

April 2001 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 April 2001. The CPS-FSS is normally conducted once each year. In 2001 it was conducted twice, in April and in December. The December data were used as the basis of the annual USDA food security report for 2001. The April Supplement was administered to only 6 of the 8 rotation groups and was intended primarily to assess any seasonal effects that might be present in the December collection period.

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, and SAS transport format via the DataFerrett system. 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 157,043 logical records. The length of each record is 1117 characters. 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 (16,775) are included in the CD-ROM file with their noninterview status indicated. Interviewed households (55,375) include 140,268 person records. Households in rotation groups 1 and 5 (13,830) were not eligible for the Supplement. Of the 41,545 eligible households, 34,330 households completed the Food Security Supplement as well as the labor force survey and included 86,209 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 140,268 records comprising 55,375 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 website 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) Food Assistance Program Participation (HES9-HESP9).

(3) 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.

(4) Ways of Avoiding or Ameliorating Food Deprivation - Coping Strategies (HESC1-HESC4).

(5) Minimum Food Spending Needed (HES10-HES12)

Changes from Previous Years' Food Security Supplements

The following changes were introduced in the April 2001 Food Security Supplement:

- Discontinued the split ballot test of variants of the first three questions in the food security scale (HESS2A, HESS3A, and HESS4A) conducted in 2000 for households in rotation 8.
- Continued the split ballot test of follow-ups to six questions in the hunger and severe hunger series (HESHF2A, HESHF3A, HESHF4A, HESSHF1A, HESSHF2A, HESSHF4A) initiated in 2000 for households in rotation 8. The test question asks, "In months when [behavior or experience occurred], how many days did this usually happen?" The corresponding 30-day followup questions for these households were skipped.
- Added to the data file three variables describing the household's food security during the 30 days prior to the survey (HRFS30M1, HRFS30M2, HRFS30M3). These variables are based on the 30-Day Household Food Security Scale described in A 30-Day Food Security Scale for Current Population Survey Food Security Supplement Data (E-FAN-02-015, Economic Research

Service, USDA, August 2002). The scale is calculated from responses to questions that were already included in the Supplement and did not require any changes to the questionnaire.

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. 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 eight 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. The 30-day food security variables are coded missing (-1) for households in rotation 8. The 30-day follow-up questions were not administered to those households because of a split-ballot test of experimental follow-up questions. (See section below for information on appropriate weights for these variables.)
 - 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 April 2001 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 1995-2001 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 State of residence (GESTCEN), household identifier (HRHHID), and household serial suffix (HSERSUF). 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. For matching to the March Annual Demographic Supplement, HRSERSUF may need to be recoded.

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.

Households in rotations 1 and 5 were ineligible for the Supplement in April 2001, and about 18 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 FERRET are somewhat unpredictable. Sometimes they are in units; sometimes they have four implied decimal places. These should be checked prior to use.

The 30-day food security questions were not administered to households in rotation 8. Supplement weights may be used to calculate prevalence rates, but supplement weights must be adjusted for loss of the 8th rotation to calculate numbers of households or persons in a food security category. The appropriate adjustment can be calculated as the ratio of the weighted number of households (or persons) in all 6 Supplement rotations to the weighted number of households (or persons) in Supplement rotations except rotation 8.