

## **Survey of Program Dynamics 2000 Food Security Status File Technical Documentation and User Notes**

Data File and Documentation Prepared by  
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### **Background**

The Survey of Program Dynamics (SPD) 2000 Food Security Status File contains summary food security status information for households interviewed in the 2000 SPD. The food security status variables were calculated based on responses to the questions in the U.S. Household Food Security Survey Module, which was included in the SPD. The SPD 2000 Food Security Status File matches to the main SPD 2000 Cross-Sectional File at the household level.

The SPD 2000 Food Security Status File is intended to be used in conjunction with the SPD 2000 Cross-Sectional File produced by the U.S. Census Bureau. After matching to the SPD 2000 Cross-Sectional File, the combined data file can also be matched to all other years' SPD data files and food security status files and to SIPP data for the 1992 and 1993 panels from which the SPD sample households were selected. The SPD 2000 Cross-Sectional File contains demographic, economic, and social characteristics data for each member of interviewed households. Demographic data refers to the time of interview in mid-2000. Income and program participation information generally refers to the preceding year. The food security and hunger questions refer to the 12 months prior to the date of interview in mid-2000.

SPD data and further information on the SPD are available from the Census Bureau at:  
<http://www.bls.census.gov/spd/>

### **Technical Description**

The SPD 2000 Food Security Status File is an ASCII file containing 24,099 records. The length of each record is 42 characters. The data dictionary is included below as Appendix A. SAS code to read the data file and create a SAS file is included as Appendix B. Frequency tabulations of each of the food security scale and food security status variables are included as Appendix C.

### **Matching to the SPD 2000 Cross-Sectional File**

The SPD 2000 Food Security Status File contains one record for each 2000 household. It matches to the main SPD data file by IHHKEY00, a unique household identifier provided in the SPD 2000 Cross-Sectional File and based on the variables SIPP\_PNL, PP\_ID, ADDIDE0. The SPD 2000 Food Security Status File is sorted by IHHKEY00, but the SPD 2000 Cross-Sectional File must be sorted prior to merging.

### **Not-in-Universe Records and Households with Missing Food Security Status**

Of the 24,099 unique current households in the SPD 2000 Food Security Status File, 5,427 are non-interview households (OUTCOMR0 >= 213) and one additional household has no member with positive weight (SPDCSW00). Records for these 5,428 households are included in the Food Security Status File with all food security status variables coded -1 (not in universe). An additional 852 households either broke off the interview before the preliminary food security screener variable (FDSUFFU0) or did not provide a valid response to any of the 18 food security questions. The food security status of these households is unknown, and the food security scale and food security status variables for these households are coded -9.

### Food Security Status Variables

Food security status variables were calculated based on the 18 items in the U.S. Household Food Security Survey Module (FOOD01U0 through FOOD18U0). Calculations were carried out in accordance with the standard methods described in *Measuring Household Food Security, Revised 2000* (Bickel et al, 2000, available: <http://www.fns.usda.gov/oane/>). The children's food security variables were calculated in accordance with methods described in *Measuring Children's Food Security in U.S. Households, 1995-99* (Nord and Bickel 2002, available: <http://www.ers.usda.gov/briefing/foodsecurity>). Assessment of the food security items using statistical methods based on the Rasch measurement model indicated that model fit and relative item severities were sufficiently similar to those in the 1998 Current Population Survey Food Security Supplement, to justify use of the standard methods.

Ten household food security summary variables are provided: 1 indicating screening status, and 9 indicating food security status (3 variables for each of three scales). The 3 scales are:

- **The Household Food Security Scale**, based on 18 items for households with children and 10 items for households without children.
- **The Adult Food Security Scale**, based on the 10 household and adult items in the 18 item scale. For households without children it is identical to the Household Food Security Scale. For households with children, it is calculated using the same methods as those used to calculate the Household Food Security Scale for households without children. **NOTE: For the 1999 SPD, only this scale is available.** Due to instrumentation problems in the 1999 survey, the child-referenced items were not asked of most households and will not be available on the data file. Variables based on the Adult Food Security Scale are provided in the 2000 file (and other SPD food security files) to facilitate comparisons and analyses that include the 1999 survey.
- **The Children's Food Security Scale**, based on the 8 items that ask specifically about conditions among children in the household.

The variables are described conceptually here, and additional detail is provided in the data dictionary in Appendix A.

**HFS: Food Security Screening Status (FSSCRNR0)** identifies the screening status of households relative to the food security module. To reduce respondent burden and avoid awkward interview situations, households with high income who gave no indication of food stress on the preliminary screening question (FDSUFFU0) were skipped over the rest of the food security module and deemed to be food secure. This variable is needed for analysis of individual items in the module, but is not needed if only the food security status variables are used.

**HFS: Household Food Security Raw Score (FSRAWR0)** is a count of the number of food security items in the Household Food Security Scale affirmed by the household respondent. This score along with presence or absence of children in the household determines the household food security scale score and food security status. (Note: The child-referenced items were not administered to 187 households that had at least one member ages 0-7 who was not a reference person or spouse of reference person. The reason for this skip is not clear. The household food security variables for these households were coded as if there had been no children in the household.)

**HFS: Household Food Security Scale Score (FSSCALR0)** is a measure of the severity of food insecurity or hunger experienced in the household in the previous 12 months, based on the Household Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 1.43 to 13.03, with higher values indicating more severe food-access problems. Technically, 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 (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

**HFS: Household Food Security Status Category (FSSTATR0)** is a categorical measure of food security status based on the Household Food Security Scale 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 and for analyses in which a categorical measure of food security is wanted.

**HFS: Adult Food Security Raw Score (FSRAADR0)** is a count of the number of food security items in the Adult Food Security Scale affirmed by the household respondent. This score determines the adult food security scale score and food security status.

**HFS: Adult Food Security Scale Score (FSSCADR0)** is a measure of the severity of food insecurity or hunger experienced by adults in the household in the previous 12 months, based on the Adult Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 1.72 to 11.05, with higher values indicating more severe food-access problems. Technically, the scale score is undefined for households that affirmed no items in the scale. 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 (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

**HFS: Adult Food Security Status Category (FSSTADR0)** is a categorical measure of food security status based on the Adult Food Security Scale 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 and for analyses in which a categorical measure of food security is wanted.

**HFS: Children's Food Security Raw Score (FSRACHR0)** is a count of the number of food security items in the Children's Food Security Scale affirmed by the household respondent. This score determines the children's food security scale score and food security status. (Note: The child-referenced items were not administered to 187 households that had at least one member ages 0-7 who was not a reference person or spouse of reference person. The reason for this skip is not clear. The children's food security variables for these households are coded -9.)

**HFS: Children's Food Security Scale Score (FSSCCHR0)** is a measure of the severity of food insecurity or hunger experienced by children in the household in the previous 12 months, based on the Children's Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 4.11 to 12.25, with higher values indicating more severe food-access problems. Technically, the scale score is undefined for households that affirmed no child-referenced items. Children in these households are more food secure than those that affirmed 1 child-referenced item, 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 (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

**HFS: Children's Food Security Status Category (FSSTCHR0)** is a categorical measure that identifies households that are food insecure with hunger among children based on the Children's Food Security Scale. This variable is appropriate for comparing prevalence rates of hunger among children across subpopulations and for analyses in which a categorical measure of food security is wanted.

## Appendix A. Data Dictionary

```
*****
*   HOUSEHOLD MATCH VARIABLE   *
*****
DATA      SIZE  BEGIN
D IHHKEY00  15    1
T SC: Unique household identifier 00
      Unique household identifier for use as a
      match key for households. Characters 1-3
      SIPP Panel B12 (1992), B13 (1993)
      Characters 4-12 PP_ID Characters 13-15
      Current Address ID
U All Households

D blank      1    16
T SC: Filler, no data
      Filler
U All Households

*****
* HOUSEHOLD FOOD SECURITY SCALE VARIABLES *
*****

D FSSCRNRO   2    17
T HFS: Food Security Screening Status
      Screening status, food security module
U Interviewed households
V 1 .Did not pass preliminary screen - assumed food secure
V 2 .Skip out after Block 1
V 3 .Skip out after Block 2
V 4 .Entered Block 3
V -1 .Not In Universe (not interviewed)
V -9 .Missing--no valid food security items

D FSRWRO     2    19
T HFS: Household Food Security Raw Score
      Household food security raw score (number of affirmative responses)
U Interviewed households
V 0 .No affirmative responses, or screened out
V 1:18 .Number of affirmative responses
V -1 .Not In Universe (not interviewed)
V -9 .Missing--no valid food security items

D FSSCALRO   4    21
T HFS: Household Food Security Scale Score
      Household food security scale score (Rasch)
      (2 implied decimal places)
U Interviewed households
V -6 .No affirmative responses, or screened out
V . scale score undefined
V 1.43:
V 13.03 .Number
V -1 .Not In Universe (not interviewed)
V -9 .Missing--no valid food security items

D FSSTATRO   2    25
T HFS: Household Food Security Status Category
      Household food security status category
U Interviewed households
V 1 .Food Secure
V 2 .Food Insecure without Hunger
V 3 .Food Insecure with Hunger
V -1 .Not In Universe (not interviewed)
V -9 .Missing--no valid food security items
```

\*\*\*\*\*  
 \* ADULT FOOD SECURITY SCALE VARIABLES \*  
 \*\*\*\*\*

D FSRAADRO 2 27  
 T HFS: Adult Food Security Raw Score  
 Adult food security raw score (number of affirmative responses)  
 U Interviewed households  
 V 0 .No affirmative responses, or screened out  
 V 1:10 .Number of affirmative responses  
 V -1 .Not In Universe (not interviewed)  
 V -9 .Missing--no valid food security items

D FSSCADRO 4 29  
 T HFS: Adult Food Security Scale Score  
 Adult food security scale score (Rasch)  
 (2 implied decimal places)  
 U Interviewed households  
 V -6 .No affirmative responses, or screened out  
 V .scale score undefined  
 V 1.72:  
 V 11.05 .Number  
 V -1 .Not In Universe (not interviewed)  
 V -9 .Missing--no valid food security items

D FSSTADRO 2 33  
 T HFS: Adult Food Security Status Category  
 Adult food security status category  
 U Interviewed households  
 V 1 .Food Secure  
 V 2 .Food Insecure without Hunger  
 V 3 .Food Insecure with Hunger  
 V -1 .Not In Universe (not interviewed)  
 V -9 .Missing--no valid food security items

\*\*\*\*\*  
 \* CHILDREN'S FOOD SECURITY SCALE VARIABLES \*  
 \*\*\*\*\*

D FSRACHRO 2 35  
 T HFS: Children's Food Security Raw Score  
 Children's food security raw score (number of affirmative responses)  
 U Interviewed households  
 V 0 .No affirmative responses, or screened out  
 V 1:8 .Number of affirmative responses  
 V -1 .Not In Universe (not interviewed or no child present)  
 V -9 .Missing--no valid child food security items

D FSSCCHRO 4 37  
 T HFS: Children's Food Security Scale Score  
 Children's food security scale score (Rasch)  
 (2 implied decimal places)  
 U Interviewed households  
 V -6 .No affirmative responses, or screened out  
 V .scale score undefined  
 V 4.11:  
 V 12.25 .Number  
 V -1 .Not In Universe (not interviewed or no child present)  
 V -9 .Missing--no valid child food security items

D FSSTCHRO 2 41  
 T HFS: Children's Hunger Status Category  
 Children's hunger status category  
 U Interviewed households  
 V 1 .Hunger Unlikely among Children  
 V 2 .Food Insecure with Hunger among Children  
 V -1 .Not In Universe (not interviewed or no child present)  
 V -9 .Missing--no valid food security items

## Appendix B

### SAS Program to Read SPD 2000 Food Security Data File

```
*SAS program to read public-use SPD 2000 food security data file;

data temp; infile 'd:\foodsecu\spd\spd2000\spd00fs1.dat' lrecl=42;
*modify path and filename in accordance with file location in your system;

input
@1  ihhkey00 $ 15.      /* unique household identifier based on SIPP_PNL, PP_ID, ADDIDEO */
@17 fsscrnr0  2.       /* food security module screening status */
@19 fsrawr0   2.       /* household food security raw score */
@21 fsscalr0  4.       /* household food security scale score (interval-level measure) */
@25 fsstatr0  2.       /* household food security status category (categorical measure) */
@27 fsraadr0  2.       /* adult food security raw score */
@29 fsscadr0  4.       /* adult food security scale score (interval-level measure) */
@33 fsstadr0  2.       /* adult food security status category (categorical measure) */
@35 fsrchr0   2.       /* children's food security raw score */
@37 fsscchr0  4.       /* children's food security scale score (interval-level measure) */
@41 fsstchr0  2.;      /* children's food security status category (categorical measure) */

if fsscalr0 gt 0 then fsscalr0=fsscalr0/100; *to restore the 2 decimal places;
if fsscadr0 gt 0 then fsscadr0=fsscadr0/100; *to restore the 2 decimal places;
if fsscchr0 gt 0 then fsscchr0=fsscchr0/100; *to restore the 2 decimal places;
run;

proc freq data=temp; tables fsscrnr0--fsstchr0;
title1 'Run 8: HH 2000, wt no';
run;
```

\*This SAS data set will now match to the SPD 2000 Cross-Sectional File by IHHKEY00;  
\*The 10 food security variables are stored without leading zeros;

## Appendix C.

### Frequencies of Variables in SPD 2000 Food Security Data File

Run 8: HH read from ascii file, wt no

The FREQ Procedure

fsscrnr0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	852	3.54	852	3.54
-1	5428	22.52	6280	26.06
1	9836	40.81	16116	66.87
2	5234	21.72	21350	88.59
3	1550	6.43	22900	95.02
4	1199	4.98	24099	100.00

fsrawr0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	852	3.54	852	3.54
-1	5428	22.52	6280	26.06
0	15100	62.66	21380	88.72
1	660	2.74	22040	91.46
2	437	1.81	22477	93.27
3	415	1.72	22892	94.99
4	250	1.04	23142	96.03
5	219	0.91	23361	96.94
6	210	0.87	23571	97.81
7	162	0.67	23733	98.48
8	126	0.52	23859	99.00
9	80	0.33	23939	99.34
10	95	0.39	24034	99.73
11	18	0.07	24052	99.80
12	18	0.07	24070	99.88
13	13	0.05	24083	99.93
14	6	0.02	24089	99.96
15	3	0.01	24092	99.97
16	3	0.01	24095	99.98
17	3	0.01	24098	100.00
18	1	0.00	24099	100.00

fsscal r0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	852	3.54	852	3.54
-6	15100	62.66	15952	66.19
-1	5428	22.52	21380	88.72
1.43	312	1.29	21692	90.01
1.72	348	1.44	22040	91.46
2.56	211	0.88	22251	92.33
3.10	226	0.94	22477	93.27
3.40	157	0.65	22634	93.92
4.14	136	0.56	22770	94.49
4.23	258	1.07	23028	95.56
4.81	135	0.56	23163	96.12
5.23	114	0.47	23277	96.59
5.43	127	0.53	23404	97.12
6.02	79	0.33	23483	97.44
6.16	84	0.35	23567	97.79
6.61	54	0.22	23621	98.02
7.07	83	0.34	23704	98.36
7.18	48	0.20	23752	98.56
7.74	42	0.17	23794	98.73
8.00	83	0.34	23877	99.08
8.28	18	0.07	23895	99.15
8.79	18	0.07	23913	99.23
8.98	72	0.30	23985	99.53
9.31	13	0.05	23998	99.58
9.84	6	0.02	24004	99.61
10.15	32	0.13	24036	99.74
10.42	3	0.01	24039	99.75
11.05	53	0.22	24092	99.97
11.13	3	0.01	24095	99.98
12.16	3	0.01	24098	100.00
13.03	1	0.00	24099	100.00

fsstatr0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	852	3.54	852	3.54

-1	5428	22.52	6280	26.06
1	16197	67.21	22477	93.27
2	1090	4.52	23567	97.79
3	532	2.21	24099	100.00

fsraadr0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	855	3.55	855	3.55
-1	5428	22.52	6283	26.07
0	15155	62.89	21438	88.96
1	711	2.95	22149	91.91
2	469	1.95	22618	93.85
3	553	2.29	23171	96.15
4	231	0.96	23402	97.11
5	156	0.65	23558	97.76
6	175	0.73	23733	98.48
7	142	0.59	23875	99.07
8	100	0.41	23975	99.49
9	52	0.22	24027	99.70
10	72	0.30	24099	100.00

fsscadr0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	855	3.55	855	3.55
-6	15155	62.89	16010	66.43
-1	5428	22.52	21438	88.96
1.72	711	2.95	22149	91.91
3.10	469	1.95	22618	93.85
4.23	553	2.29	23171	96.15
5.23	231	0.96	23402	97.11
6.16	156	0.65	23558	97.76
7.07	175	0.73	23733	98.48
8.00	142	0.59	23875	99.07
8.98	100	0.41	23975	99.49
10.15	52	0.22	24027	99.70
11.05	72	0.30	24099	100.00

fsstadr0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	855	3.55	855	3.55
-1	5428	22.52	6283	26.07
1	16335	67.78	22618	93.85
2	940	3.90	23558	97.76
3	541	2.24	24099	100.00

fsrchr0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	375	1.56	375	1.56
-1	15464	64.17	15839	65.72
0	7416	30.77	23255	96.50
1	342	1.42	23597	97.92
2	245	1.02	23842	98.93
3	189	0.78	24031	99.72
4	36	0.15	24067	99.87
5	12	0.05	24079	99.92
6	14	0.06	24093	99.98
7	4	0.02	24097	99.99
8	2	0.01	24099	100.00

fsccchr0	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	375	1.56	375	1.56
-6	7416	30.77	7791	32.33
-1	15464	64.17	23255	96.50
4.11	342	1.42	23597	97.92
5.85	245	1.02	23842	98.93
7.54	189	0.78	24031	99.72
8.79	36	0.15	24067	99.87
9.62	12	0.05	24079	99.92
10.45	14	0.06	24093	99.98
11.50	4	0.02	24097	99.99
12.25	2	0.01	24099	100.00



fsstchr0	Frequency	Percent	Cumul ative Frequency	Cumul ative Percent
-9	375	1.56	375	1.56
-1	15464	64.17	15839	65.72
1	8228	34.14	24067	99.87
2	32	0.13	24099	100.00