

Survey of Income and Program Participation 1996 Wave 8 Food Security Data File Technical Documentation and User Notes

Data File and Documentation Prepared by
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April 10, 2002 - original creation of document
May 23, 2002 – minor copy edits
January 25, 2006 updated link to Census Bureau’s SIPP page and corrected “tables” statement in appendix B.

Background

The Survey of Income and Program Participation (SIPP) 1996 Wave 8 Food Security Data File contains summary food security status information for each household that was interviewed in the SIPP 1996 Wave 8 Topical Module on Adult Well-Being, conducted during the period from August to November, 1998. The food security status variables were calculated based on responses to five questions from the U.S. Food Security Survey Module that were included in the SIPP Topical Module. The SIPP 1996 Wave 8 Food Security Data File matches to the main SIPP 1996 Wave 8 Topical Module Data File at the household level.

The SIPP 1996 Wave 8 Food Security Data File is intended to be used in conjunction with the SIPP 1996 Wave 8 Topical Module Data File and other data files for the SIPP 1996 panel available from the U.S. Census Bureau. The food security and hunger questions refer to the 4 months prior to the survey.

SIPP data and further information on the SIPP are available from the Census Bureau at:
<http://www.sipp.census.gov/sipp/index.html>.

Technical Description

The SIPP 1996 Wave 8 Food Security Data File is an ASCII file containing 29,539 records. The length of each record is 22 characters. Each record represents one household as constituted at the time of the topical module interview. The dictionary for the ASCII Food Security Data File is included below as Appendix A. SAS code to read the ASCII data file and create a SAS datafile is included as Appendix B. SAS code to create the household food security variables directly from the five scale variables and their allocation flag variables is included as Appendix C. (Use of this method makes it unnecessary to download the Food Security Data File.) Frequency tabulations for each of the four food security status variables are included as Appendix D.

Matching to the SIPP Data File

The SIPP 1996 Wave 8 Food Security Data File contains one record for each household for which interview data are available in the SIPP 1996 Wave 8 Topical Module on Adult Well-Being Data File. The two files match by SSUID and SHHADID. The SIPP 1996 Wave 8 Food Security Data File is

already sorted by these match variables. Note that the SHHADID variable is conventionally treated as a character variable.

Screening

All households were asked at least the first two food security scale questions (EAFLAST and EAFBALN) as well as the “food sufficiency” question (EAFOOD1). To avoid undue respondent burden, households that indicated no food security problems on EAFLAST or EAFBALN and no food insufficiency on EAFOOD1 were not asked the remaining food security questions. A second screen was assessed prior to EAFDAY; households that indicated no food security problems on EAFSKIP or EAFLESS (or on EAFCHLD, which was not included in the scale) were not asked EAFDAY. Responses to items that were skipped because of screening were assumed to be negative for the purpose of calculating household food security status variables.

Imputation of Missing Food Security Responses

Of the 29,539 households in the SIPP 1996 Wave 8 Topical Module Data File, 26,511 gave valid responses to all 5 food security questions from which the food security status variables are calculated. An additional 50 households had a mixture of valid responses and missing responses to the 5 food security questions, and 2,978 households did not give a valid response to any of the 5 questions. The Census Bureau imputed responses for missing data using “hot deck” methods, and these imputed responses were used to calculate household food security status variables for households with missing responses. An allocation flag variable AAFDSEC identifies households for which any of the scale variables was imputed. The frequency distribution of food security scale scores for households with imputed data was similar to that of households with valid responses to all five scale items.

Household Food Security Variables

Household food security variables were calculated based on the 5 food security variables, EAFLAST, EAFBALN, EAFSKIP, EAFLESS, and EAFDAY. Although the questions represented by these variables are all included in the U.S. Food Security Survey Module, this particular set of items does not constitute one of the standard food security scales. However, assessment of the food security items using statistical methods based on the Rasch measurement model indicated that relative item severities were very nearly identical to those in the 1998 Current Population Survey Food Security Supplement, and analysis of CPS data comparing the SIPP scale with the standard U.S. Food Security Scale indicated that the SIPP scale was reasonably reliable and minimally biased. Scale scores were calculated from raw scores based on the standard item severity scores described in *Guide to Measuring Household Food Security, Revised 2000* (Bickel et al., 2000, available from the Food and Nutrition Service via the ERS “Food Security in the United States” Briefing Room, <http://www.ers.usda.gov/briefing/foodsecurity>).

Four food security status variables are provided in the SIPP 1996 Wave 8 Food Security Data File:

AAFDSEC (*Allocation Flag for RAFSRAW, RAFSSCAL, and RAFSSTAT*) identifies households for which responses to any of the 5 food security scale questions were imputed.

RAFSRAW (*Food Security Raw Score*) is a count of the number of food security items affirmed by the household respondent (or imputed as affirmative). This score determines the food security scale score; it is an ordinal, but not interval, measure of food insecurity.

RAFSSCAL (*Food Security Scale Score*) is a measure of the severity of food insecurity or hunger experienced in the household during the 4-month reference period. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for linear models such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Guide to*

Measuring Household Food Security, Revised 2000. Valid values range from 3.16 to 9.14, with higher values indicating more severe food deprivation. The scale score is undefined for households that affirmed no items. These households are food-secure, but the appropriate size of the interval from the score of households that affirmed one item is not known and varies from household to household. The variable is coded -6 for households that affirmed no items to remind users that these cases require special consideration in analyses.

RAFSSTAT (Food Security Status Category) is a categorical measure of food security status that identifies households as food-secure, food-insecure without hunger, or food-insecure with hunger. This variable is appropriate for comparing prevalence rates of food insecurity and hunger across subpopulations.

Appendix A. Data Dictionary

Data dictionary for SIPP 1996 Wave 8 Food Security Data File.

```
*****  
* HOUSEHOLD IDENTIFICATION VARIABLES *  
*****
```

```
D SSUID      12      1  
T SU: Sample Unit Identifier  
U Interviewed households  
V 00000000000:99999999999 Scrambled ID
```

```
D SHHADID    2      13  
T SU: HH Address ID differentiates hhlds  
U Interviewed households  
V 11:84      .Number
```

```
*****  
* FOOD SECURITY STATUS VARIABLES *  
*****
```

```
D AAFDSEC    1      15  
T AW: Allocation Flag for RAFSRAW, RAFSSCAL, and RAFSSTAT  
      Allocation flag for food security recode variables  
U Interviewed households  
V 0          .Not imputed  
V 1          .1 or more scale variables imputed
```

```
D RAFSRAW    1      16  
T AW: Food Security Raw Score  
      Food security raw score (number of affirmative responses)  
U Interviewed households  
V 0:5       .Number of affirmative responses
```

```
D RAFSSCAL   5      17  
T AW: Food Security Scale Score  
      Food security scale score (Rasch)  
U Interviewed households  
V -6        .No affirmative responses  
V          .scale score undefined  
V 3.16:  
V 9.14      .Number, f5.2 format, decimal included
```

```
D RAFSSTAT   1      22  
T AW: Food Security Status Category  
      Food security status category  
U Interviewed households  
V 1         .Food-Secure  
V 2         .Food-Insecure without Hunger  
V 3         .Food-Insecure with Hunger
```

Appendix B

SAS Program to Read SIPP 1996 Wave 8 Food Security Data File

```
*SAS program to read ASCII SIPP 1996 Wave 8 Food Security Data File;

data temp; infile 'd:\foodsecu\sipp\sipp96w8fs.dat' lrecl=22;
*modify path and filename in accordance with file location in your system;

input
@1  ssuid  $ 12.      /* first two variables are to match by 1998 household      */
@13 shhadid  2.
@15 aafdsec  1.      /* flag indicating if any of the scale variables was imputed      */
@16 rafsrw  1.      /* household food security raw score                               */
@17 rafsscal f5.2    /* household food security scale score (interval-level measure)   */
@22 rafsstst 1.;    /* household food security status category (categorical measure)  */
run;

proc freq data=temp; tables aafdsec rafsrw rafsscal rafsstst;
title1 'Run 8: HH in ascii public-use file, unweighted';
run;

*match this SAS data set to the SIPP 1996 Wave 8 Topical Module Data File by SSUID and SHHADID;
```

Appendix C.
SAS Code to Calculate SIPP Household Food Security Variables from Data Elements Available in the Topical Module on Adult Well-Being Data File

```
data sippfs; set [specify sas dataset name for sipp topical module source data];
array qflag{5} aaflast aafbain aafskip aafless aafday; *allocation flags;
array qraw{5} eaflast eafbain eafskip eafless eafday; *food security scale variables;
aafdsec=0; *flag for no imputation;
rafsraw=0; *raw score counter;
do q=1 to 5; *each item;
  if qflag{q} eq 1 then aafdsec=1;
  if q in (1,2) and qraw{q} in (1,2) then rafsraw=rafsraw+1; *often/sometimes/never item;
  else if q in (3,4,5) and qraw{q} eq 1 then rafsraw=rafsraw+1; *yes/no item;
end; *of each item;
if rafsraw eq 0 then do; rafsscal=-6; rafsstat=1; end;
else if rafsraw eq 1 then do; rafsscal=3.16; rafsstat=1; end;
else if rafsraw eq 2 then do; rafsscal=4.39; rafsstat=2; end;
else if rafsraw eq 3 then do; rafsscal=5.53; rafsstat=2; end;
else if rafsraw eq 4 then do; rafsscal=7.54; rafsstat=3; end;
else if rafsraw eq 5 then do; rafsscal=9.14; rafsstat=3; end;
*scale scores are based on standard CPS 1998 item scores for the items in the sipp scale;
*with discrimination set to 1.58 to reflect the actual discrimination of sipp items;
run;
```

Appendix D.
Frequencies of Variables in SIPP 1996 Wave 8 Food Security Data File

Run 8: HH in ascii public-use file, unweighted

09:32 Tuesday, April 9, 2002 41

The FREQ Procedure

| AAFDSEC | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|---------|-----------|---------|-------------------------|-----------------------|
| 0 | 26511 | 89.75 | 26511 | 89.75 |
| 1 | 3028 | 10.25 | 29539 | 100.00 |

| RAFSRAW | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|---------|-----------|---------|-------------------------|-----------------------|
| 0 | 25409 | 86.02 | 25409 | 86.02 |
| 1 | 1329 | 4.50 | 26738 | 90.52 |
| 2 | 1343 | 4.55 | 28081 | 95.06 |
| 3 | 457 | 1.55 | 28538 | 96.61 |
| 4 | 716 | 2.42 | 29254 | 99.04 |
| 5 | 285 | 0.96 | 29539 | 100.00 |

| RAFSSCAL | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|----------|-----------|---------|-------------------------|-----------------------|
| -6 | 25409 | 86.02 | 25409 | 86.02 |
| 3.16 | 1329 | 4.50 | 26738 | 90.52 |
| 4.39 | 1343 | 4.55 | 28081 | 95.06 |
| 5.53 | 457 | 1.55 | 28538 | 96.61 |
| 7.54 | 716 | 2.42 | 29254 | 99.04 |
| 9.14 | 285 | 0.96 | 29539 | 100.00 |

| RAFSSTAT | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|----------|-----------|---------|-------------------------|-----------------------|
| 1 | 26738 | 90.52 | 26738 | 90.52 |
| 2 | 1800 | 6.09 | 28538 | 96.61 |
| 3 | 1001 | 3.39 | 29539 | 100.00 |