

# **December 2004 Food Security Supplement Data File: Technical Documentation**

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## **Overview**

This document provides technical information on the Current Population Survey Food Security Supplement (CPS-FSS) conducted by the U.S. Census Bureau for the U.S. Department of Agriculture in December 2004. The CPS-FSS is available from the U.S. Census Bureau in three formats: ASCII format on CD-ROM, ASCII format via the DataFerrett system, with optional SAS code to create a SAS data file from the ASCII data accessed via DataFerrett. The Economic Research Service website provides additional documentation, a facsimile of the questionnaire, and information on the concepts and history of the food security measurement project.

## **Technical Description**

The CD-ROM data file is in ASCII format and consists of 155,845 logical records. Each record represents one person in a surveyed household or one address that was selected for the core labor force survey but that either was vacant, was not a residence, could not be contacted, or refused to participate. Noninterview households (16,942) are included in the CD-ROM file with their noninterview status indicated. Interviewed households (55,307) include 138,903 person records. Of the interviewed households, 48,103 households completed the Food Security Supplement as well as the labor force survey and included 121,229 person records.

The DataFerrett system files do not include noninterview households (but do include interviewed households with Supplement data missing). Data files downloaded from DataFerrett, therefore, exclude noninterview households and consist of 138,903 records comprising 55,307 households.

A subset of variables on each record contains data about the household of which the person is a part. These variables have the same value for all persons in the same interview household.

## **Contents of the Data File**

The file includes data in three general categories:

- (1) Monthly labor force survey data and recodes, collected by the Census Bureau for the Bureau of Labor Statistics. These variables are described briefly in the data dictionary. For concepts and definitions underlying these data, users should refer to the technical documentation for the CPS monthly labor force data available from the Bureau of Labor Statistics. Included are geographic, demographic, income, and employment data that may be of interest to those analyzing the Food Security Supplement data.

- (2) Food Security Supplement data, collected by the Census Bureau for the United States Department of Agriculture. These data consist of answers by household respondents to questions

about household food expenditures, use of food assistance programs, and experiences and behaviors related to food security, food insecurity, and hunger. All of the Food Security Supplement data are household-level data except for the Supplement person weight.

(3) Food security and hunger scale and status indicators calculated from the Food Security Supplement data by the Economic Research Service of the U. S. Department of Agriculture. These indicate the screening status of the household, as well as continuous and categorical measures of food security status. They are all household-level variables.

## **Contents of the Food Security Supplement Questionnaire**

A facsimile of the Food Security Supplement questionnaire is available on the ERS Web site and on the public-use data file CD-ROM available from the Census Bureau. Variable names in the data dictionary generally consist of the prefix HE (household variable, edited) followed by the question number from the questionnaire. The major sections are as follows:

- (1) Food Spending (HES1A-HES8)
- (2) Minimum Food Spending Needed (HES8B-HES8D)
- (3) Food Assistance Program Participation (HES9-HESP9)
- (4) Food Sufficiency and Food Security (HESS1-HESSHM5). This section includes the 18 food security and hunger questions that are used to calculate the Household Food Security Scale.
- (5) Ways of Avoiding or Ameliorating Food Deprivation - Coping Strategies (HESC1-HESCM4)

Food security status variables HRFS12CS-HRFS30M3 (household variables, recoded) calculated from the food security supplement data are described below.

## **Changes from Previous Years' Food Security Supplements**

The December 2004 food security questionnaire and food security variables in the data file are unchanged from the December 2002 and December 2003 Food Security Supplement. Changes initiated in 2002 and continued in 2004 include the following:

- Collected information on which specific months food stamps were received (SP2).
- Continued split ballot test (in HRMIS 8) of 30-day follow-up questions SSM2, SSM3, SSM4, SSM5, SSM6, and SHM1 if response to base question was "often" or "sometimes."
- Continued to ask SSHF3, "How often did this happen?" if response to SSH3 was "yes."

Two recent changes in the core (monthly labor force) CPS data affect variables that may be used in food security analyses. Beginning in 2003, and continuing in 2004, the variable indicating the race of individuals in the core CPS demographic data now includes multiple-race categories, and the name of the variable is PTDTRACE. Beginning in 2004, metropolitan statistical area residence is reported based on the 2003 OMB delineations. The changes reflect not only population and commuting data from the 2000 census, but also new standards for metropolitan area classification. Statistics by metropolitan area residence status based on these data are not precisely comparable with those for 2003 and previous years. Further information on the new metropolitan statistical area standards is available on the Census website.

# Screening of the Food Security Supplement

The Food Security Supplement includes several screens to reduce respondent burden and to avoid embarrassing respondents by asking them questions that are inappropriate given other information they have provided in the survey. The screener variables use information from the monthly labor force core data as well as from the Food Security Supplement. Households with incomes above 185 percent of the poverty threshold (HRPOOR=2, estimated from HUFAMINC and HRNUMHOU) that responded "no" to HES9 were not asked the questions on participation in food assistance programs. Households with income above 185 percent of poverty that registered no indication of food stress on HES9 or HESS1 were not asked the rest of the questions in the "Food Sufficiency and Food Security" section or those in the "Ways of Avoiding or Ameliorating Food Deprivation" section. There are also two "internal" screeners in the main food security section (the questions that are used to calculate the Household Food Security Scale). This series of questions is divided into three blocks. After each of the first two blocks, households that registered no indication of food stress in the preceding block are skipped over the rest of the "Food Sufficiency and Food Security" section.

The screening rules that determine whether a household was asked the questions in the food security scale varied somewhat during the first four years of fielding the Food Security Supplement (1995-98). These different screening procedures biased estimated prevalences of food insecurity and hunger differently in each year. Adjustments must be made for these differences to compare prevalences of food security and hunger across years. This topic is discussed further below under the heading "Food Security Scales and Screener Variables."

Screeners also were applied based on whether the household included any children, so that households without children were not asked questions that refer specifically to children. For this purpose, persons 17 or younger are classified as children except those who are household reference persons or spouses of household reference persons (PERRP=1, 2, or 3).

## Food Security Scales and Screener Variables

The main purpose of the Food Security Supplement is to provide information about food security, food insecurity, and hunger in the nation's households. Several variables are provided in the data file that identify the food security status of each household during the 12 months or 30 days prior to the survey. All of these variables are based on responses to a set or subset of 18 questions in the Supplement that are indicators of food insecurity and hunger or to follow-up questions that ask about occurrence of these conditions during the 30 days prior to the survey. The variables are as follows:

### *Household Food Security Scale, 12-Month Reference Period*

- HRFS12M1 is a categorical variable based on the scale score (HRFS12M4) that classifies households in three categories: food secure, food insecure without hunger, and food insecure with hunger.
- HRFS12M2 is the same as HRFS12M1 except that the food-insecure-with-hunger category is subdivided to level 1 and level 2 hunger. The level 2 hunger category corresponds operationally with the "Severe Hunger" category described in *Household Food Security in the United States in 1995: Summary Report of the Food Security Measurement Project* and with the "Food Insecure with Hunger (Severe)" category described in *Guide to Measuring Household Food Security—2000*, both published by the Food and Nutrition Service.
- HRFS12M3 is the raw score—a count of the number of questions in the 12-month Household Food Security Scale affirmed by the household respondent
- HRFS12M4 is the scale score, a continuous score based on fitting the data to a single-parameter Rasch

model using item calibrations calculated from the 1998 data. Computed values range from about 1 to 14. Scale scores for households that affirmed no items cannot be calculated within the Rasch model. These households are food secure, but the degree of their food security is not known and may vary widely from household to household. They are assigned scale scores of -6 to remind users that they require special handling in analyses that assume linearity of the scale scores.

***Children's Food Security Scale, 12-Month Reference Period.*** A second set of food security status variables indicating the level of food stress among children in the household is calculated from responses to the 8 questions in the scale that ask specifically about conditions among the children.

- HRFS12M5 (two-category children's hunger status indicator).
- HRFS12M6 (raw score)
- HRFS12M7 (Rasch-based scale score)

***Household Food Security Scale, 30-Day Reference Period.*** The 30-Day Household Food Security Scale is similar to the corresponding 12-month scale except that it reflects conditions during the 30 days prior to the survey rather than those occurring at any time during the year. However, the 30-day scale does not measure food insecurity in the lower ranges of severity measured by the 12-month scale. Thus, a substantial proportion of households that were food insecure without hunger during the 30 days prior to the survey are not identified as food insecure by the 30-day scale.

- HRFS30M1 (three-category 30-day food security status indicator)
- HRFS30M2 (raw score)
- HRFS30M3 (Rasch-based scale score)

***Household Food Security Scale, 12-Month Reference Period, Adjusted for Comparability across All Years.*** The food security variables described above are based on responses to the food security indicator questions as they were administered in the December 2003 survey. They are directly comparable to the corresponding variables in CPS-FSS conducted in August 1998 and later. A second set of food security scale and status variables for the 12-Month Household Food Security Scale are provided to facilitate comparisons to years prior to 1998. These "common screen" variables are adjusted for interyear differences in survey screening procedures and are comparable to corresponding variables in all earlier years' CPS-FSS data files. Prevalence estimates based on these common-screen variables are comparable across all survey years.

- HRFS12C1 (three-category food security status indicator)
- HRFS12C2 (four-category food security status indicator)
- HRFS12C3 (raw score)
- HRFS12C4 (Rasch-based scale score)

Common-screen adjusted variables are not provided for the children's food security variables or for the 30-day household food security variables. Adjustment of the Children's Food Security Scale variables for screening differences is not necessary. The effects of the different screening procedures on the measured prevalence of hunger among children are negligible and the effects on the measured prevalence of food insecurity at lower levels of severity among children are small. Effects of screening differences across years on 30-day prevalence rates have not been studied, but are expected to be small or negligible at the hunger threshold and modest at the lowest measured level of food insecurity. Users can adjust either of these variables for screening differences using the screen variables described below.

Two screener status variables are provided. HRFS12MS refers to screening status under the screen that was applied when the survey was administered (the "maximum-sample screen.") The variable indicates whether the household was screened out at the initial screen (before the first of the 18 scale questions), or was screened out after the first or second blocks of questions, or was not screened out and was asked all

questions. Households that were screened out at the initial screen without giving a valid response to either screening question, or who were screened out after the first or second block without having given a valid response to any of the questions in the scale are coded as "Missing" (-5) on HRFS12MS. The corresponding food security scale and status variables for these households (HRFS12M1 through HRFS12M7 and HRFS30M1 through M3) are coded as "No Response" (-9).

HRFS12CS refers to screening status under the 1995-2002 common screen. Categories are the same as for the maximum-sample screen variable, and households that would have been screened out with no valid responses to any of the indicator questions under the common screen are coded as "Missing" (-5). Common-screen food security scale and status variables (HRFS12C1 through HRFS12C4) for these households are coded as "No Response" (-9).

## **Constructing Household Characteristics from Person Records**

To compute some household characteristics such as household size, presence of children, or presence of elderly members, it is necessary to identify the records of all persons in the same household. Households are uniquely and completely identified by three variables in combination: State of residence (GESTCEN), and two household identifiers (HRHHID and HRHHID2). Sort records within households by PERRP if the household reference person record must be the first record in the household. To match to other months' CPS files, add the HRMIS variable to the household identification, adjusting one of the files for the difference in survey month. To match to the 2003 Food Security Supplement, HRSERSUF must be extracted from HRHHID2 (characters 3 and 4) and recoded to a character variable of length 1 as follows: 00=missing, 01=A, 02=B etc. The only values of HRSERSUF that occur in the file are A-Z.

## **Weights—Estimating Population Distributions of Person and Household Characteristics**

The CPS is a complex probability sample, and interviewed households as well as persons in those households are assigned weights so that the full interviewed sample represents the total national noninstitutionalized population. Initial weights are assigned based on probability of selection into the sample, and weights are then adjusted iteratively to match population controls for selected demographic characteristics at State and national levels. There are two sets of household and person weights in this data file: (1) labor force survey weights, (2) Food Security Supplement weights.

The labor force survey weights, HWHHWGT for households and PWSSWGT for persons, are positive for persons in all interviewed households (except that person weights for persons in the armed forces are zero or missing). These weights would be appropriate for analyzing whether households or persons who completed the Supplement differed from those who declined to complete the Supplement.

About 15 percent of eligible households completed the core labor force survey but declined to complete the Food Security Supplement. The Supplement weights, HHSUPWGT for households and PWSUPWGT for persons, are adjusted for Supplement nonresponse so that the Supplement respondents represent the national noninstitutionalized population. These weights are appropriate for estimating household distributions of variables in the Food Security Supplement, including food security status.

Household weights are attached to all person records in the household. To estimate household frequency distributions, the sample must be limited to one record for each household. This is usually accomplished by limiting the sample to records of household reference persons (PERRP=1 or 2). Noninterview or nonsupplement households must be excluded from these analyses based on HRINTSTA or HRSUPINT.

All weight variables have four implied decimal places in the CD-ROM (the decimal point is not included). Divide the weight variables by 10,000 for analysis in units or by 10,000,000 for analysis in thousands of persons or thousands of households. The format of weight variables downloaded from DataFerrett are somewhat unpredictable. Sometimes they are in units; sometimes they have four implied decimal places. These should be checked prior to use.