum. The first stage sampling units (counties or groups of counties) were restratified and the sample units were selected from within 230 strata and introduced into the CPS in February 1954. In May 1956, the sample was expanded to 330 areas and to 333 areas in January 1960, after, Hawaii and Alaska achieved statehood.

Beginning in March of 1963, the sample used was selected out of 357 strata comprising 801 counties and independent cities with coverage in each of the 50 states and the District of Columbia. The sample of about 35,000 occupied units selected from these 357 PSU's was referred to as the "A sample." In January 1967, a "C sample", one-half of the A sample in size, was added to the A sample, bringing the total sample to about 52,500 occupied units. The combination of the A and C sample was spread over 449 different PSU's, 112 of which were self-representing (SR) and 337 non-self-representing (NSR). The basic sampling method used beginning in January 1967 and phased out by February 1973 is the same as the current design, so a detailed explanation of A and C samples and SR and NSR PSU selection found in the following section also applied to the 449 PSU Design with only the numerical levels having changed.

Design used March 1972 - 1975

The sample design used for the CPS is based to a large extent on the distribution of the population reported in the most recent decinnial census. Consequently the CPS sample was revised to take account of the results of the 1970 Census, with the changes taking place between December 1971 and February 1973. Therefore some parts of the following description of the new design apply to only a portion of the sample during the transition period.

Since March of 1973 the sample has been located in 376 strata comprising 923 counties and independent cities, with coverage in every State and the District of Columbia. Since January 1967, the complete CPS sample can be treated as two identifiable parts, an A sample and a C sample. Either sample alone is a national probability sample available for surveys where the designated households in the combined A and C samples are more than desired. In the new design the A sample is spread over 376 sample PSU's and the C sample is spread over 266 sample PSU's.

Of the 376 strata within which the A sample is selected, 156 consist of a single PSU, which is necessarily in sample. The sample PSU's from these strata are called self-representing (SR) and are generally made up of the larger SMSA's. The other 220 strata of the A sample contain more than one PSU each, and the sample PSU's from these strata are called non-self-representing (NSR), since the sample PSU also represents other PSU's in the same stratum. Each of these 220 NSR strata contains an A sample PSU which has been selected with probability proportionate to the 1970 Census population of the PSU.

The additional PSU's in the C sample were selected from these areas as follows: The 220 strata were grouped into 110 pairs of strata. From

each pair of strata, one stratum was picked at random (each stratum having equal probability of selection). From the selected stratum, one additional PSU was chosen for the C sample with probability proportionate to the size of the PSU. The selection was made independent of the selection of the original A sample PSU in the stratum. In 25 strata, the C sample PSU's chosen were the same as the A sample PSU's and in 85 cases the sample PSU's were different. Within each of the sample PSU's a sample of housing units was designated such that the over-all probability of selection was one-half that used for the A sample. In addition, a C sample at one-half the A sample rate was designated in each of the 156 SR PSU's.

This design results in approximately 47,000 occupied households being eligible for interview each month. Of this number 2000 occupied units, on the average, are visited but interviews are not obtained because the occupants are not found at home after repeated calls or are unavailable for some other reason. In addition to the 47,000 occupied households there are also about 8000 sample units in an average month which are visited but are found to be vacant or otherwise not to be interviewed. The combined A and C sample is spread over 461 different PSU's, 156 of which are SR and the balance NSR.

Comparability of Data

Data from 1973 to 1975 is not entirely comparable to data from 1972 and 1973 when the old design was being phased out and the new design was being phased in. Similarly data from before 1972 is based on the old design completely and thus is not entirely comparable to the data gathered afterwards. This is an additional component of error not reflected in the standard error tables and, therefore, caution should be used when comparing results between different years.

Rotation of the CPS Sample

Each month, one-eighth of the households in a CPS sample is replaced by an equivalent set of units in sample for the first time. Each of these subsamples of one-eighth is called a "rotation group." This rotation scheme for CPS has the following features:

1. Each rotation group is included in CPS for four months, excluded (rested) for eight months, and returned for an additional four months after which it is permanently retired from the CPS. Thus, one entirely new rotation group (one-eighth of the sample) and one rotation group which has been at rest for eight months are introduced into the survey each month.

2. A complete CPS sample (A and C combined) consists of a systematic sample of roughly 15,000 clusters (segments) each of about four housing units. The complete list of sample segments has been systematically sampled into eight rotation groups. When the segments in a given rotation group are retired from the sample, they are replaced by an equavalent number of new segments each of which is made up of housing units chosen to be geographically adjacent to the units in the retired segment.

3. For any month, the sample units in six of the eight rotation groups were also in the survey the previous month (i.e., there is a 75-percent month-to-month overlap of the sample). This feature improves the reliability of estimated month-to-month change over what would be produced by an equivalent number of independently selected units--especially for those characteristics having a high correlation over time.

4. For any month, four of the eight rotation groups were also in the survey the same month one year ago (i.e., there is a 50 percent year-to-year overlap in the sample). This improves estimates of year-to-year change.

5. Each rotation group constitutes a one-eighth systematic subsample of the full monthly sample with A-sample representation in all 376 A-sample PSU's and C-sample representation in all 266 C-sample PSU's. This permits the use of a single or a combination of rotation groups as national samples of smaller sizes. This feature, as indicated elsewhere, is also useful in the estimation of sampling errors.

Rotation of PSU's

The CPS design provides that, in a given decade, a housing unit once interviewed its quota of eight times is not eligible for further assignment to another CPS sample. All SR and most NSR PSU's are large enough to provide the required number of sample housing units needed until the next review of the design. In some cases, however, sample PSU's will be exhausted before a new redesign, and a new PSU must be introduced to provide the necessary housing units for the sample. The introduction of such new PSU's is accomplished in an ordered system which combines small PSU's with larger ones and rotates the sample among the combination so that an unbiased sample is always possible--that is, the proper number of small PSU's and large PSU's is always in sample.

WEIGHTING OF THE ANNUAL DEMOGRAPHIC FILE

I. Monthly Weighting Procedures

Since the CPS sample is basically a probability sample, simple unbiased estimates could be prepared by multiplying the sample counts by the reciprocal of the sample fraction. However, the reliability of the sample estimates is increased by making use of available auxiliary data. These procedures include an adjustment for nonresponse, two stages of ratio estimation, and a "composite estimate" as described below.

A. Adjustment for Nonresponse

In a given month's sample, there are a few sample units (typically totaling about four percent of the units eligible

for interview) at which the CPS interviewer is unable to obtain a response because no one is at home, the respondent refuses to cooperate or for some other reason. The weights assigned to the units for which a response was obtained are adjusted to account for these cases. The procedure used to make this adjustment is as follows:

1. Seventy-two noninterview clusters (groups of strata) are formed such that the population and labor force characteristics of the strata in each cluster are similar. They are then designated as Standard Metropolitan Statistical Area (SMSA) clusters or Non-SMSA clusters.

2. For each of the 72 noninterview clusters, the number of interviewed and noninterviewed households are tabulated separately into one of the following race-residence categories:

For Non-SMSA Clusters:	For SMSA Clusters:
Urban-White	Central City-White
Urban-Nonwhite	Central City-Nonwhite
Rural-nonfarm-White	Balance-urban-White
Rural-nonfarm-Nonwhite	Balance-urban-Nonwhite
Rural-farm-White	Balance-rural-White
Rural-farm-Nonwhite	Balance-rural-Nonwhite

3. For each of the appropriate six categories in each cluster, the ratio:

$$\frac{\text{Interviewed households + Noninterviewed households}}{\text{Interviewed households}}$$

is computed.

4. The ratios are applied to all data for interviewed households in the corresponding categories except where the ratio equals or exceeds two. In such cases, provision is made for the combination of the categories in a specified order so as to reduce the ratio before it's applied to the data for the interviewed household.

B. Ratio Estimation

The distribution of the population selected for the sample may differ somewhat, by chance, from that of the Nation as a whole in such basic characteristics as race, sex, farm-nonfarm residence and age categories. These particular population characteristics are closely correlated with labor force participation and other principal measurements made from the sample. Some of the sample estimates are improved substantially when, by appropriate weighting of the original returns, the population in the sample is brought into agreement with the known distribution of the entire population with respect to these characteristics. This weighting is accomplished through the following two stages of ratio estimation:

1. First Stage Ratio Estimate

The purpose of the first stage ratio estimate is to reduce the contribution to the variance arising from the sampling of PSU's --i.e., to reduce the variance that would still be associated with estimates even if the survey each month could use complete census data for all households in every sample PSU.

The first stage ratios are based on 1970 Census data and are applied only to the sample non-self-representing (NSR) PSU's.

For the NSR PSU's in each of the four census regions, a ratio is computed for each of 12 race-residence categories (the same categories as used in the nonresponse adjustments) as follows:

$$\frac{\text{1970 Census population in the race-residence category for all NSR strata in a census region}}{\text{Estimate of the population category using complete 1970 Census population counts for sample PSU's in the census region}}$$

2. Second Stage Ratio Estimate Adjustment

The second stage ratio estimate adjusts the sample estimates of population made from the CPS (the estimates employ the noninterview and first stage ratio adjustments) to independently derived current estimates of the U.S. population for each of 68 age-sex-race groups. These independent estimates are prepared each month by carrying forward data from the most recent census, taking account of subsequent aging of the population, current figures for mortality, births, and migration between the U.S. and other countries. The CPS sample returns, after application of the noninterview adjustment and first-stage ratios, are actually used to determine the percentage distribution of the population within each age-sex-race group for the characteristics of interest. Totals are obtained by applying the CPS estimated percentages to the independently obtained control totals for the appropriate age-sex-race group.

Beginning with the March 1968 estimates, the second stage factors have been computed in two phases. Each phase is carried out for each of the eight rotation groups separately.

In the first phase, factors are computed for persons of Negro and Other Races only. Factors are computed for 34 age-sex categories for Negroes and for 14 age-sex categories for other races. The numerator of each factor is the independently derived estimate and the denominator is the CPS sample estimate adjusted by the noninterview and first stage factors. The factors are then applied to the weights for persons of Negro and other races after application of first stage and noninterview factors. The categories in this phase are as follows:

Negroes, by sex, separately for ages:

14-15	22-24	40-44	60-61
16-17	25-29	45-49	62-64
18-19	30-34	50-54	65-69
20-21	35-39	55-59	70-74
			75 and over

Other races, by sex, separately for ages:

14-17	25-34	45-54	65 and over
18-24	35-44	55-64	

In the second phase, 68 age-sex-race factors are computed to cover the entire population. The groupings used in this phase are indicated below:

Total population by sex, race (white, non-white), separately for ages:

14-15	22-24	40-44	60-61
16-17	25-29	45-49	62-64
18-19	30-34	50-54	65-69
20-21	35-39	55-59	70-74
			75 and over

The results of the noninterview adjustment plus the two ratio estimate adjustments are applied to the base weight (the reciprocal of the sampling fraction) and the final result of these computations is placed on the record for each person in the sample.

3. Composite Estimates

Composite estimates are routinely applied to data tabulated from the monthly CPS and, as indicated in Section II below, become involved in a special weighting process performed on March Supplement data. Composite estimates are not performed on data produced in the CPS Annual Demographic File.

The composite estimate for a given item as estimated from the monthly CPS is a weighted average of two estimates for the current month. The first of these two estimates is the result of the two stages of ratio estimation described above. The second estimate consists of the composite estimate for the preceding month to which has been added an

estimate of the change from the preceding month to the present month based on the six rotation groups common to the two months. The composite estimate differs from the estimator previously described in that the weights assigned to the CPS sample records are not affected; the composite estimator operates on estimated totals.

For most statistics there is a high correlation over time for data from the same segments. The composite estimate takes advantage of this by using accumulated information from earlier samples, as well as the information from the current sample.

In general, for such a composite estimate to be unbiased, the weights for the two components must add to one; however, they need not necessarily be equal. In CPS, the weights used for combining these two components are each one-half. Equal weights satisfy the condition that for most items the composite estimate will be somewhat more reliable than the two-stage ratio estimate. The gains in reliability from the use of the composite estimate are greatest in estimates of month-to-month change, although gains are also usually realized in estimates of level for a given month or in change from year to year or over other intervals of time.

II. Additional Weighting for the CPS Annual Demographic File

The main purpose of the additional weighting for the CPS Annual Demographic File is to achieve agreement between the regular March CPS labor force tabulations (including the effect of the composite estimate) and the CPS Annual Demographic File tabulations. Because the additional information in the supplement is collected only in March, a composite estimate is not utilized. However, the supplement results are adjusted to be consistent with the regular March CPS data, including the effects of the composite estimate as routinely performed on CPS data.

In summary, this objective is reached by computing factors for various age-race-employment-sex categories for different sectors of the population. The numerators of the factors are estimates from the regular March CPS including the composite estimator and the denominators are estimates after the two stages of ratio estimation from the March Supplement. The appropriate factor is then multiplied by the existing weight on the March Supplement Record (the weight after two stages of ratio estimation), and the product becomes the final supplemental weight.

Similar consistency in household or family tabulations is accomplished by the use of a principal person weighting procedure, which assumes that the number of females married, spouse present should equal the number of males married, spouse present. In this procedure, the weight used for families and households is the one assigned the "principal person" for the family or household. The "principal person" is defined as the wife for a husband-wife family and the head for other families. This weighting for households affects the additional weighting for persons in the manner described below. Throughout these weighting procedures, provision is made for collapsing of cells to avoid problems of zero numerators or denominators in the computation of the ratio estimate cells. In addition, if the operation yields an estimate of three or greater, provision is again made for combining cells in a fixed pattern for recomputation.

A. Ratio Estimate to Negro and Other Races Controls

(The age groups used in this section are the same as those used in Phase I of the second stage ratio estimate adjustment in the regular CPS weighting.)

The initial step is a ratio estimate to a set of independently established controls for noninstitutional Negroes and Other Races, aged 14 and over. For each of 48 cells; 17 age groups by sex for Negro and 7 age groups by sex for Other Races; the following ratio estimate factor is formed:

$$\frac{\text{Independent Negro (or Other Races) control figure}}{\text{Negro (or Other Races) tally for March Supplement}}$$

The numerators are the same as those determined for Phase I (paragraph I.B.2) of the second stage ratio estimate in regular CPS, and the denominators are obtained by tabulating the Negro (or Other Races) March Supplement records using the weights established after the two stages of ratio estimation in CPS. The ratio estimate factor is then multiplied by the weight established after the two stages of ratio estimation in CPS and used in the subsequent weighting below.

B. Civilian Noninstitutional Population 14 and Over

(The age groups used in this section are the same as those used in Phase II of the second stage ratio estimate adjustment in the regular CPS weighting.)

1. Females

The following ratio estimate factor is formed for each of 136 cells; 17 age groups by two race categories (White, Negro and Other Races) by four employment status categories (Non-agricultural Employed, Agricultural Employed, Unemployed, and Not in Labor Force):

$$R_{are}\text{ 1/} = \frac{\text{Total for the age-race-employment status cell from the regular March CPS including the composite estimator}}{\text{Total for the age-race-employment status cell obtained by tabulating the March Supplement records using the weights after the two stages of ratio estimation in CPS.}\text{ 2/}}$$

The existing weight on the record (the weight after two stages of ratio estimation) is then multiplied by the appropriate ratio R_{are} and this product becomes the final weight.

2. Males, Married Spouse Present

The weight already determined for the female partner is assigned to the male.

3. Other Male Heads (OMH)

The following ratio estimate factor is formed for each of the 136 cells:

$$S_{are} = \frac{\text{Total of the male married spouse present cases for the age-race-employment status cell using the weight developed for the male, married spouse present in 2}}{\text{Total of the male, married spouse present cases using the weight established after the two stages of ratio estimation in CPS.}\text{ 2/}}$$

The final weight for other male heads is the product of the factor S_{are} and the weight for the OMH cases established after the two stages of ratio estimation in the course of the regular CPS estimation process.

4. All Other Males

The ratio estimate factors, T_{are}, are computed for each of the 136 cells. The numerator of T_{are} is found by subtracting the second and third of the following values from the first. 3/

a. The 136 values for total males from the regular March labor force tabulations including the composite estimator.

1/ are, in the context of this section, is an abbreviation for age-race-employment status.

2/ For Negro and Other Races, the weights are determined in A. above.

3/ This operation does, on occasion, produce negative weights.

2. A second ratio estimate for all noninstitutional children is carried out in each of 48 ratio-estimate cells; sex by race by 12 age groups (same as those used for Negro in 1. of this section).

   a. Target numbers are independently established estimates provided by the Population Division of the Bureau of the Census.

   b. Tallies for Negro and Other Races are obtained using the weights established in 1. of this section. The tallies for Whites are obtained using the principal person's weight for the household in which the child resides.

D. Armed Forces

Members of the Armed Forces living off post of living with their families on post are included in the March supplement, while all other Armed Forces are excluded. An Armed Forces Male Married, Spouse Present is given the weight of his wife as described before, and Armed Forces children are included in the weighting of noninstitutional children. Other Armed Forces are given the basic March CPS weight.

CPS SAMPLING ERRORS ESTIMATED AT THE BUREAU OF THE CENSUS

Estimating sampling errors for a survey such as CPS, which employs complex estimation procedures, is a complicated undertaking. An analytical statement of the variance of the CPS can be expressed as the sum of several variance components - one for each stage of sampling in the CPS. Thus, a variance component is associated with each of the following:

1. The selection of one of the strata in each pair of NSR strata formed in the selection of the C sample (the "between stratum" component).

2. The selection of a sample of PSU's out of each NSR stratum (the "between PSU" component).

3. The selection and interview of only a sample (rather than all) of the housing units within each sample PSU (the "within PSU" component).

4. The choice of the interviewer and the respondent (the "respondent-interviewer" component).

In addition, the variance of the CPS also involves the effect of each of the estimation steps, which were introduced with the intention of reducing the variance of the CPS estimates. The following generalizations about the variance components usually apply.

1. The within-PSU component is a very large variance component.

2. The between-PSU component arises from the sampling of PSU's--i.e., the variance that would still be associated with the estimates even if a complete census of all households in every sample PSU could be included in the survey. The first-stage ratio estimate is intended to reduce the magnitude of this component.

3. The respondent-interviewer component does not directly result from the sampling itself, but rather from the actual interviewing process of the survey. Because of the variance estimation procedure used at the Census Bureau, these components are left out of the variance estimates for SR PSU's but are partially included in the variance estimates for NSR strata. For some characteristics this component may be as large as or larger than the within-PSU component.

Variance estimation method

The variance estimation method currently used for CPS is based on a proposal by Keyfitz 4/ which has been more recently generalized by Tepping 5/. Keyfitz and Tepping showed that consistent estimates of the variance for complex ratio estimates are provided by relatively simple quadratic functions of the observations in each stratum. Strictly speaking, the method applies only when two primary units are selected from each stratum; however, useful approximations can be obtained for other sample designs by grouping or subdividing strata as required.

The figures presented in the following tables are approximations to the standard errors of various estimates from the March CPS tabulations. The standard errors reflect the CPS first and second stage ratio estimates but not the composite estimator. The effect of the composite estimate is omitted since the user can not reproduce composite estimates from the purchased CPS tape. These standard errors do not fully reflect the supplemental weighting procedures used in March. The additional weighting operations, however, were introduced to achieve consistency with tabulations produced from the regular March CPS and to improve the internal consistency of family and household tabulations. The sampling errors provided in the appendix are considered to be close approximations to the figures appropriate to data produced from the CPS Annual Demographic File.

As in any survey work, the results are subject to errors of response and enumeration as well as being subject to sampling variability. The standard error is primarily a measure of sampling variability, that is, of the variations that occur by chance because a sample rather than the whole of the population is surveyed. As calculated for this report, the standard error also partially measures the effect of certain response and enumeration errors, but it does not measure, as such, any systematic biases in the data. The chances are about 68 out of 100 that an estimate from the survey differs from a complete census figure by less than the standard error. The chances are about 95 out of 100 that the difference would be less than twice the standard error.

In order to derive standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, the tables of standard errors provided are an indication of the order of magnitude rather than the precise standard error for any specific item.

4/ Keyfitz, Nathan, "Estimates of Sampling Variance Where Two Units are Selected for Each Stratum," Journal of the American Statistical Association. 52:503-51. (1957).

5/ Tepping, Benjamin J., "Variance Estimation in Complex Surveys," Proceedings of the Social Statistics Section, American Statistical Association, 1968:11-18.

Sampling Error Tables

Table I.A shows standard errors of estimated totals for persons and table II.A for families, households, or unrelated individuals. Tables I.B.1-I.B.13 and tables II.B.1-II.B.4 show standard errors of estimated percentages as computed from CPS tabulations for different subjects appearing in the CPS Annual Demographic File (1973-1975) as shown in the following outline.

To approximate sampling errors for estimates from the "A" sample alone, multiply the figures in table I.A-II.B.4 by 1.23. The factor of 1.23 is needed to account for the smaller sample size used in the "A" sample. The figure 1.23 is the square root of the ratio of the sample size of the complete CPS sample and the "A" sample. To approximate sampling errors for estimates from the "C" sample alone, multiply the figures in tables I.A.-II.B.4 by 1.73 since the ratio of sample sizes is 3.

Factors are also provided in some of tables I.A.-II.B.4 for CPS Spanish Origin persons and families. To approximate standard errors for Spanish persons or families, multiply the standard errors in the tables by the appropriate factors.

The reliability of an estimated percentage computed by using sample data for both numerator and denominator, depends upon both the size of the percentage and size of the total upon which the percentage is based. Estimated percentages are relatively more reliable than the corresponding absolute estimates of the numerator of the percentage, particularly if the percent is 50 percent or more.

The standard error tables for percentages (i.e., tables I.B.1-I.B.13 and II.B.1-II.B.4) were generated from standard error tables for estimated totals using the following formula:

Standard error of the percent $\frac{x}{y} \cdot 100$

$$= 100\sqrt{\left(\frac{x}{y}\right)^2 \left[\left(\frac{\sigma_x}{x}\right)^2 - \left(\frac{\sigma_y}{y}\right)^2\right]}$$

where:

x = numerator of the percent.

y = denominator of the percent.

σ_x = standard error of the numerator.

σ_y = standard error of the denominator.

I. Standard Errors for Persons

A. Estimated Number of Persons (Table I.A)

Column	
1	Total or White Persons by Household and Family Characteristics
2	Negro and Other Races by Household and Family Characteristics
3	Total or White Persons by Educational Attainment
4	Negro and Other Races by Educational Attainment
5	Total or White Persons by Income
6	Negro and Other Races by Income
7	Total or White Persons in Low-Income or Poverty Households
8	Negro and Other Races in Low-Income or Poverty Households
9	Total or White Persons by Employment
10	Negro and Other Races by Employment
11	Persons by Unemployment Characteristics
12	Women by Fertility Characteristics
13	Persons by Mobility Characteristics

B. Estimated Percentages

Table	
I.B.1	Total or White Persons by Household and Family Characteristics
I.B.2	Negro and Other Races by Household and Family Characteristics
I.B.3	Total or White Persons by Educational Attainment
I.B.4	Negro and Other Races by Educational Attainment
I.B.5	Total or White Persons by Income
I.B.6	Negro and Other Races by Income
I.B.7	Total or White Persons in Low-Income or Poverty Households
I.B.8	Negro and Other Races in Low-Income or Poverty Households
I.B.9	Total or White Persons by Employment
I.B.10	Negro and Other Races by Employment
I.B.11	Persons by Unemployment Characteristics
I.B.12	Women by Fertility Characteristics
I.B.13	Persons by Mobility Characteristics

II. Standard Errors for Families, Households or Unrelated Individuals

A. Estimated Totals (Table II.A)

Column

1 Families, Households or Unrelated Individuals by SMSA or Non-SMSA Characteristics

2 Families, Households or Unrelated Individuals by other than SMSA or Non-SMSA Characteristics

3 Total or White Families, Households or Unrelated Individuals by Income and Low-Income

4 Negro and Other Races Families, Households or Unrelated Individuals by Income and Low-Income

B. Estimated Percentages

Table

II.B.1 Families, Households or Unrelated Individuals by SMSA or Non-SMSA Characteristics

II.B.2 Families, Households or Unrelated Individuals by Other than SMSA or Non-SMSA Characteristics

II.B.3 Total or White Families, Households or Unrelated Individuals by Income and Low-Income

II.B.4 Negro and Other Races Families, Households or Unrelated Individuals by Income and Low-Income

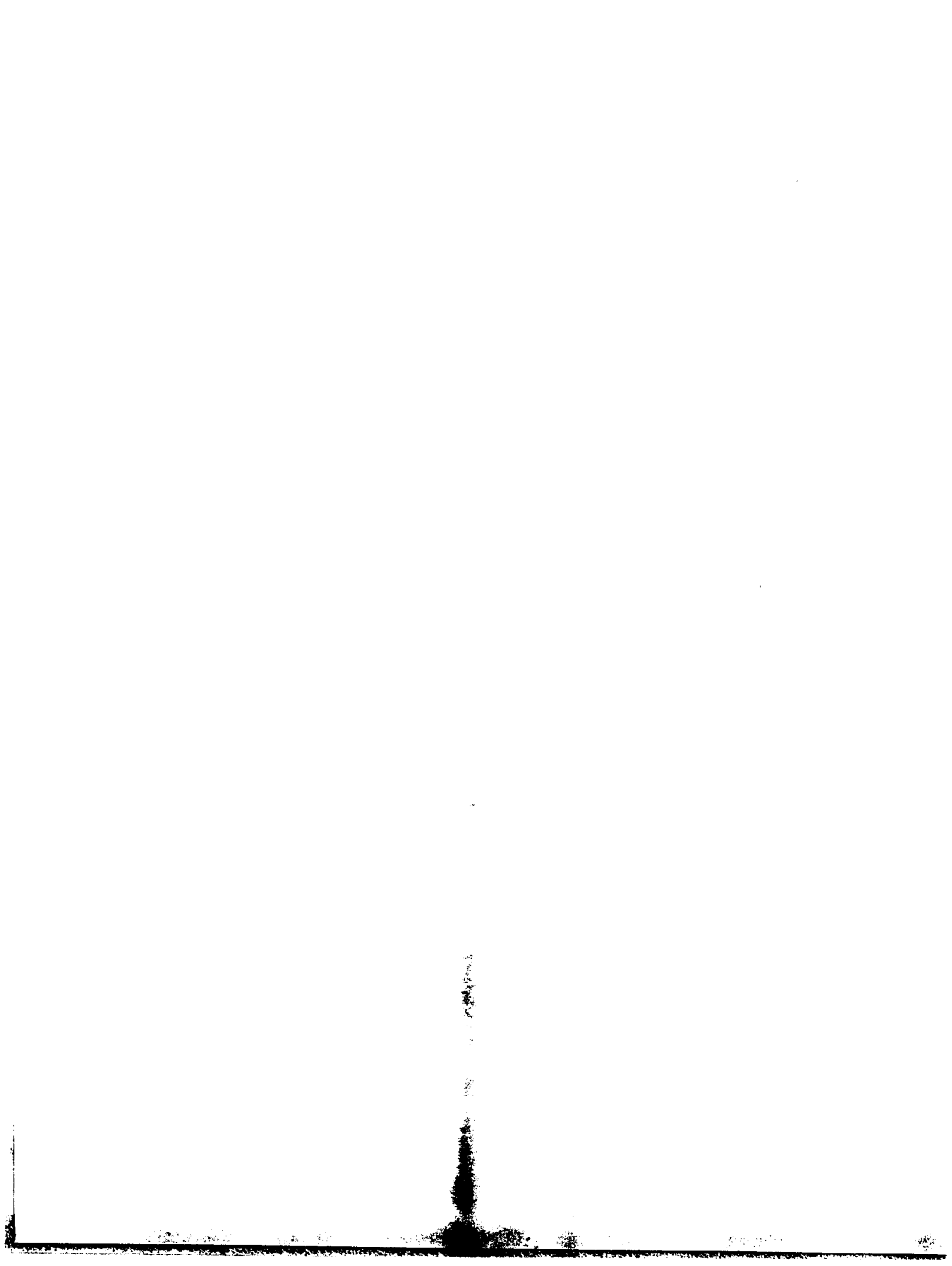


TABLE I.A — STANDARD ERRORS OF ESTIMATED NUMBER OF PERSONS FOR SELECTED CPS DATA COLLECTED IN THE CPS ANNUAL DEMOGRAPHIC FILE (1973 - 1975)

(68 chances out of 100)

Size of Estimate (in thousands)	Household and Family charact.*		Educational Attainment *		Income *		Persons in Low-Inc. or Poverty H.H. *		Employment*		Unemployment*	Fertility* (number of women)	Mobility *
	Total or White	Negro & Other Races	Total or White	Negro & Other Races	Total or White	Negro & Other Races	Total or White	Negro & Other Races	Total or White	Negro & Other Races			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
25	10	14	7	8	6	6	12	12	6	6	7	6	16
50	15	19	10	12	9	8	18	17	9	8	9	9	23
100	21	27	14	17	12	12	25	23	12	11	13	13	32
250	33	43	23	26	20	19	39	37	19	18	20	20	51
500	46	60	32	37	28	26	55	52	27	25	29	28	72
1,000	65	83	45	51	39	37	78	73	38	35	40	39	102
2,500	102	124	71	76	62	56	123	112	60	52	64	62	160
5,000	143	155	100	96	87	75	173	150	84	65	90	86	225
10,000	199	150	138	97	121	93	242	186	116	61	126	118	312
25,000	295	-	204	-	184	46	367	89	172	-	194	167	468
50,000	368	-	251	-	243	-	481	-	213	-	263	183	596
*Factor for Spanish Apply to numbers in the column	1.88	-	1.37	-	2.21	-	2.21	-	2.26	-	1.21	1.24	1.20

TABLE I.B.1 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS
HOUSEHOLD & FAMILY CHARACTERISTICS
Total or White *

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)								
	100	250	500	1000	2500	5000	10,000	25,000	50,000
2 or 98	2.9	1.8	1.3	0.9	0.6	0.4	0.3	0.2	0.13
5 or 95	4.5	2.8	2.0	1.4	0.9	0.6	0.4	0.3	0.2
10 or 90	6.2	3.9	2.8	2.0	1.2	0.9	0.6	0.4	0.3
25 or 75	8.9	5.6	4.0	2.8	1.8	1.3	0.9	0.6	0.4
50	10.3	6.5	4.6	3.3	2.1	1.5	1.0	0.7	0.5

* To estimate standard errors for CPS Spanish Origin persons multiply these standard errors by 1.88.

TABLE I.B.2 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS
HOUSEHOLD AND FAMILY CHARACTERISTICS
Negro and Other Races

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)						
	100	250	500	1,000	2,500	5,000	10,000
2 or 98	3.8	2.4	1.7	1.2	0.8	0.5	0.4
5 or 95	5.9	3.8	2.7	1.9	1.2	0.8	0.6
10 or 90	8.2	5.2	3.7	2.6	1.6	1.2	0.8
25 or 75	11.8	7.5	5.3	3.7	2.4	1.7	1.2
50	13.6	8.6	6.1	4.3	2.7	1.9	1.4

TABLE I.B.3 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS
EDUCATIONAL ATTAINMENT
Total or White *

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)									
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000	100,000
2 or 98	2.0	1.3	0.9	0.6	0.4	0.3	0.2	0.13	0.09	0.06
5 or 95	3.1	2.0	1.4	1.0	0.6	0.4	0.3	0.2	0.14	0.10
10 or 90	4.3	2.7	1.9	1.4	0.9	0.6	0.4	0.3	0.2	0.14
20	5.7	3.6	2.5	1.8	1.2	0.8	0.6	0.4	0.3	0.2
50	7.2	4.5	3.2	2.3	1.4	1.0	0.7	0.5	0.3	0.2

* To estimate standard errors for CPS Spanish Origin persons multiply these standard errors by 1.37.

TABLE I.B.4 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS EDUCATIONAL ATTAINMENT
Negro and Other Races

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)							
	50	100	250	500	1,000	2,500	5,000	10,000
2 or 98	3.3	2.3	1.5	1.0	0.7	0.5	0.3	0.2
5 or 95	5.1	3.6	2.3	1.6	1.2	0.7	0.5	0.4
10 or 90	7.1	5.0	3.2	2.2	1.6	1.0	0.7	0.5
25 or 75	10.2	7.2	4.6	3.2	2.3	1.4	1.0	0.7
50	11.8	8.4	5.3	3.7	2.6	1.7	1.2	0.8

TABLE I.B.5 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS
INCOME
TOTAL OR WHITE*

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)								
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000
2 or 98	1.7	1.1	0.8	0.5	0.3	0.2	0.2	0.11	0.08
5 or 95	2.7	1.7	1.2	0.9	0.5	0.4	0.3	0.2	0.12
10 or 90	3.7	2.3	1.7	1.2	0.7	0.5	0.4	0.2	0.2
25 or 75	5.4	3.4	2.4	1.7	1.1	0.8	0.5	0.3	0.2
50	6.2	3.9	2.8	2.0	1.2	0.9	0.6	0.4	0.3

* To estimate standard errors for CPS Spanish Origin persons multiply these standard errors by 2.21.

TABLE I.B.6 - STANDARD ERRORS OF ESTIMATED PERCENTAGE FOR PERSONS

INCOME

NEGRO AND OTHER RACES

(68 Chances out of 100)

Estimated Percentage	Base of Percentage (000)							
	50	100	250	500	1,000	2,500	5,000	10,000
2 or 98	2.3	1.6	1.0	.7	.5	.3	.2	.2
5 or 95	3.6	2.6	1.6	1.1	.8	.5	.4	.3
10 or 90	5.0	3.5	2.2	1.6	1.1	.7	.5	.4
25 or 75	7.2	5.1	3.2	2.3	1.6	1.0	.7	.5
50	8.3	5.9	3.7	2.6	1.9	1.2	.8	.6

TABLE I.B.7 — STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS IN LOW-INCOME OR POVERTY HOUSEHOLDS
Total or White *

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)								
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000
2 or 98	3.5	2.2	1.6	1.1	0.7	0.5	0.3	0.2	0.2
5 or 95	5.4	3.4	2.4	1.7	1.1	0.8	0.5	0.3	0.2
10 or 90	7.4	4.7	3.3	2.3	1.5	1.1	0.7	0.5	0.3
25 or 75	10.7	6.8	4.8	3.4	2.1	1.5	1.1	0.7	0.5
50	12.4	7.8	5.5	3.9	2.5	1.8	1.2	0.8	0.6

* To estimate standard errors for CPS Spanish Origin persons multiply these standard errors by 2.21.

TABLE I.B.8 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS IN LOW-INCOME OR POVERTY HOUSEHOLDS NEGRO AND OTHER RACES

(68 chances out of 100)

Estimated Percentage	Base of Percentage							
	50	100	250	500	1,000	2,500	5,000	10,000
2 or 98	4.7	3.3	2.1	1.5	1.0	.7	.5	.3
5 or 95	7.3	5.1	3.2	2.3	1.6	1.0	.7	.5
10 or 90	10.0	7.1	4.5	3.2	2.2	1.4	1.0	.7
25 or 75	14.4	10.2	6.4	4.6	3.2	2.0	1.4	1.0
50	16.6	11.8	7.4	5.3	3.7	2.4	1.7	1.2

TABLE I.B.9 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS
EMPLOYMENT
TOTAL OR WHITE*

(68 chances out of 100)

Estimated percentage	Base of percentage (000)							
	250	500	1,000	2,500	5,000	10,000	25,000	50,000
2 or 98...	1.1	.8	.5	.3	.2	.2	.11	.08
5 or 95...	1.7	1.2	.8	.5	.4	.3	.2	.12
10 or 90...	2.3	1.6	1.1	.7	.5	.4	.2	.2
25 or 75...	3.3	2.3	1.7	1.0	.7	.5	.3	.2
50.....	3.8	2.7	1.9	1.2	.9	.6	.4	.3

* To estimate standard errors for CPS Spanish Origin persons multiply these standard errors by 2.26.

TABLE I.B.10 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS EMPLOYMENT

NEGRO AND OTHER RACES
(68 chances out of 100)

Estimated Percentage	Base of Percentage (000)							
	250	500	1,000	2,500	5,000	10,000	25,000	50,000
2 or 98	1.0	.7	.5	.3	.2	.2	.10	.07
5 or 95	1.6	1.1	.8	.5	.4	.2	.2	.11
10 or 90	2.2	1.5	1.1	.7	.5	.3	.2	.15
25 or 95	3.1	2.2	1.6	1.0	.7	.5	.3	.2
50	3.6	2.6	1.8	1.1	.8	.6	.4	.3

TABLE I.B.11 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS UNEMPLOYMENT*

(68 chances out of 100)

Estimated percentage	Base of percentage (000)								
	100	250	500	1,000	5,000	10,000	25,000	50,000	100,000
2 or 98	1.8	1.1	0.8	0.6	0.3	0.2	0.11	0.08	0.06
5 or 95	2.8	1.8	1.2	0.9	0.4	0.3	0.2	0.12	0.09
10 or 90	3.8	2.4	1.7	1.2	0.5	0.4	0.2	0.2	0.12
25 or 75	5.5	3.5	2.5	1.7	0.8	0.6	0.3	0.2	0.2
50	6.4	4.0	2.9	2.0	.9	0.6	0.4	0.3	0.2

* To estimate standard errors for CPS Spanish Origin Persons multiply these standard errors by 1.21.

TABLE I.B.12 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS WOMEN BY FERTILITY CHARACTERISTICS *

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)					
	500	1,000	5,000	10,000	25,000	50,000
2 or 98	0.8	0.6	0.2	0.2	0.11	0.08
5 or 95	1.2	0.9	0.4	0.3	0.2	0.12
10 or 90	1.7	1.2	0.5	0.4	0.2	0.2
25 or 75	2.4	1.7	0.8	0.5	0.3	0.2
50	2.8	2.0	0.9	0.6	0.4	0.3

* To estimate standard errors for CPS Spanish Origin persons multiply these standard errors by 1.24.

TABLE I.B.13 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR PERSONS MOBILITY *

(68 chances out of 100)

Estimated Percentage	Base of Percentage (000)							
	250	500	1,000	2500	5000	10,000	25,000	50,000
2 or 98	2.9	2.0	1.4	0.9	0.6	0.5	0.3	0.2
5 or 90	4.4	3.1	2.2	1.4	1.0	0.7	0.4	0.3
10 or 90	6.1	4.3	3.1	1.9	1.4	1.0	0.6	0.4
25 or 75	8.8	6.2	4.4	2.8	2.0	1.4	0.9	0.6
50	10.2	7.2	5.1	3.2	2.3	1.6	1.0	0.7

* To estimate standard errors for CPS Spanish Origin persons multiply these standard errors by 1.20.

TABLE II.A - STANDARD ERROS OF ESTIMATED NUMBER OF FAMILIES, UNRELATED INDIVIDUALS OR HOUSEHOLDS FOR SELECTED CPS DATA COLLECTED IN THE CPS ANNUAL DEMOGRAPHIC FILE (1973 - 1975)

(68 chances out of 100)

Size of Estimate (in thousands)	Families, Households or Unrelated Individuals			
	SMSA or Non-SMSA Characteristics	Other than SMSA or Non-SMSA Characteristics	Income and Low-Income (or Poverty)	
			Total or White	Negro and Other Races
	(1)	(2)	(3)	(4)
25	8	6	5	5
50	11	8	7	7
100	16	12	10	10
250	25	18	16	15
500	36	26	23	21
1,000	50	36	32	29
2,500	79	57	51	44
5,000	111	79	72	55
10,000	155	107	99	53
25,000	231	147	147	-
50,000	293	140	182	-
*Factor for Spanish - Apply to numbers in column	.97	1.34	1.50	-

TABLE II.B.1 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR FAMILIES, HOUSEHOLDS OR UNRELATED INDIVIDUALS *

SMSA or Non-SMSA Characteristics

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)								
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000
2 or 98	2.2	1.4	1.0	0.7	0.4	0.3	0.2	0.14	0.10
5 or 95	3.5	2.2	1.6	1.1	0.7	0.5	0.3	0.2	0.2
10 or 90	4.8	3.0	2.1	1.5	1.0	0.7	0.5	0.3	0.2
25 or 75	6.9	4.4	3.1	2.2	1.4	1.0	0.7	0.4	0.3
50	8.0	5.1	3.6	2.5	1.6	1.1	0.8	0.5	0.4

* To estimate standard errors for CPS Spanish Origin families, households or unrelated individuals multiply these standard errors by .97.

TABLE II.B.2 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR FAMILIES, HOUSEHOLDS OR UNRELATED INDIVIDUALS *

Other than SMSA or Non-SMSA Characteristics

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)								
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000
2 or 98	1.6	1.0	0.7	0.5	0.3	0.2	0.2	0.10	0.07
5 or 95	2.5	1.6	1.1	0.8	0.5	0.4	0.3	0.2	0.11
10 or 90	3.5	2.2	1.6	1.1	0.7	0.5	0.3	0.2	0.2
25 or 75	5.0	3.2	2.2	1.6	1.0	0.7	0.5	0.3	0.2
50	5.8	3.7	2.6	1.8	1.2	0.8	0.6	0.4	0.3

* To estimate standard errors for CPS Spanish Origin families, households or unrelated individuals multiply these standard errors by 1.34.

TABLE II.B.3 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR FAMILIES, HOUSEHOLDS, OR UNRELATED INDIVIDUALS*

INCOME AND LOW-INCOME

Total or White

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)								
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000
2 or 98	1.4	0.9	0.6	0.5	0.3	0.2	0.14	0.09	0.06
5 or 95	2.2	1.4	1.0	0.7	0.4	0.3	0.2	0.14	0.10
10 or 90	3.1	2.0	1.4	1.0	0.6	0.4	0.3	0.2	0.14
25 or 75	4.5	2.8	2.0	1.4	0.9	0.6	0.4	0.3	0.2
50	5.2	3.3	2.3	1.6	1.0	0.7	0.5	0.3	0.2

* To estimate standard errors for CPS Spanish Origin families, households or unrelated individuals multiply these standard errors by 1.50.

TABLE II.B.4 - STANDARD ERRORS OF ESTIMATED PERCENTAGES FOR FAMILIES, HOUSEHOLDS OR UNRELATED INDIVIDUALS

INCOME AND LOW-INCOME

Negro and Other Races

(68 chances out of 100)

Estimated Percentage	Base of percentage (000)						
	100	250	500	1,000	2,500	5,000	10,000
2 or 98	1.3	0.9	0.6	0.4	0.3	0.2	0.13
5 or 95	2.1	1.3	0.9	0.7	0.4	0.3	0.2
10 or 90	2.9	1.8	1.3	0.9	0.6	0.4	0.3
25 or 75	4.2	2.6	1.9	1.3	0.8	0.6	0.4
50	4.8	3.0	2.1	1.5	1.0	0.7	0.5

Illustration of the use of tables of standard errors

Table B of the Bureau of the Census report, "Characteristics of the Low-Income Population: 1973", Series P-60, No. 98 shows that in 1973 there were 2,193,000 low-income or poverty families with a female head. Interpolation in column 3 of table II.A shows the standard error for an estimate of this size to be approximately 47,000. The chances are 68 out of 100 that the estimate would have shown a figure differing from a complete census figure by less than 47,000. The chances are 95 out of 100 that the estimate would have shown a figure differing from a complete census figure by less than 94,000 (twice the standard error), i.e., this 95 percent confidence interval would be from 2,099,000 to 2,287,000.

Of these 2,193,000 total female-headed families below the low-income level, 1,190,000 or 54.3 percent were white female-headed families below the low-income level. Interpolation in table II.B.3 of this document shows the standard error on 54.3 percent on a base of 2,193,000 to be approximately 1.1 percentage points. Consequently, chances are 68 out of 100 that the 54.3 percent would be within 1.1 percentage points of a complete census figure, and chances are 95 out of 100 that the estimate would be within 2.2 percentage points of a complete census figure, i.e., this 95 percent confidence interval would be from 52.1 to 56.5 percent.

ESTIMATION OF CPS SAMPLING ERRORS BY COMPUTATION

Approximations to the CPS sampling errors can be derived by direct computation from the CPS sample records. The procedure, presented below, should be utilized for estimation of sampling errors of data for which generalized values are not shown in the tables in the previous section. In general, the problems and effort associated with direct computation of sampling errors suggest that this method be used only for estimated aggregates, means, indices, or other statistics for which sampling errors cannot be imputed from the generalized tables provided. For all other items, imputing the sampling errors from the generalized tables in the previous section or using the parameters and formulas in Attachment B from which the tables were derived is likely to produce a more satisfactory result than direct computation and with substantially less effort. There are two major reasons for this. First, the complexity of the sample design is reflected in the problem of estimating sampling errors. Each stage of sampling in the CPS produces an increment in the sampling error and each step in the estimation procedure (introduced to reduce the sampling error) cause additional complications in the estimation of the sampling error. The Census Bureau has developed systems to measure the net effect of essentially all of these sampling and estimation steps, but the processes are much more involved and expensive to execute than the procedure offered in this document. Second, estimated sampling errors are themselves sample statistics and, therefore, subject to the sampling errors of their own. For CPS data periodically collected, the sampling errors presented in the previous section reflect, where possible, the averaging of sampling errors over statistics with a similar variance behavior and where possible are also averaged for observations over time. These estimates, therefore, more nearly represent correct values than could be expected from the measurement process described below.

The procedure presented for computing approximate sampling errors accounts for all of the stages of sampling in the CPS; but it does not completely reflect the impact of the various steps of estimation or the supplemental weighting procedures. The procedure essentially attempts to measure the sampling errors one would expect from the "unbiased estimator" - i.e., estimates resulting from multiplying the CPS sample results by the inverse of their probabilities of selection. As a result, this procedure will generally produce overestimates of the actual sampling errors appropriate to the CPS. However, the sampling errors can be made to reflect a simple single-stage ratio estimate to total population. Even though such an estimator is not a part of the actual CPS estimation, it does reflect some of the gains in the actual CPS estimator, as well as generating sampling errors which are somewhat smaller overestimates.

If the user requires sampling error estimates which more precisely reflect all stages of estimation for characteristics not covered by the sampling error tables, it may be possible to have the Census Bureau compute them. Users wishing to avail themselves of this service should contact the Chief of the Demographic Surveys Division at the Census Bureau to discuss the problem.

Codes and Weights (F2 through ~~F25~~ F26 and P2 through ~~P25~~ P26)

A number of codes and weights are employed in the variance estimator. They appear in the layout of the data record described elsewhere. The codes and weights used for the variance computation process outlined in this section are as follows. There are a number of other factors appearing on the data record that are not needed for this operation

1. Noninterview Cluster (F2-3 and P2-3)

The noninterview clusters are used in the variance estimation for SR PSU's. They range from 01 to 54 for SR PSU's.

2. Random Cluster (~~F6-10 and P6-10~~ F7-11 P7-11)

The first three digits of the random cluster code determine the cluster. The fifth digit determines the PSU within the cluster. A cluster beginning with a 0 indicates a SR PSU, a 1 or 2 indicates a NSR PSU, and a 9 indicates an impossible PSU. The fourth digit shows the type of sample, i.e., an entry of 0 or 2 signifies the "A" sample and an entry of 1 signifies the "C" sample for the NSR PSU's, whereas an entry of 0 signifies the "A" sample and an entry of 1 signifies the "C" sample for SR PSU's. The first three digits of these clusters range from 001 to 054 for SR PSU's and from 101 to 210 for NSR PSU's.

An impossible PSU occurs if the PSU code appearing on the CPS schedule is found to be nonexistent. For a nonexistent PSU code, say XYZ, the first, second, third, and fifth digits of the random cluster code on the CPS computer data record will appear as 9XYZ, and the fourth digit will be 0 or 1 to indicate the "A" or "C" sample. A tape record with a random cluster code beginning with a 9 should be included when preparing tabulations (they are ordinarily included in Census Bureau tabulations), but should be omitted when variance estimations are formed.

3. ~~Serial~~ Segment Number (~~F11-15 and P11-15~~ F12-16 P12-16)

The serial number (F11-15) in conjunction with the random cluster (F6-10) uniquely identify each family record; whereas, the serial number (P11-15), random cluster (P6-10), and line number (P34-35), uniquely identify each person's record.

4. "A" Weights (~~F16-20 and P16-20~~ F17-21 P17-21)

The "A" weights are used in the variance estimation for NSR PSU's.

Estimating Variances for the A + C and A Sample Designs

A further explanation and derivation of the variance formulae mentioned in the following paragraphs can be found in attachment A of this appendix. Records having impossible PSU codes should not be included in these processes.

I. Variances for One Month's Data - Unbiased Estimate (A + C Sample Design)

A. SR PSU's

1. Arrangement of Data

Each record in SR PSU's is considered in terms of two codes - a noninterview cluster code (01 to 54) ~~F2-3~~ P66 F2-3 and P2-3, and a rotation group identification (1 to 8), ~~F26~~ and ~~P26~~. Sort the SR PSU data records by cluster code and within each cluster code by rotation group code. For each item for which variances are to be estimated, produce 432 weighted totals (54 noninterview clusters by 8 rotation groups).

The CPS data from SR PSU's should be sorted as in the following example:

Noninterview Cluster, Rotation Group	Items
Cluster 01	
Rotation Group 1	$x(1,01,1), x(2,01,1),\ldots,x(H,01,1)$
. . . [At this point, compute	$x^2(h,01,1)$, for $h = 1,2,\ldots,H$]
Rotation Group 8	$x(1,01,8),\ldots, x(H,01,8)$
. . . [At this point, compute	$\sum_{k=1}^{8} x^2(h,01,k)$ and $\sum_{k=1}^{8} x(h,01,k)$
Cluster 02	for $h=1,2,\ldots,H$]
Rotation Group 1	
. . .	
Rotation Group 8	
. . .	
Cluster j	
Rotation Group k	$x(1,j,k),\ldots, x(H,j,k)$
. . .	
Cluster 54	
Rotation Group 1	
. . .	
Rotation Group 8	

$x(h,j,k)$ is the weighted total for characteristic h in the k^{th} rotation group of the j^{th} cluster. This output of data will provide all the information needed for the computation of the SR contribution to the total variances.

2. Variance Computations.

The following formula (formula 16 in attachment A) should be used in estimating the SR component of the total variance of a given characteristic h:

$$\sigma^2[\bar{x}(h)] = \frac{1}{r-1} \sum_{j=1}^{54} \left\{ r \sum_{k=1}^{r} x^2(h,j,k) - \left[\sum_{k=1}^{r} x(h,j,k) \right]^2 \right\} \quad (16)$$

(where r is the number of rotation groups).

B. NSR PSU's

1. Arrangement of Data.

First, sort the CPS records in NSR PSU's by the random cluster code (the first three digits of ~~P6-10~~ and ~~P6-10~~) and within each cluster by the three different PSU's in the cluster (i.e., 0, 1, or 2, the fourth digit of ~~P6-10~~ and ~~P6-10~~). Tabulate the records and produce PSU totals for each item for which variances are to be estimated. The result of this will be three weighted PSU totals for each of the 110 random clusters or a grand total of 330 weighted totals for each item for which variances are to be estimated. The data from NSR should be sorted as follows:

Random cluster, PSU	Items
Random cluster 101	
PSU 0	$y(1,101,0),\ldots, y(H,101,0)$
PSU 1	$y(1,101,1),\ldots, y(H,101,1)$
[At this point, compute	$\frac{y(h,101,0)+y(h,101,1)}{2}$
	and $y(h,101,0) - y(h,101,1)$ for h=1,...,H]
PSU 2	$y(1,101,2),\ldots, y(H,101,2)$
[At this point, compute (for h=1,..,H), $A_{s0}\, y(h,101,2)$,	
$(A_{s2})\left\{\frac{y(h,101,0)+y(h,101,1)}{2}\right\}$ and $(A_{s2})^2\left\{y(h,101,0) - y(h,101,1)\right\}^2$]	
Random cluster 102	
:	
:	
Random cluster s	
PSU i	..... $y(h,s,i)$
:	
:	
Random cluster 210	
PSU 0	
PSU 1	
PSU 2	

y(h,s,i) is the weighted total for characteristic h from the i^{th} PSU of the s^{th} random cluster code. A_{s0} is the "A" weight (~~F16-20~~ F17-21 and ~~P16-20~~ P17-21) for PSU 0 and A_{s2} is the "A" weight (~~F16-20~~ F17-21 and ~~P16-20~~ P17-21) for PSU 2. This output of data will provide all the information needed for computation of the NSR contribution to the total variance.

2. Variance Computations

The following formula (formula 15 in attachment A) should be used in estimating the NSR component of the total variance for a given characteristic h:

$$\sigma^2\left[y(h)\right] = \sum_{S=101}^{210} \left[A_{s2}\left\{\frac{y(h,s,0) + y(h,s,1)}{2}\right\} - A_{s0}\, y(h,s,2)\right]^2$$

$$+ \frac{21}{4} \sum_{S=101}^{210} (A_{s2})^2 \left[y(h,s,0) - y(h,s,1)\right]^2 \qquad (15)$$

C. SR and NSR PSU's

$$\sigma^2\left[t(h)\right] = \sigma^2\left[x(h)\right] + \sigma^2\left[y(h)\right]$$

(Total variance)

$$V^2\left[t(h)\right] = \frac{\sigma^2\left[t(h)\right]}{\left[x(h) + y(h)\right]^2}$$

(Total relvariance)

II. Variances for One Month's Data - Unbiased Estimate (A Sample Design)

A. SR PSU's

1. Arrangement of Data

Each record in SR PSU's is considered in terms of two codes - a noninterview cluster code (01 to 54), F2-3 and P2-3, and a rotation group identification (1 to 8), F2-6 and P2-6. Sort the SR PSU data records by cluster code and within each cluster code by rotation group code. For each item for which variances are to be estimated, produce 432 weighted totals (54 noninterview clusters by 8 rotation groups).

2. Variance Computations

The following formula (formula 22 in attachment A) should be used in estimating the SR component of the total variance of a given characteristic h:

$$\sigma^2\left[\hat{\bar{x}}(h)\right] = \frac{1}{r-1} \sum_{j=1}^{54}\left\{ r \sum_{k=1}^{r} \hat{x}^2(h,j,k) - \left[\sum_{k=1}^{r} \hat{x}(h,j,k)\right]^2 \right\} \qquad (22)$$

(where r is the number of rotation groups).

B. NSR PSU's

1. Arrangement of Data. (For the A sample)

Sort the CPS records in NSR PSU's by the random cluster code (the first three digits of F6-10 and P6-10) and within each cluster by the two different PSU's within the cluster (i.e., 0 or 2, the fourth digit of F6-10 and P6-10). For each item for which variances are to be estimated, there will be two weighted PSU totals for each of the 110 random clusters or a grand total of 220 weighted totals.

2. Variance Computations

The following formula (formula 21 in attachment A) should be used in estimating the NSR component of the total variance for a given characteristic h:

$$\sigma^2\left[\hat{\bar{y}}(h)\right] = 4 \sum_{S=101}^{210} \left[A_{s2}\,\hat{y}(h,s,0) - A_{s0}\,\hat{y}(h,s,2)\right]^2 \qquad (21)$$

C. SR and NSR PSU's

$$\sigma^2[t(h)] = \sigma^2[\hat{x}(h)] + \sigma^2[\hat{y}(h)]$$

(Total variance)

$$V^2[t(h)] = \frac{\sigma^2[t(h)]}{[\hat{x}(h) + \hat{y}(h)]^2}$$

(Total relvariance)

III. Variance for One Month's Data - Ratio Estimate (A + C or A Sample Design)

Approximations can be made to reflect the variance of a single stage ratio estimate to total population. The steps in this approximation are as follows:

A. Calculate the total relvariance for a given characteristic h, using the methods described in part I or II of this section.

B. Calculate the total relvariance for the estimate of total population, using the methods described in part I or II of this section.

C. Subtract the relvariance for B from the relvariance in A.

D. Multiply the difference determined in C by the square of the estimate of characteristic h.

If variances are computed for items for which it is possible to generalize variance behavior, the operations of attachment B of this document may be applied to obtain generalized standard error tables.

ATTACHMENT A

VARIANCE ESTIMATORS FOR UNBIASED ESTIMATES, A+C SAMPLE AND A SAMPLE DESIGNS

This attachment considers estimators of the variance for unbiased estimates based on the A+C and A Sample Designs.

THE A+C SAMPLE DESIGN AND ITS VARIANCE

This section shows the form of the unbiased estimate used in the A+C sample design and derives the variance for both nonself-representing (NSR) and self-representing (SR).

I. Nonself-representing

A. Notation

Consider the following diagram representing two NSR strata of the A sample PSU design, stratum U and stratum V, which have been paired to produce the third PSU which along with the A sample PSU's in stratum U and V make up the A+C sample design, e.g., the diagram could describe cluster number 101. The five-digit random cluster code 10100 represents the A sample PSU selected out of stratum U; this sample PSU is indicated as 0 in the diagram to conform to the fourth digit of the cluster. Similarly, the random cluster codes 10111 and 10122 define the C sample PSU in stratum U and the A sample PSU in stratum V respectively.

We adopt the convention of assigning the identification of the A sample PSU to the stratum from which it is selected; thus, in the diagram below, stratum U and V are also referred to as stratum 0 and 2 respectively.

	A Sample	C Sample	
Stratum U	0	1	Stratum 0
Stratum V	2		Stratum 2

Let y_0 and y_2 be the estimates made up of the A sample PSU totals from the paired strata as inflated by the weights appropriate to the combined A and C samples. Thus in the diagram, y_0 is the inflated sample estimate obtained from interviews conducted in the A sample PSU, indicated as 0, y_1 is a similar estimate from the C sample PSU, and y_2 is a similar estimate from the A sample PSU indicated as 2.

B. Estimates Based on the A Sample Alone

1. An estimate of a total for the two strata combined based on data interviewed in the A sample PSU's is given by

$$\Theta_A = \frac{3}{2} y_0 + \frac{3}{2} y_2 \qquad (1)$$

The factor of $\frac{3}{2}$ is necessary as the inflated values y_0 and y_2 involve weights which assume the third PSU is included.

2. Given that sampling in the two A sample strata is independent, the variance of Θ_A can be shown to be

$$\text{Var}\ (\Theta_A) = \frac{9}{4} \left[\text{Var}\ (y_0) + \text{Var}\ (y_2)\right] \qquad (2)$$

C. Estimates Based on the C Sample

1. An estimate of a total for the two strata combined based on data interviewed in the C sample alone is given by

$$\Theta_c = 3y_1 \qquad (3)$$

2. The variance of Θ_c is given by

$$\text{Var}\ (\Theta_c) = 2\left(\frac{9}{4}\right) \left[\text{Var}\ (y_0) + \text{Var}\ (y_2)\right] + (Y_0 - Y_2)^2 \qquad (4)$$

where

$$Y_0 = E\left(\frac{3}{2} y_0\right) = E\left(\frac{3}{2} y_1\right)$$

$$Y_2 = E\left(\frac{3}{2} y_2\right)$$

The operator, E, in the above paragraph, denotes the expected value Thus, the terms Y_0 and Y_2 represent the expected values over all of the possible selections of sample PSU's and all possible selections of sample housing units within the sample PSU's in strata 0 and 2 respectively.

3. In comparing the variances (2) and (4), the separate terms of (4) can be rationalized as follows: The variance of Θ_A (see (2)) includes a between-PSU variance within strata 0 and 2. The estimate Θ_c should have a between-PSU variance twice that of Θ_A since Θ_c is accomplished with one (rather than two) sample PSU's. A similar statement is also appropriate for the variance arising because a sample rather than all housing units are interviewed within the sample PSU's. The second term on the right of (4) represents the between-stratum variance arising because one of the two strata (0 or 2) was chosen with equal probability and an independent selection of an additional PSU was made to represent the pair of strata.

D. Estimates Based on a Weighted Average of the A and C Samples

1. If the estimators θ_A and θ_c are combined using as averaging factors the proportion of the total sample represented by each estimator, we have:

$$\theta = \frac{2}{3}\theta_A + \frac{1}{3}\theta_c$$

$$= \frac{2}{3}\left[\frac{3}{2}(y_0 + y_2)\right] + \frac{1}{3}(3)\,y_1 \qquad (5)$$

$$= y_0 + y_1 + y_2$$

2. The variance of θ follows from (2) and (4) as the variance we wish to estimate. Since expression (6) is appropriate for one pair of NSR strata, the operation can be repeated and summed over all pairs of strata to express the variance for all of the NSR strata.

$$\text{Var}\,\theta = \left(\frac{2}{3}\right)^2 \text{Var}\,(\theta_A) + \left(\frac{1}{3}\right)^2 \text{Var}\,(\theta_c)$$

$$= \frac{3}{2}\left[\text{Var}\,(y_0) + \text{Var}\,(y_2)\right] + \frac{1}{9}(Y_0 - Y_2)^2 \qquad (6)$$

E. Variances Estimated from Squared Differences Among Paired Strata

It is possible to construct variance estimators ("Bershad Estimators") which are based on squared differences of the estimates for paired strata. 1/

1. Examine the squared difference

$$\alpha_1 = 4\left[\frac{3}{2}\left(\frac{y_0 + y_1}{2}\right)A_2 - \frac{3}{2}y_2 A_0\right]^2 \qquad (7)$$

$$= 9\left[\left(\frac{y_0 + y_1}{2}\right)A_2 - y_2 A_0\right]^2 \qquad (8)$$

1/ The estimators in this section assume the sampling in the two A sample strata is done independently.

where y_0, y_1, and y_2 are defined as above and

$$A_0 = \frac{T_0}{T_0 + T_2}$$

$$A_2 = \frac{T_2}{T_0 + T_2} \quad \text{and}$$

T_0 and T_2 are the 1970 Census populations of stratum 0 and stratum 2, respectively.

It can be shown that the expected value of α_1 is

$$E\,\alpha_1 \doteq 9\left(\frac{3}{4}\right)\left[(A_2)^2 \text{ Var } (y_0) + (A_0)^2 \text{ Var } (y_2)\right] + 4\,(A_2\,Y_0 - A_0\,Y_2)^2 \qquad (9)$$

$A_0 = A_2 = \frac{1}{2}$ The equality sign in formula (9) will hold true if which very nearly holds true in our situation.

2. Examine the squared difference

$$\alpha_2 = 4\,(A_2)^2\left[\frac{3}{2}\,y_0 - \frac{3}{2}\,y_1\right]^2$$

$$= 9\,(A_2)^2\,\left[y_0 - y_1\right]^2$$

The expected value of this squared difference is

$$E\alpha_2 \doteq 9\left[(A_2)^2 \text{ Var } (y_0) + (A_0)^2 \text{ Var } (y_2)\right] \qquad (10)$$

The equality sign in formula (10) will hold true if $A_2 = A_0 = \frac{1}{2}$, which very nearly holds true in our situation.

3. Consider a variance estimator made up of a weighted sum of the two estimators α_1 and α_2.

$$\alpha = r\alpha_1 + s\alpha_2 \qquad (11)$$

Combining (9) and (10) with weights of r and s, we have

$$E\alpha \doteq 9\left[\frac{3}{4}\,r + s\right]\left[(A_2)^2\ \text{Var } (y_0) + (A_0)^2\ \text{Var } (y_2)\right] + 4r\left[A_2\,Y_0 - A_0\,Y_2\right]^2 \qquad (12)$$

The effect of the A_0 and A_2 in expression (12) is to adjust for the differences in the estimates for the two strata brought about by the differences in the size of the strata.

If $A_0 = A_2 = \frac{1}{2}$, then (12) becomes:

$$E\alpha \doteq \frac{9}{4}\left(\frac{3}{4}r + s\right)\left[\text{Var}\,(y_0) + \text{Var}\,(y_2)\right] + r\left[Y_0 - Y_2\right]^2 \qquad (13)$$

Equating expression (13) and (6) and solving for r and s, we have

$$r = \frac{1}{9}$$

$$s = \frac{7}{12}$$

so that

$$\alpha = \left[\left(\frac{y_0 + y_1}{2}\right)A_2 - y_2 A_0\right]^2 + \frac{21}{4}(A_2)^2\left[y_0 - y_1\right]^2 \qquad (14)$$

F. Generalizing the Variance Estimator for All NSR Strata

The above discussion dealt with a single pair of NSR strata, the s^{th} "random cluster." The notation is further modified so that

$y(h,s,i)$ is the weighted total for characteristic h in the i^{th} PSU of the s^{th} random cluster where

s = 101, 102..., 210 represents the random clusters in all of NSR.

i = 0, 2 represents the two NSR PSU's in the A sample in a given random cluster, and

i = 1 the C sample PSU in the random cluster, and

$$y(h) = \sum_{s=101}^{210}\left[y(h,s,0) + y(h,s,1) + y(h,s,2)\right]$$

A restatement of (14) in the revised notation for all NSR is:

$$\text{Var}\left[y(h)\right] = \sum_{S=101}^{210}\left\{\left[\frac{y(h,s,0) + y(h,s,1)}{2}\right] A_{s2} - y(h,s,2)\, A_{s0}\right\}^2 + \frac{21}{4}\sum_{S=101}^{210}\left\{\left[y(h,s,0) - y(h,s,1)\right] A_{s2}\right\}^2 \quad (15)$$

II. Self-Representing

Since the entire sample for each SR stratum is selected from the one PSU which makes up the stratum, the SR variance for a given characteristic h can be estimated using the following formula:

$$\sigma^2\left[x(h)\right] = \frac{1}{(r-1)}\sum_{j=1}^{54}\left\{r\sum_{k=1}^{r}x^2(h,j,k) - \left[\sum_{k=1}^{r}x(h,j,k)\right]^2\right\} \quad (16)$$

where: $x(h,j,k)$ is the weighted total for characteristic h in the k^{th} rotation group in the j^{th} noninterview cluster of the SR PSU's.

r is the number of rotation groups.

$$x(h) = \sum_{j=1}^{54}\sum_{k=1}^{r}x(h,j,k).$$

It should be noted that formula (16) partially reflects the systematic sample selection of households within the SR PSU's.

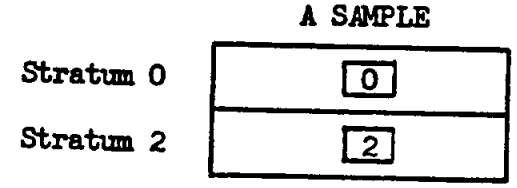
THE A SAMPLE DESIGN AND ITS VARIANCE

This section shows the form of the unbiased estimate used in the A sample design and derives the variance for both NSR and SR.

I. NSR

A. Notation

Consider the following notation associated with the diagram representing two NSR strata:



Let $\hat{y}_0$ and $\hat{y}_2$ be the estimates made up of the stratum 0 and stratum 2 PSU sample totals inflated by the total A sample weight. Note that the weights used in the inflation are 3/2 times those used when the combined A and C samples are considered. Thus, to convert to the notation employed for the A and C combined samples, $\hat{y}_0 = 3/2\ y_0$ and $\hat{y}_2 = 3/2\ y_2$.

B. Estimator Based on the Stratum 0 and Stratum 2 Samples

1. $\theta = \hat{y}_0 + \hat{y}_2$ (17)

2. $\text{Var } \theta = \text{Var } (\hat{y}_0) + \text{Var } (\hat{y}_2)$ (18)

C. Variance Estimated from Squared Differences Among Paired Strata

It's possible to construct variance estimators ("Bershad Estimator") which are based on squared differences of the estimates for paired strata. 2/

1. Examine the squared difference.

$$\alpha = 4\left[\hat{y}_0 A_2 - \hat{y}_2 A_0\right]^2 \quad (19)$$

where $\hat{y}_0$ and $\hat{y}_2$ are defined as above, and

$$A_0 = \frac{T_0}{T_0 + T_2}$$

$$A_2 = \frac{T_2}{T_0 + T_2}$$

T_0 and T_2 are the total population of stratum 0 and stratum 2, respectively.

It can be shown the expected value of α is

$$E\alpha = 4\left[(A_2)^2 \text{ Var } (\hat{y}_0) + (A_0)^2 \text{ Var } (\hat{y}_2)\right] \quad (20)$$

D. Generalizing the Variance Estimator for All NSR Strata

The above discussion dealt with a single pair of NSR strata, the s^{th} "Stratum Combination." If the notation is further modified so that:

$\hat{y}(h,s,i)$ is the weighted total for characteristic h in the i^{th} PSU of the s^{th} random cluster, where:

2/ The estimator mentioned below assumes the following conditions hold true:

1. The total populations in each strata are about equal, that is, $T_0 \doteq T_2$.

2. The sampling in two A sample strata is done independently.

s = 101, 102, ..., 210 represent the random clusters for all of NSR.

i = 0, 2 represent the two NSR PSU's in the A sample in a given random cluster.

$$\hat{y}(h) = \sum_{s=101}^{210}\left[\hat{y}(h,s,0) + \hat{y}(h,s,2)\right]$$

Then the restatement of (19) in the revised notation for all NSR is:

$$\text{Var}\left[\hat{y}(h)\right] = 4 \sum_{s=101}^{210}\left[A_{s2}\,\hat{y}(h,s,0) - A_{s0}\,\hat{y}(h,s,2)\right]^2 \qquad (21)$$

II. SR

The formula for estimating SR variances for the A sample design for a given characteristic h is the same as that used in the A+C sample design, which is as follows:

$$\sigma^2\left[\hat{x}(h)\right] = \frac{1}{(r-1)} \sum_{j=1}^{54}\left\{r \sum_{k=1}^{r} \hat{x}^2(h,j,k) - \left[\sum_{k=1}^{r} \hat{x}(h,j,k)\right]^2\right\} \qquad (22)$$

where: $\hat{x}(h,j,k)$ is the weighted total for characteristic h in the k^{th} rotation group in the j^{th} noninterview cluster of the SR PSU's.

r is the number of rotation groups.

$$\hat{x}(h) = \sum_{j=1}^{54} \sum_{k=1}^{r} \hat{x}(h,j,k)$$

Curve Fitting and Generalizing Variances

Generalizing Variances

If the user has computed variances directly from the CPS sample records for items from a common subject matter area, then it is possible to fit a curve for the relvariance estimates for these items to produce generalized standard error tables (such as tables IA through IIB.4). It's assumed that the reader has the estimates and corresponding relvariances for k items, which are fairly representative for this subject matter.

The major reasons for employing the curve fitting approach are: first, curve fitting is a form of averaging observations for items having similar variance behavior and, therefore, induces an added dimension of stability (i.e., curve-fitting reduces the effect of the variance on the variance estimates). Secondly, there are time and money savings realized if a generalized variance curve can be made applicable to several items based on computation from a few statistics.

In curve fitting, it is assumed that the variance of an estimate is a function of the proportion of the sample having the desired characteristic, and that this is the only factor affecting the magnitude of the variances. All other variation in the variance estimates not explained by this factor are assumed to be the result of the lack of reliability of the estimates.

The Curve Fitting Procedure

The curve fitting procedure fits a curve of the form $V_x^2 = a + b/x$ to a set of k estimates x_i and their estimated relvariances V_{xi}^2. This procedure minimizes the sum of squared differences between the observed relvariances V_{xi}^2 and the predicted relvariances $(a + b/x_i)$, divided by the predicted relvariance - i.e., the quantity

(1) $$\sum_{i=1}^{k}\left[\frac{V_{x_i}^2 - a - b/x_i}{a + b/x_i}\right]^2$$ is minimized. Since the values of a and b are not known before minimization, an iterative method is necessary. Thus, we begin by minimizing the quantity:

(2) $$\sum_{i=1}^{k}\left[\frac{V_{x_i}^2 - a_1 - b_1/x_i}{V_{x_i}^2}\right]^2$$ This minimization is produced by differentiating (2) with respect to a_1 and equating

to zero, differentiating (2) with respect to b_1 and equating to zero and solving these two equations simultaneously for a_1 and b_1. The second approximation is obtained:

$$(3) \quad \sum_{i=1}^{k} \left[\frac{v_{x_i}^2 - a_2 - b_2/x_i}{a_1 + b_1/x_i} \right]^2$$

by differentiating (3) with respect to a_2 and b_2, equating to zero and solving these two equations simultaneously for a_2 and b_2. The process continues by substituting the computed values of a_2 and b_2 for a_1 and b_1 in (3) and solving for a_3 and b_3. This iterative process is carried out until a_{i+1} and b_{i+1} do not differ materially from a_i and b_i. (We recommend that the 10^{th} iteration be used as the final fitted curve). With this final curve a table of generalized standard errors may be derived by multiplying the relvariance obtained from the curve by the estimate squared and then taking the square root of this number.

A Curve Fitting Computer Program

The attached computer program may be used for the above computations. The first part of this program fits a curve to the set of points (i.e., it produces a final "a" and "b"); the second part of the program produces tables of generalized standard errors using the "a" and "b", for either estimated totals or percentages. This program, if it cannot be employed in an available computer, can serve as a guide in preparing a new curve fitting program. The attached program is written in FORTRAN IV for a Digital PDP10 Computer.

```
      DIMENSION P(1Ø), V2(15Ø),VM1(15Ø),VM2(15Ø)
      DIMENSION VM4(15Ø),SUM(15Ø),TAB1(15Ø)
      DIMENSION X(5Ø),TAB1(5Ø), TAB2(5Ø,1Ø)
      DIMENSION N1(5)
      DIMENSION   XR(6), TAB3(6,5Ø),N5(5)
      DIMENSION IRAY(5Ø)
9Ø1   FORMAT(5A4)
      TYPE 5Ø5Ø
5ØØ   FORMAT(' DO YOU NEED TO COMPUTE A AND B?'/)
      TYPE 5Ø51
5Ø51  FORMAT(' ANSWER 1 FOR YES, Ø FOR NO'/)
      ACCEPT 537, IANS
537   FORMAT (I)
      IF(IANS.NE.1) GO TO 2Ø
23    TYPE 5Ø52
5Ø52  FORMAT(' ENTER NUMBER OF CHARACTERISTICS FOR CURVE'/)
      ACCEPT 537, NITEM
      TYPE 5Ø53
5Ø53  FORMAT(' ENTER Ø FOR VARIANCE, 1 FOR RELVARIANCE'/)
      ACCEPT 537, NTYPE
      TYPE 5Ø54
5Ø54  FORMAT(' ENTER ESTIMATE,VARIANCE OR RELVARIANCE'/)
      TYPE 5Ø55
5Ø55  FORMAT(' ONE CHARACTERISTIC AT A TIME'/)
      DO 5Ø I=1,NITEM
      ACCEPT 538, SUM(I),V2(I)
538   FORMAT(2F)
5Ø    CONTINUE
      IF(NTYPE.EQ.1) GO TO 3
      DO 2 MJ=1,NITEM
2     V2(MJ)=V2(MJ)/SUM(MJ) ** 2
3     G=Ø
      H=Ø
      XI=Ø
      XK=Ø
      XL=Ø
      DO 3Ø J=1, NITEM
      VM4(J)= 1/V2(J)**2
      G=G+VM4(J)
      H=H+VM4(J)/SUM(J)**2
      XI = XI + VM4(J) / SUM(J)
      XK = XK + 1./(V2(J) * SUM(J))
      XL = XL + 1./V2(J)
3Ø    CONTINUE
      D = G * H - XI**2
      A=(XL*H-XI*XK)/D
      B=(XK*G-XL*XI)/D
      TYPE 5Ø6
5Ø6   FORMAT(' ENTER NUMBER OF ITERATIONS DESIRED'/)
      ACCEPT 537, NITER
      DO 34 ICT = 1,NITER
      DO 32 J = 1,NITEM
32    VM2(J) = A + B/SUM(J)
      G2 = Ø
      H2 = Ø
      XI2 = Ø
      XM = Ø
      XN = Ø
      DO 36 J = 1,NITEM
      VM4(J) = 1./VM2(J)**2
      G2 = G2 + VM4(J)
      H2 = H2 + VM4(J) / SUM(J)**2
      XI2 = XI2 + VM4(J) / SUM(J)
      XM = XM + V2(J) * VM4(J)
      XN = XN + (V2(J) * VM4(J)) / SUM(J)
3     CONTINUE
      D2 = G2 * H2 - XI2**2
      A = (H2 * XM - XI2 * XN)/D2
      B = (G2 * XN - XI2 *XM)/D2
34    CONTINUE
      TYPE 5Ø7
5Ø7   FORMAT('    ')
      TYPE 5Ø7
      TYPE 5Ø8,A,B
```

```
5Ø8     FORMAT(' A = ',F,'   B =',F)
        TYPE 5Ø7
        TYPE 5Ø7
        GO TO 21
2Ø      TYPE 5Ø9
5Ø9     FORMAT( ' ENTER A AND B'/)
        ACCEPT 538, A,B
21      TYPE 51Ø
51Ø     FORMAT(' DO YOU WANT TO COMPUTE (1)TABLES, (2)PCTS,'/)
       TYPE 511
511     FORMAT(' (3) NEW CURV, (4) PERCENTAGE TABLES ONLY'/)
       TYPE 512
512     FORMAT( ' OR RATIO ESTIMATE TABLES(5)'/)
       TYPE 513
513     FORMAT('    ANSWER BY NUMBER'/)
        ACCEPT 537, IANS
        GO TO (22,24,23,22,22),IANS
22      TYPE 514
514     FORMAT('  ENTER NUMBER OF ESTIMATES OR BASES - MAX 5Ø'/)
      ACCEPT537,  NEST
        TYPE 515
515     FORMAT(' ENTER ESTIMATES DIVIDED BY 1ØZØ'/)
      ACCEPT 539, (X(I),I=1,NEST)
539     FORMAT(1ØF)
        IF(IANS.EQ.5) GO TO 2ØØ
        TYPE 516
516     FORMAT(' ENTER NUMBER OF PERCENTAGES-MAXIMUM 6'/)
       TYPE 517
517     FORMAT( ' ENTER Ø IF NO PERCENTAGES DESIRED'/)
      ACCEPT 537, NPCT
        IF(NPCT.EQ.Ø) GO TO 16Ø
        TYPE 518
518     FORMAT(' ENTER PERCENTAGES- EXAMPLE 1 OR 99 AS .Ø1'/)
       TYPE 519
519     FORMAT( ' MULTIPLE INPUT - EXAMPLE .Ø1,.Ø5,...'/)
      ACCEPT 539,(P(I),I=1,NPCT)
16Ø     CONTINUE
        DO 4Ø J = 1,NEST
        X(J) = X(J) * 1ØØØ.
        XTEMP=A + B/X(J)
        KXT = Ø
        IF (XTEMP.LT.Ø) KXT = 1
      TAB1(J) = X(J) * SQRT(ABS(XTEMP))
        IF(KXT.EQ.1) TAB1(J)=-TAB1(J)
4Ø      CONTINUE
        IF(NPCT.EQ.Ø) GO TO 161
        DO 41 J = 1,NPCT
        DO 41 I = 1,NEST
        DX = P(J) * X(I)
        VD2= A+B/DX
        VX2=A+B/X(I)
        XTEMP = P(J) **2 * (VD2 - VX2)
        KXT = Ø
        IF(XTEMP.LT.Ø) KXT = 1
      TAB2(I,J) = SQRT (ABS(XTEMP))
       IF ( KXT.EQ.1) TAB2(I,J) = -TAB2(I,J)
41      CONTINUE
161     CONTINUE
        TYPE 52Ø
52Ø     FORMAT(' ENTER LABEL - MAX 6Ø CHARACTERS'/)
       DO 51 I=1,5
51      TYPE 5Ø7
       ACCEPT 811, (LABEL(I),I=1,15)
811     FORMAT(15A4)
        IF(IANS .EQ. 4) GO TO 1ØØ9
        TYPE 5Ø7
        TYPE 5Ø7
        TYPE 521
521     FORMAT('  SIZE OF ESTIMATE     STANDARD ERROR'/)
       TYPE 5Ø7
        FORMAT('    '/)
      TYPE 512, (X(I),TAB1(I),I=1,NEST)
        DO 52 I=1,5
52      TYPE 5Ø7
        FORMAT('    '/)
```

```
812          FORMAT(F8.4,F12.2)
             IF(NEST.EQ.Ø) GO TO 162
1ØØ9         CONTINUE
             TYPE 522
522          FORMAT(' ENTER FORMAT - (E1Ø.4,NF1Ø.6) WHERE N IS'/)
             TYPE 523
523          FORMAT('  THE NUMBER OF PERCENTAGES'/)
             ACCEPT 8Ø2, (N4(I),I=1,5)
             DO 6Ø I=1,5
6Ø           TYPE 5Ø7
             TYPE 813, (P(I),I=1,NPCT)
813          FORMAT(8H BASE OF,3ØX,2ØHESTIMATED PERCENTAGE/
     &       11H PERCENTAGE,F1Ø.3,5F1Ø.3)
             TYPE 5Ø7
             TYPE N4,(X(I),(TAB2(I,J),J=1,NPCT),I=1,NEST)
254          FORMAT(1X,I,F,5ØØ(F,/))
             DO 61 I=1,5
61           TYPE 5Ø7
8Ø2          FORMAT (5A4)
162          CONTINUE
8ØØ          FORMAT(F1Ø.2)
2Ø3          CONTINUE
             TYPE 525
525          FORMAT(' ENTER(1) FOR MORE TABLES,(2) FOR INDIVIDUAL'/)
             TYPE 526
526          FORMAT(' PCTS,(3)FOR NEW A AND B,(Ø) TO STOP'/)
             TYPE 527
527          FORMAT('  (4) ADDITIONAL PERCENTAGE TABLES'/)
             TYPE 528
528          FORMAT(' OR RATIO ESTIMATE TABLES (5)'/)
             TYPE 529
529          FORMAT(' ENTER Ø TO STOP'/)
             ACCEPT 537,IANS
             IF(IANS.EQ.Ø) IANS=6
             GO TO (22,24,23,22,22,3ØØ),IANS
24           TYPE 53Ø
53Ø          FORMAT('  ENTER P AND ESTIMATE/1ØØØ - EXAMPLE .Ø1,5ØØ'/)
             ACCEPT 538, PI,XI
             XI=XI*1ØØØ
             DX=PI*XI
             VD2=A+B/DX
             VX2=A+B/XI
             XTEMP=PI**2 * (VD2 - VX2)
             KXT=Ø
             IF(XTEMP.EQ.Ø) KXT=1
             TAB=SQRT(ABS(XTEMP))
             IF(KXT.EQ.1) TAB=-TAB
             TYPE 5Ø7
             TYPE 81Ø, TAB
             TYPE 5Ø7
81Ø          FORMAT(F1Ø.6)
             TYPE 531
531          FORMAT(' MORE PCT COMPUTATIONS - 1 FOR YES, Ø FOR NO'/)
             ACCEPT 537,IANS
             IF(IANS.EQ.1) GO TO 24
             TYPE 532
532          FORMAT(' ENTER 1 FOR TABLES, 2 FOR NEW CURVE, Ø TO STOP'/)
             ACCEPT 537, IANS
             IF(IANS.EQ.1) GO TO 22
             IF(IANS.EQ.2) GO TO 23
2ØØ          TYPE 533
533          FORMAT(' ENTER NUMBER OF XR S-MAX 6'/)
             ACCEPT 537, NUMXR
             TYPE 534
534          FORMAT(  '  ENTER XRS/1ØØØ'/)
             ACCEPT 539,    (XR(I),I=1,NUMXR)
             DO 2Ø1 J=1,NEST
             VYZ=A+B/(X(J)*1ØØØ)
             DO 2Ø1 I=1,NUMXR
             VXZ=A+B/(XR(I)*1ØØØ)
             XTEMP=VXZ-VYZ
             IF(XTEMP.LE.Ø) XTEMP=Ø
             TAB3(I,J)=XR(I)*SQRT(XTEMP)
```

```
2Ø1         CONTINUE
            TYPE 535
535         FORMAT(' ENTER FORMAT-(E1Ø.4,NF1Ø.3) WHERE N IS'/)
           TYPE 536
536         FORMAT('  THE NUMBER OF XR'/)
            READ 9Ø1,(N5(I),I=1,5)
            TYPE 9ØØ, (XR(I), I=1,NUMXR)
9ØØ         FORMAT(8H BASE OF,17X,21HRATIO ESTIMATES (ØØØ)/
     &   1ØH RATIO EST     ,6F1Ø.Ø)
            TYPE 524, N5,(X(J),(TAB3(I,J),I=1,NUMXR),J=1,NEST)
           DO 2Ø2 I=1,5
            TYPE 5Ø7
2Ø2         CONTINUE
            GO TO 2Ø3
3ØØ         STOP
            END
```

Curves for the Generalized Standard Error Tables

Each of the standard error tables I.A through II.B.4 were produced from curves that had been fitted to the relvariance estimates for these items. The a and b parameters in Table III resulted from this fitting process. The standard errors in Tables I.A and II.A were computed using the parameters and the following formula:

$$\sigma_{x_i} = \sqrt{ax_i^2 + bx_i} \qquad (1)$$

where x_i is the estimate of the characteristic and a and b are the parameters associated with the x_i characteristic. The standard errors in Tables I.B.1 through I.B.13 and II.B.1. through II.B.4 were calculated using formula (2):

$$\sigma_{x_i,p} = \sqrt{\frac{b}{x_i} p(100-p)} \qquad (2)$$

where x_i is the base of the percentage, p is the percentage ($0 \leq p \leq 100$), and b is the parameter in Table III associated with the particular type of characteristic in the numerator of the percentage.

Estimating Standard Errors Using the Parameters

Linear interpolation in Tables I.A. through II.B.4 may be used to obtain standard errors for intermediate values not shown, or the appropriate formula, (1) or (2), may be used directly. Direct computation will give more accurate results than linear interpolation on a curve.

Illustration of the Use of the Parameters in Calculating Standard Errors

Table B of the Bureau of the Census report, "Characteristics of the Low-Income Population: 1973", Series P-60, No. 98 shows that in 1973 there were 2,193,000 low-income or poverty families with a female head. Using formula (1) with the a parameter equal to -.000008 and the b parameter equal to 1063.1809 from Table III gives 48,000 as the standard error. By interpolation (see P, 37) the standard error was 47,000.

Of these 2,193,000 total female headed families below the low-income level, 1,190,000 or 54.3 percent are white female headed families. Using formula (2) with the b parameter from Table III equal to 1063.1809 gives a standard error of 1.1 percent, which was the same result gotten from interpolation (See P. 37).

Table III - Parameters for Persons and Families

Characteristic	a	b	Factors for Spanish
(1) Total or White Persons by Household and Family Characteristics	-.000031	4252.7235	3.53
(2) Negro and Other Races by Household and Family Characteristics	-.000514	7402.1639	-
(3) Total or White Persons by Educational Attainment	-.000016	2064.3452	1.86
(4) Negro and Other Races by Educational Attatinment	-.000186	2791.7805	-
(5) Total or White Persons by Income	-.000007	1533.4986	4.87
(6) Negro and Other Races by Income	-.000052	1384.8466	-
(7) Total or White Persons in Low-Income or Poverty Households	-.000030	6133.9944	4.87
(8) Negro and Other Races in Low-Income or Poverty Households	-.000209	5539.3864	-
(9) Total or White Persons by Employment Characteristics	-.000011	1460.2342	5.11
(10) Negro and Other Races by Employment Characteristics	-.000094	1307.8139	-
(11) Persons by Unemployment Characteristics	-.000005	1629.1865	1.47
(12) Women by Fertility Characteristics	-.000018	1567.0337	1.53
(13) Persons by Mobility Characteristics	-.000066	10,411.2130	1.44
(1) Families, Households or Unrelated Individuals by SMSA or Non-SMSA Characteristics	-.000017	2565.9791	.93
(2) Families, Households or Unrelated Individuals by Other Than SMSA or Non-SMSA Characteristics	-.000019	1344.6946	1.78
(3) Total or White Families, Households or Unrelated Individuals by Income and Low-Income	-.000008	1063.1809	2.25
(4) Negro and Other Races Families, Households or Unrelated Individuals by Income and Low-Income	-.000064	922.0689	-

ATTACHMENT C.

STATE AND SMSA TABULATIONS

This attachment deals with problems in tabulating states, SMSA's and combinations of states. National estimates will have the lowest relative sampling errors of any of the area tabulations made from the CPS records. It is possible to produce unbiased estimates for subordinate areas but the sampling errors associated with such estimates will be relatively larger. There are two major reasons for this and care should be exercised lest these considerations combine to produce meaningless results for small areas.

First, the Current Population Survey was designed with the primary objective of maximizing the reliability of national and regional estimates; the reliability of subordinate areas was not considered as an ingredient of the design. As a consequence of this ordering of priorities, NSR strata are often comprised of PSU's from more than one state (although all NSR PSU's in a stratum are from the same region). In such strata, the sample PSU's will represent data from more than one state. State estimates constructed by a summation of estimated stratum totals for those strata having the sample PSU in a given state will include an estimate for PSU's outside the state of interest. Furthermore, some of the PSU's in the state of interest may be represented by a sample PSU in a different state. Although such estimates are unbiased when considered over all possible samples of PSU's, they do introduce a substantial component of sampling error in estimates for a state, especially when the state has a large proportion of its population in NSR strata.

Secondly, the CPS is designed as a self-weighting sample such that each sample case has the same overall probability of selection of about 1-in-1,400. Thus, the sample size for states, SMSA's or other areas will be proportional to the population of the area. The reliability of a sample estimate is a function of the number of sample cases employed in creating the estimate, and as the number of sample cases decreases, the reliability of the estimates will deteriorate. The reliability problem is further aggravated for estimates involving detailed cross-tabulations of the sample cases within an area.

Estimates for subordinate tabulation areas may be made by tallying the weights for records identified with the tabulation area. Sampling errors expected for estimates prepared in this way should be considered in deciding the area for which useful results may be expected. Table IV is offered as an aid in determining such tabulation areas. The table presents factors representing the approximate increment in the standard errors of Tables I and II expected for tabulations produced for selected subordinate areas. To obtain a and b parameters as in Table III for areas, multiply the national a and b from Table III by the square of the factor for the area.

As an example, consider the subordinate area: Arizona-Colorado-New Mexico. Table IV shows the factor to be 2.19 for this area. This means that standard errors expected for estimates from this area are 2.19 times as large as the standard errors given in tables I or II for U.S. estimates (this applies to tabulations for all three states combined, not each state separately). For an estimate of 50,000 white persons residing in households of a given type, column (1) of Table IA shows a standard error of 15,000 for the U.S. estimate. For the subordinate area consisting of the three states, the standard error is 33,000. The 95 percent confidence interval for this estimate would be from -16,000 to 116,000. Estimated totals for subsets of persons in this category would have even larger relative sampling errors. Likewise, the parameters in Table III will increase 4.80 times. For example, the a parameter for income for white persons in this subordinate area will become -.000034 and the b parameter will increase to 7360.7933.

Table IV - Factors to be Applied to Tables I and II [1/]
Approximate Standard Errors for Subordinate Areas

Subordinate Area	Factors
Census Regions	1.54
Census Divisions	
1. Middle Atlantic	1.30
2. Pacific	1.76
3. East North Central	1.69
4. West South Central	2.42
5. New England	1.70
6. South Atlantic	1.76
7. West North Central	2.28
8. East South Central	2.29
9. Mountain	2.74
Groups of States	
1. Pennsylvania-New Jersey	1.32
2. Ohio-Indiana	1.55
3. Illinois-Mich.-Wisc.	1.79
4. Mont.-Idaho-Wyoming-Colorado-N. Mexico-Ariz.-Utah-Wash.-Oregon-Alaska-Hawaii	2.42
5. Delaware-Md.-D.C.-Va.-West Virginia	1.66
6. N.C.-S.C.-Ga.-Fla.	1.89
7. Ariz.-Colo.-N. Mexico	2.19
8. Mich.-Wisc.	1.91

1/ Apply the square of these factors to the national a and b parameters in Table III to obtain area parameters.

(more)

Table IV—cont'd.

Individuals States

1.	Alabama	2.59
2.	Alaska	1.87
3.	Arizona	1.71
4.	Arkansas	4.10
5.	California	1.27
6.	Colorado	2.29
7.	Connecticut	1.19
8.	Delaware	1.45
9.	Dist. of Columbia	.96
10.	Florida	1.31
11.	Georgia	2.00
12.	Hawaii	1.34
13.	Idaho	3.46
14.	Illinois	1.55
15.	Indiana	1.74
16.	Iowa	2.26
17.	Kansas	1.81
18.	Kentucky	2.10
19.	Louisiana	2.00
20.	Maine	2.66
21.	Maryland	1.68
22.	Massachusetts	1.09
23.	Michigan	1.72
24.	Minnesota	2.24
25.	Mississippi	2.36
26.	Missouri	1.63
27.	Montana	3.14
28.	Nebraska	2.12
29.	Nevada	2.82
30.	New Hampshire	2.09
31.	New Jersey	1.31
32.	New Mexico	2.58
33.	New York	1.27
34.	North Carolina	2.10
35.	North Dakota	2.93
36.	Ohio	1.35
37.	Oklahoma	2.00
38.	Oregon	2.43
39.	Pennsylvania	1.33
40.	Rhode Island	.96
41.	South Carolina	2.13
42.	South Dakota	2.98
43.	Tennessee	2.12
44.	Texas	1.56
45.	Utah	2.63
46.	Vermont	2.23
47.	Virginia	1.92
48.	Washington	1.91
49.	West Virginia	2.27
50.	Wisconsin	2.09
51.	Wyoming	3.03

Individual SMSA .96

The reliability of estimates of totals, prepared as indicated above, may be improved by introducing an additional stage of ratio estimation. This process requires an independent estimate of the total civilian noninstitutional population of the tabulation area in question. The additional estimation stage will improve estimates of levels but it will not affect the reliability of estimates of proportions. For each tabulation area, the following ratio should be computed:

$$\frac{\text{Independent estimate of the total civilian noninstitutional population for the area}}{\text{CPS estimate of the total civilian noninstitutional population for the area}}$$

The independent estimates of the total civilian noninstitutional population for each area in Table I V are available, on request, from the Population Division of the Bureau of the Census. [2/] The CPS estimates of the total civilian noninstitutional population for each subordinate area should be computed from the CPS records on the Annual Demographic File. For each area, the sum of the existing weights on the records for the persons in the area should be used as the CPS estimate of total population for that area. The additional stage of ratio estimation is applied by multiplying the existing weight on each record in the area by the appropriate ratio for that area and the revised weights should then be used when tabulating the records in the area. Alternatively, the estimated totals produced using the existing weights may be adjusted by applying this factor.

The sampling errors of estimated totals produced by this revised estimator are derived by following the instructions given in Section III, page 45, where the "variance of a single stage ratio estimate to total population" is treated.

2/ Actually, the independent estimates are available for each of 50 states, the District of Columbia and 19 SMSA's separately.

INDUSTRY CLASSIFICATION
(3-digit)
(Numbers in parentheses are the SIC code equivalents)

Census Code	
	AGRICULTURE, FORESTRY, AND FISHERIES
017	Agricultural production (01)
018	Agricultural services, exc. horticultural (07 except 0713 and 073)
019	Horticultural services (073)
027	Forestry (08)
028	Fisheries (09)
	MINING
047	Metal mining (10)
048	Coal mining (11, 12)
049	Crude petroleum and natural gas extractions (13)
057	Nonmetallic mining and quarrying, exc. fuel (14)
	CONSTRUCTION
067	General building contractors (15)
068	General contractors, exc. building (16)
069	Special trace contractors (17)
077	Not specified construction
	MANUFACTURING
	Durable goods
	Lumber and wood products, exc. furniture
107	Logging (241)
108	Sawmills, planing mills, and mill work (242, 243)
109	Miscellaneous wood products (244, 249)
118	Furniture and fixtures (25)
	Stone, clay, and glass products
119	Glass and glass products (321-323)
127	Cement, concrete, gypsum, and plaster products (324, 327)
128	Structural clay products (325)
137	Pottery and related products (326)
138	Miscellaneous nonmetallic mineral and stone products (328, 329)

Metal industries
139 Blast furnaces, steel works, rolling and finishing mills (3312, 3313)
147 Other primary iron and steel industries (3315-3317, 332, 3391, part 3399)
148 Primary aluminum industries (3334, part 334, 3352, 3361, part 3392, part 3399)
149 Other primary nonferrous industries (3331-333, 3339, part 334, 3351, 3356, 3357, 3362, 3369, part 3392, part 3399)
157 Cutlery, hand tools, and other handware (342)
158 Fabricated structural metal products (344)
159 Screw machine products (345)
167 Metal stamping (346)
168 Miscellaneous fabricated metal products (341, 343, 347, 348, .349)
169 Not specified metal industries

Machinery, except electrical
177 Engines and turbines (351)
178 Farm machinery and equipment (352)
179 Construction and material handling machines (353)
187 Metalworking machinery (354)
188 Office and accounting machines (357 exc. 3573)
189 Electronic computing equipment (3573)
197 Machinery, exc. electrical, n.e.c. (355, 356, 358, 359)
198 Not specified machinery

Electrical machinery, equipment, and supplies
199 Household appliances (363)
207 Radio, T.V., and communication equipment (365, 366)
208 Electrical machine, equipment, and supplies, n.e.c. (361, 362, 364, 367, 369)
209 Not specified electrical machinery, equipment, and supplies

Transportation equipment
219 Motor vehicles and motor vehicle equipment (371)
227 Aircraft and parts (372)
228 Ship and boat building and repairing (373)
229 Railroad locomotives and equipment (374)
237 Mobile dwellings and campers (3791)
238 Cycles and miscellaneous transportation equipment (375, 3799)

Professional and photographic equipment, and watches
239 Scientific and controlling instruments (381, 382)
247 Optical and health services supplies (383, 384, 385)
248 Photographic equipment and supplies (386)
249 Watches, clocks, and clock-work-operated devices (387)
257 Not specified professional equipment
258 Ordnance (19)
259 Miscellaneous manufacturing industries (39)

Nondurable goods

Food and kindred products

268 Meat products (201)
269 Dairy products (202
278 Canning and preserving fruits, vegetables, and sea foods (203)
279 Grain-mill products (204, 0713)
287 Bakery products (205)
288 Confectionery and related products (207)
289 Beverage industries (208)
297 Miscellaneous food preparation and kindred products (206, 209)
298 Not specified food industries
299 Tobacco manufactures (21)
Textile mill products
307 Knitting mills (225)
308 Dyeing and finishing textiles, exc. wool and knit goods (226)
309 Floor coverings, exc. hard surface (227)
317 Yarn, thread, and fabric mills (221-224, 228)
318 Miscellaneous textile mill products (229)
Apparel and other fabricated textile products
319 Apparel and accessories (231-238)
327 Miscellaneous fabricated textile products (239)
Paper and allied products
328 Pulp, paper, and paperboard mills (261-263, 266)
329 Miscellaneous paper and pulp products (264)
337 Paperboard containers and boxes (265)
Printing, publishing, and allied industries
338 Newspaper publishing and printing (271)
339 Printing, publishing, and allied industries, except newspapers (272-279)
Chemicals and allied products
347 Industrial chemicals (281)
348 Plastics, synthetics and resins, exc. fibers (282, exc. 2823 and 2824)
349 Synthetic fibers (2823, 2824)
357 Drugs and medicines (283)
358 Soaps and cosmetics (284)
359 Paints, varnishes, and related products (285)
367 Agricultural chemicals (287)
368 Miscellaneous chemicals (286, 289)
369 Not specified chemicals and allied products
Petroleum and coal products
377 Petroleum refining (291)
378 Miscellaneous petroleum and coal products (295, 299)
Rubber and miscellaneous plastic products
379 Rubber products (301-303, 306)
387 Miscellaneous plastic products (307)
Leather and leather products
388 Tanned, curried, and finished leather (311)
389 Footwear, except rubber (313, 314)
397 Leather products, exc. footwear (312, 315-317, 319)
398 Not specified manufacturing industries

TRANSPORTATION, COMMUNICATIONS, AND OTHER PUBLIC UTILITIES

Transportation

407 Railroads and railway express service (40)
408 Street railways and bus lines (411, 413-415, 417)
409 Taxicab service (412)
417 Trucking service (421, 423)
418 Warehousing and storage (422)
419 Water transportation (44)
427 Air transportation (45)
428 Pipe lines, except natural gas (46)
429 Services incidental to transportation (47)

Communications

447 Radio broadcasting and television (483)
448 Telephone (wire and radio) (481)
449 Telegraph and miscellaneous communication services (482, 489)

Utilities and sanitary services

467 Electric light and power (491)
468 Electric-gas utilities (493)
469 Gas and steam supply systems (492, 496)
477 Water supply (494)
478 Sanitary services (495)
479 Other and not specified utilities (497)

WHOLESALE AND RETAIL TRADE

Wholesale trade

507 Motor vehicles and equipment (501)
508 Drugs, chemicals, and allied products (502)
509 Dry goods and apparel (503)
527 Food and related products (504)
528 Farm products --raw materials (505)
529 Electrical goods (506)
537 Hardware, plumbing, and heating supplies (507)
538 Not specified electrical and hardware products
539 Machinery equipment and supplies (508)
557 Metals and minerals, n.e.c. (5091)
558 Petroleum products (5092)
559 Scrap and waste materials (5093)
567 Alcoholic beverages (5095)

568 Paper and its products (5096)
569 Lumber and construction materials (5098)
587 Wholesalers, n.e.c. (5094, 5097, 5099)
588 Not specified wholesale trade

Retail trade

607 Lumber and building material retailing (521-524)
608 Hardware and farm equipment stores (525)
609 Department and mail order establishments (531, 532)
617 Limited price variety stores (533)
618 Vending machine operators (534)
619 Direct selling establishments (535)
627 Miscellaneous general merchandise stores (539)
628 Grocery stores (541)
629 Dairy products stores (545)
637 Retail bakeries (546)
638 Food stores, n.e.c. (542-544,549)
639 Motor vehicle dealers (551, 552)
647 Tire, battery, and accessory dealers (553)
648 Gasoline service stations (554)
649 Miscellaneous vehicle dealers (559)
657 Apparel and accessories stores, exc shoe stores (56 exc. 566)
658 Shoe stores (566)
667 Furniture and home furnishings stores (571)
668 Household appliances, TV, and radio stores (572, 573)
669 Eating and drinking places (58)
677 Drug stores (591)
678 Liquor stores (592)
679 Farm and garden supply stores (596)
687 Jewelry stores (597)
688 Fuel and ice dealers (598)
689 Retail florists (5992)
697 Miscellaneous retail stores (593-595, 599 exc. 5992)
698 Not specified retail trade

FINANCE, INSURANCE, AND REAL ESTATE

707 Banking (60)
708 Credit agencies (61)
709 Security, commodity brokerage, and investment companies (62, 67)
717 Insurance (63, 64)
718 Real estate, incl. real estate-insurance-law offices (65, 66)

BUSINESS AND REPAIR SERVICES

727 Advertising (731)
728 Services to dwellings and other building (734)
729 Commercial research, development, and testing labs (7391, 7397)
737 Employment and temporary help agencies (736, 7398)
738 Business management and consulting services (part 7392)
739 Computer programing services (part 7393)
747 Detective and protective services (7393)
748 Business services, n.e.c. (732, 733, 735, 7394 7395, 7396, 7399)
749 Automobile services, exc. repair (751, 752, 754)
757 Automobile repair and related services (753)
758 Electrical repair shops (762, 7694)
759 Miscellaneous repair services (763, 764, 769, exc. 7694)

PERSONAL SERVICES

769 Private households (88)
777 Hotels and motels (701)
778 Lodging places, exc. hotels and motels (702,703,704)
779 Laundering, cleaning, and other garment services (721, 727)
787 Beauty shops (723)
788 Barber shops (724)
789 Shoe repair shops (725)
797 Dressmaking shops (part 729)
798 Miscellaneous personal services (722, 726, part 729)

ENTERTAINMENT AND RECREATION SERVICES

807 Theaters and motion pictures (78, 792)
808 Bowling alleys, billiard and pool parlors (793)
809 Miscellaneous entertainment and recreation services (791, 794)

PROFESSIONAL AND RELATED SERVICES

828 Offices of physicians (801, 803)
829 Offices of dentists (802)
837 Offices of chiropractors (804)
838 Hospitals (806)
839 Convalescent institutions (8092)
847 Offices of health practitioners, n.e.c. (part 8099)
848 Health services, n.e.c. (807, part 8099)
849 Legal services (81)
857 Elementary and secondary schools (821)
858 Colleges and universities (822)

859 Libraries (823)
867 Educational services, n.e.c. (824, 829)
868 Not specified educational services
869 Museums, art galleries, and zoos (84)
877 Religious organizations (866)
878 Welfare services (part 867)
879 Residential welfare facilities (part 867)
887 Nonprofit membership organizations (861-865, 869)
888 Engineering and architectural services (891)
889 Accounting, auditing, and bookkeeping services (893)
897 Miscellaneous professional and related services (892, 899)

PUBLIC ADMINISTRATION

907 Postal service (part 9190)
917 Federal public administration (part 9190, 9490)
927 State public administration (9290)
937 Local public administration (9390)

Detailed Industry Recodes

(01-51)

Detailed Industry	Recodes	IND
Goods-producing industries		(017-019,047-398)
Agricultural production	01	017
Agricultural services	02	018-019
Mining	03	047-057
Construction	04	067-077
Manufacturing		(107-398)
Durable goods		(107-259)
Ordinance	05	258
Lumber	06	107-109
Furniture	07	118
Stone, clay, glass	08	119-138
Primary metals	09	139-149
Fabricated metals (incl. not spec. metal)	10	157-169
Machinery, exc. elect.	11	177-198
Electrical equipment	12	199-209
Transportation equipment		(219-238)
Automobiles	13	219
Aircraft	14	227
Other transportation equipment	15	228-238
Instruments	16	239-257
Miscellaneous	17	259
Nondurable goods		(268-398)
Food	18	268-298
Tobacco	19	299
Textiles	20	307-318
Apparel	21	319-327
Paper	22	328-337
Printing	23	338-339
Chemicals	24	347-369
Petroleum	25	377-378
Rubber and plastics	26	377-378
Leather and not specified manufacturing	27	388-398
Service Producing Industries		(027,028,407-937)
Transportation and public utilities		(407-479)
Railroads and railway express	28	407
Other Transportation	29	408-429
Communications	30	447-449
Other public utilities	31	467-479

Trade		(507-698)
Wholesale	32	507-588
Retail		(607-698)
Eating and drinking places	33	669
Other retail	34	607-668, 677-698
Finance, insurance, and real estate		(707-718)
Banking and other finance	35	707-709
Insurance and real estate	36	717-718
Private Household service	37	769
Miscellaneous services		(727-759)
Business and repair		
Business	38	727-748
Repair	39	749-759
Personal services, except private household	40	777-798
Entertainment and recreation	41	807-809
Professional services		
Medical, except hospitals	42	828-837,839-848
Hospitals	43	838
Welfare and religious	44	877-879
Educational	45	857-868
Other professional	46	849,869,887-897
Forestry and fisheries	47	027,028
Public administration		(907-937)
Postal	48	907
Other federal	49	917
State	50	927
Local	51	937

Major Industry Recode (01-20)

1970 Major Industry (1)	Recodes	IND
(Excludes Agriculture and Private Household)	00	
Mining	01	047-057
Construction	02	067-077
Manufacturing		(107-398)
Durable goods	03	107-259
Nondurable goods	04	268-398
Transportation and public utilities		(407-479)
Railroads and railway express	05	407
Other transportation	06	408-429
Other utilities	07	447-479
Wholesale and retail trade		(507-698)
Wholesale trade	08	507-588
Retail trade	09	607-698
Finance, insurance, and real estate	10	707-718
Miscellaneous service		
Business and repair	11	727-759
Personal, except private household	12	777-798
Entertainment and recreation	13	807-809
Medical, except hospitals	14	828-837,839-848
Hospitals	15	838
Welfare and religious	16	877-879
Education	17	857-868
Other professional services	18	849,869,887-897
Forestry and fisheries	19	027,028
Public administration	20	907-937

Occupation Classification

Census Code	PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS
001	Accountants
002	Architects
	Computer specialists
003	Computer programmers
004	Computer systems analysts
005	Computer specialists, n.e.c.
	Engineers
006	Aeronautical and astronautical engineers
010	Chemical engineers
011	Civil engineers
012	Electrical and electronic engineers
013	Industrial engineers
014	Mechanical engineers
015	Metallurgical and materials engineers
020	Mining engineers
021	Petroleum engineers
022	Sales engineers
023	Engineers, n.e.c.
024	Farm management advisors
025	Foresters and conservationists
026	Home management advisors
	Lawyers and judges
030	Judges
031	Lawyers
	Librarians, archivists, and curators
032	Librarians
033	Archivists and curators
	Mathematical specialists
034	Actuaries
035	Mathematicians
036	Statisticians
	Life and physical scientists
042	Agricultural scientists
043	Atmospheric and space scientists
044	Biological scientists
045	Chemists
051	Geologists
052	Marine scientists
053	Physicists and astronomers
054	Life and physical scientists, n.e.c.
055	Operations and systems researchers and analysts
056	Personnel and labor relations workers
	Physicians, dentists, and related practitioners
061	Chiropractors
062	Dentists
063	Optometrists

064 Pharmacists
065 Physicians, medical and osteopathic
071 Podiatrists
072 Veterinarians
073 Health practitioners, n.e.c.

Nurses, dietitians, and therapists
074 Dietitians
075 Registered nurses
076 Therapists

Health technologists and technicians
080 Clinical laboratory technologists and technicians
081 Dental hygienists
082 Health record technologists and technicians
083 Radiologic technologists and technicians
084 Therapy assistants
085 Health technologists and technicians, n.e.c.

Religious workers
086 Clergymen
090 Religious workers, n.e.c.

Social scientists
091 Economists
092 Political scientists
093 Psychologists
094 Sociologists
095 Urban and regional planners
096 Social scientists, n.e.c.

Social and recreation workers
100 Social workers
101 Recreation workers

Teachers, college and university
102 Agriculture teachers
103 Atmospheric, earth, marine, and space teachers
104 Biology teachers
105 Chemistry teachers
110 Physics teachers
111 Engineering teachers
112 Mathematics teachers
113 Health specialties teachers
114 Psychology teachers
115 Business and commerce teachers
116 Economic teachers
120 History teachers
121 Sociology teachers
122 Social science teachers, n.e.c.
123 Art, drama, and music teachers
124 Coaches and physical education teachers
125 Education teachers
126 English teachers
130 Foreign language teachers
131 Home economics teachers
132 Law teachers
133 Theology teachers
134 Trade, industrial, and technical teachers

135 Miscellaneous teachers, college and university
140 Teachers, college and university, subject not specified

Teachers, except college and university

141 Adult education teachers
142 Elementary school teachers
143 Prekindergarten and kindergarten teachers
144 Secondary school teachers
145 Teachers, except college and university, n.e.c.

Engineering and science technicians

150 Agriculture and biological technicians, except health
151 Chemical technicians
152 Draftsmen
153 Electrical and electronic engineering technicians
154 Industrial engineering technicians
155 Mechanical engineering technicians
156 Mathematical technicians
161 Surveyors
162 Engineering and science technicians, n.e.c.

Technicians, except health, and engineering and science

163 Airplane pilots
164 Air traffic controllers
165 Embalmers
170 Flight engineers
171 Radio operators
172 Tool programmers, numerical control
173 Technicians, n.e.c.
174 Vocational and educational counselors

Writers, artists, and entertainers

175 Actors
180 Athletes and kindred workers
181 Authors
182 Dancers
183 Designers
184 Editors and reporters
185 Musicians and composers
190 Painters and sculptors
191 Photographers
192 Public relations men and publicity wRiters
193 Radio and television announcers
194 Writers, artists, and entertainers, n.e.c.
195 Research workers, not specified

MANAGERS AND ADMINISTRATORS, EXCEPT FARM

201 Assessors, controllers, and treasurers; local public administration
202 Bank officers and financial managers
203 Buyers and shippers, farm products

205 Buyers, wholesale and retail trade
210 Credit men
211 Funeral directors
212 Health administrators
213 Construction inspectors, public administration
215 Inspectors, except construction, public administration
216 Managers and superintendents, building
220 Office managers, n.e.c.
221 Officers, pilots, and pursers; ship
222 Officials and administrators; public administration, n.e.c.
223 Officials of lodges, societies, and unions
224 Postmasters and mail superintendents
225 Purchasing agents and buyers, n.e.c.
226 Railroad conductors
230 Restaurant, cafeteria, and bar managers
231 Sales managers and department heads, retail trade
233 Sales managers, except retail trade
235 School administrators, college
240 School administrators, elementary and secondary
245 Managers and administrators, n.e.c.

SALES WORKERS

260 Advertising agents and salesmen
261 Auctioneers
262 Demonstrators
264 Hucksters and peddlers
265 Insurance agents, brokers, and underwriters
266 Newsboys
270 Real estate agents and brokers
271 Stock and bond salesmen
280 Salesmen and sales clerks, n.e.c.
281 Sales representatives, manufacturing industries
282 Sales representatives, wholesale trade
283 Sales clerks, retail trade
284 Salesmen, retail trade
285 Salesmen of services and construction
296 Sales workers - allocated

CLERICAL AND KINDRED WORKERS

301 Bank tellers
303 Billing clerks
305 Bookkeepers
310 Cashiers
311 Clerical assistants, social welfare
312 Clerical supervisors, n.e.c.
313 Collectors, bill and account
314 Counter clerks, except food
315 Dispatchers and starters, vehicle
320 Enumerators and interviewers

321 Estimators and investigators, n.e.c.
323 Expediters and production controllers
325 File clerks
326 Insurance adjusters, examiners, and investigators
330 Library attendants and assistants
331 Mail carriers, post office
332 Mail handlers, except post office
333 Messengers and office boys
334 Meter readers, utilities
Office machine operators
341 Bookkeeping and billing machine operators
342 Calculating machine operators
343 Computer and peripheral equipment operators
344 Duplicating machine operators
345 Key punch operators
350 Tabulating machine operators
355 Office machine operators, n.e.c.
360 Payroll and timekeeping clerks
361 Postal clerks
362 Proofreaders
363 Real estate appraisers
364 Receptionists
Secretaries
370 Secretaries, legal
371 Secretaries, medical
372 Secretaries, n.e.c.
374 Shipping and receiving clerks
375 Statistical clerks
376 Stenographers
381 Stock clerks and storekeepers
382 Teacher aides, exc. school monitors
383 Telegraph messengers
384 Telegraph operators
385 Telephone operators
390 Ticket, station, and express agents
391 Typists
392 Weighers
394 Miscellaneous clerical workers
395 Not specified clerical workers

CRAFTSMEN AND KINDRED WORKERS

401 Automobile accessories installers
402 Bakers
403 Blacksmiths
404 Boilermakers
405 Bookbinders
410 Brickmasons and stonemasons
411 Brickmasons and stonemasons, apprentices
412 Bulldozer operators
413 Cabinetmakers
415 Carpenters

416 Carpenter apprentices
420 Carpet installers
421 Cement and concrete finishers
422 Compositors and typesetters
423 Printing trades apprentices, exc. pressmen
424 Cranemen, derrickmen, and hoistmen
425 Decorators and window dressers
426 Dental laboratory technicians
430 Electricians
431 Electrician apprentices
433 Electric power linemen and cablemen
434 Electrotypers and stereotypers
435 Engravers, exc. photoengravers
436 Excavating, grading, and road machine operators; exc. bulldozer
440 Floor layers, exc. tile setters
441 Foremen, n.e.c.
442 Forgemen and hammermen
443 Furniture and wood finishers
444 Furriers
445 Glaziers
446 Heat treaters, annealers, and temperers
450 Inspectors, scalers, and graders; log and lumber
452 Inspectors, n.e.c.
453 Jewelers and watchmakers
454 Job and die setters, metal
455 Locomotive engineers
456 Locomotive firemen
461 Machinists
462 Machinists apprentices
Mechanics and repairmen
470 Air conditioning, heating, and refrigeration
471 Aircraft
472 Automobile body repairmen
473 Automobile mechanics
474 Automobile mechanic apprentices
475 Data processing machine repairmen
480 Farm implement
481 Heavy equipment mechanics, incl. diesel
482 Household appliance and accessory installers and mechanics
483 Loom fixers
484 Office machine
485 Radio and television
486 Railroad and car shop
491 Mechanic, exc. auto, apprentices
492 Miscellaneous mechanics and repairmen
495 Not specified mechanics and repairmen
501 Millers; grain, flour, and feed
502 Millwrights
503 Molders, metal
504 Molder apprentices
505 Motion picture projectionists

506 Opticians and lens grinders and polishers
510 Painters, construction and maintenance
511 Painter apprentices
512 Paperhangers
514 Pattern and model makers, exc. paper
515 Photoengravers and lithographers
516 Piano and organ tuners and repairmen
520 Plasters
521 Plasterer apprentices
522 Plumbers and pipe fitters
523 Plumber and pipe fitter apprentices
525 Power station operators
530 Pressmen and plate printers, printing
531 Pressman apprentices
533 Rollers and finishers, metal
534 Roofers and slaters
535 Sheetmetal workers and tinsmiths
536 Sheetmetal apprentices
540 Shipfitters
542 Shoe repairmen
543 Sign painters and letterers
545 Stationary engineers
546 Stone cutters and stone carvers
550 Structural metal craftsmen
551 Tailors
552 Telephone installers and repairmen
554 Telephone linemen and splicers
560 Tile setters
561 Tool and die makers
562 Tool and die maker apprentices
563 Upholsterers
571 Specified craft apprentices, n.e.c.
572 Not specified apprentices
575 Craftsmen and kindred workers, n.e.c.
580 Former members of the Armed Forces

OPERATIVE, EXCEPT TRANSPORT

601 Asbestos and insulation workers
602 Assemblers
603 Blasters and powdermen
604 Bottling and canning operatives
605 Chainmen, rodmen, and axmen, surveying
610 Checkers, examiners, and inspectors, manufacturing
611 Clothing ironers and pressers
612 Cutting operatives, n.e.c.
613 Dressmakers and seamstresses, except factory
614 Drillers, earth
615 Dry wall installers and lathers
620 Dyers
621 Filers, polishers, sanders, and buffers
622 Furnacemen, smeltermen, and pourers

623 Garage workers and gas station attendants
624 Graders and sorters, manufacturing
625 Produce graders and packers, exc. factory and farm
626 Heaters, metal
630 Laundry and dry cleaning operatives, n.e.c.
631 Meat cutters and butchers, exc. manufacturing
633 Meat cutters and butchers, manufacturing
634 Meat wrappers, retail trade
635 Metal platers
636 Milliners
640 Mine operatives, n.e.c.
641 Mixing operative
642 Oilers and greasers, exc. auto
643 Packers and wrappers, exc. meat and produce
644 Painters, manufactured articles
645 Photographic process workers
Precision machine operatives
650 Drill press operatives
651 Grinding machine operatives
652 Lathe and milling machine operatives
653 Precision machine operatives, n.e.c.
656 Punch and stamping press operatives
660 Riveters and fasteners
661 Sailors and deckhands
662 Sawyers
663 Sewers and stitchers
664 Shoemaking machine operatives
665 Solderers
666 Stationary firemen
Textile operatives
670 Carding, lapping, and combing operatives
671 Knitters, loopers, and toppers
672 Spinners, twisters, and winders
673 Weavers
674 Textile operatives, n.e.c.
680 Welders and flame-cutters
681 Winding operatives, n.e.c.
690 Machine operatives, miscellaneous specified
692 Machine operatives, not specified
694 Miscellaneous operatives
695 Not specified operatives

TRANSPORT EQUIPMENT OPERATIVES

701 Boatmen and canalmen
703 Busdrivers
704 Conductors and motormen, urban rail transit
705 Deliverymen and routemen
706 Fork lift and tow motor operatives
710 Motormen; mine, factory, logging camp, etc.
711 Parking attendants
712 Railroad brakemen

713 Railroad switchmen
714 Taxicab drivers and chauffeurs
715 Truck drivers

LABORERS, EXCEPT FARM

740 Animal caretakers, exc. farm
750 Carpenters' helpers
751 Construction laborers, exc. carpenters' helpers
752 Fishermen and oystermen
753 Freight and material handlers
754 Garbage collectors
755 Gardeners and groundskeepers, exc. farm
760 Longshoremen and stevedores
761 Lumbermen, raftsmen, and woodchoppers
762 Stockhandlers
763 Teamsters
764 Vehicle washers and equipment cleaners
770 Warehousemen, n.e.c.
780 Miscellaneous laborers
785 Not specified laborers

FARMERS AND FARM MANAGERS

801 Farmers (owners and tenants)
802 Farm managers

FARM LABORERS AND FARM FOREMEN

821 Farm foremen
822 Farm laborers, wage workers
823 Farm laborers, unpaid family workers
824 Farm service laborers, self-employed

SERVICE WORKERS, EXC. PRIVATE HOUSEHOLD

Cleaning service workers
901 Chambermaids and maids, exc. private households
902 Cleaners and charwomen
903 Janitors and sextons
Food service workers
910 Bartenders
911 Busboys
912 Cooks, exc. private household
913 Dishwashers
914 Food counter and fountain workers
915 Waiters
916 Food service workers, n.e.c., exc. private household

921 Dental assistants
922 Health aides, exc. nursing
923 Health trainees
924 Lay midwives
925 Nursing aides, orderlies, and attendants
926 Practical nurses

Personal service workers

931 Airline stewardesses
932 Attendants, recreation and amusement
933 Attendants, personal service, n.e.c.
934 Baggage porters and bellhops
935 Barbers
940 Boarding and lodginghouse keepers
941 Bootblacks
942 Child care workers, exc. private household
943 Elevator operators
944 Hairdressers and cosmetologists
945 Personal service apprentices
950 Housekeepers, exc. private household
952 School monitors
953 Ushers, recreation and amusement
954 Welfare service aides

Protective service workers

960 Crossing guards and bridge tenders
961 Firemen, fire protection
962 Guards and watchmen
963 Marshals and constables
964 Policemen and detectives
965 Sheriffs and bailiffs

PRIVATE HOUSEHOLD WORKERS

980 Child care workers, private household
981 Cooks, private household
982 Housekeepers, private household
983 Laundresses, private household
984 Maids and servants, private household

APPENDIX B2

Detailed Occupation Recodes
(01-44)

Detailed 2-digit Occupation	Recodes	Occ. Codes	IND
Professional, technical, and kindred workers		(001-195)	
Engineers	01	006-023	
Physicians, dentists, and related practitioners	02	061-073	
Health workers, except practitioners	03	074-085	
Teachers, except college	04	141-145	
Engineering and science technicians	05	150-162	
Other professionals-salaried (1,2 Class of Worker)	06	All other 0xx & 1xx	
Other professionals-self-employed (3,4 Class of Workers)	07		
Managers and administrator, except farm		(201-245)	
Salaried-Manufacturing (1,2 Class of Worker)	08		107-398
Salaried-Other industries (1,2 Class of Worker)	09		All other ind.
Self-employed--retail trade (3,4 Class of Worker)	10		607-698
Self-employed--other industries (3,4 Class of Worker)	11		017-588,707-937
Sales workers		(260-285)	
Retail trade	12		607-698
Other	13		017-588,707,937
Clerical workers		(301-395)	
Bookkeepers	14	305	
Office machine operators	15	341-355	
Stenographers, typists, and secretaries	16	370-372,376,391	
Other clerical workers	17	All other 3xx	
Craftsmen and kindred workers		(401-575)	
Carpenters	18	415,416	
Other construction craftsmen	19	410-412,421,430 431,436,440,510-512,520-523,534, 550,560	
Foreman (n.e.c.)	20	441	

Machinists and job setters	21	454,461,462	
Metal craftsmen, except mechanics and machinists and job setters	22	403,404,442,446, 502-504,514,533, 535,536,540,561, 562	
Mechanics--auto	23	472-474	
Mechanics, except auto	24	470,471,475-495	
All other craftsmen	25	All other 4xx & 5xx (601-695)	
Operatives except transport			
Mine workers	26		047-057
Motor vehicles and equipment	27		219
Other durable goods	28		107-209,227-259
Nondurable goods	29		268-398
All other	30		017-028,067-077, 407-937
Transport equipment operatives		(701-715)	
Drivers and deliverymen	31	703,705,714,715	
All others	32	701,704,706-713	
Nonfarm laborers		(740-785)	
Construction	33		067-077
Manufacturing	34		107-398
All other	35		017-057,407-937
Private household workers	36	980-984	
Service workers, except private household		(901-965)	
Cleaning service	37	901-903	
Food service	38	910-916	
Health service	39	921-926	
Personal service	40	931-954	
Protective service	41	960-965	
Farmers and farm managers	42	801-802	
Farm laborers and foremen		(821-824)	
Paid laborers and foremen	43	821,822,824	
Unpaid family laborers	44	823	

APPENDIX B-4

Major Occupation Group Recodes (01-13)

Major Occupation Group	Recodes	IOCC
White-collar workers		(001-395)
Professional, technical, and kindred workers	01	001-195
Managers and administrators, except farm	02	201-245
Clerical and kindred workers	03	260-285
Sales workers	04	301-395
Blue-collar workers		(401-785)
Craftsmen and kindred workers	05	401-575
Operatives, except transport	06	601-695
Transport equipment operatives	07	701-715
Nonfarm laborers	08	740-785
Service workers		(901-984)
Private household workers	09	980-984
All other service workers	10	901-965
Farm workers		(801-824)
Farm and farm managers	11	801-802
Farm laborers and foremen	12	821-824
No previous full-time work experience	13	Never Worked