

Survey of Program Dynamics 2001 Food Security Status File Technical Documentation and User Notes

Data File and Documentation Prepared by
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Revision history of this document:

August 7, 2003— original creation of document
October 11, 2005—corrected fsscchr8 to fsschchr1 in appendix B
January 11, 2006—minor revisions to Background section

Background

The Survey of Program Dynamics (SPD) 2001 Food Security Status File contains summary food security status information for households interviewed in the 2001 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 2001 Food Security Status File matches to the main SPD Cross-Sectional File at the household level.

The SPD 2001 Food Security Status File is intended to be used in conjunction with the SPD 2001 Cross-Sectional File produced by the U.S. Census Bureau. After matching to the SPD 2001 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 2001 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-2001. 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-2001.

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 2001 Food Security Status File is an ASCII file containing 30,979 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 2001 Cross-Sectional File

The SPD 2001 Food Security Status File contains one record for each 2001 household. It matches to the main SPD data file by IHHKEY01, a unique household identifier provided in the SPD 2001 Cross-Sectional File and based on the variables SIPP_PNL, PP_ID, ADDIDE1. Both the SPD 2001 Food Security Status File and the SPD 2001 Cross-Sectional File are already sorted by IHHKEY01. Also, note that the IHHKEY01 variable uses 3-character codes to represent the SIPP_PNL 4-digit values and incorrectly codes the ADDIDE1 variable for 5 cases. These differences are of no consequence if the files are matched by IHHKEY01.

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

Of the 30,979 unique current households in the SPD 2001 Food Security Status File, 8,716 are non-interview households (OUTCOMR1 >= 213). Records for these households are included in the Food Security Status File with all food security status variables coded -1 (not in universe). An additional 757 households apparently broke off the interview before the preliminary food security screener variable (FDSUFFU1) 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 (FOOD01U1 through FOOD18U1). 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 very nearly identical to those in the 1998 Current Population Survey Food Security Supplement, so the use of the standard methods was appropriate.

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 2001 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 (FSSCRNRI) 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 (FDSUFFU1) 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 (FSRAWRI) 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.

HFS: Household Food Security Scale Score (FSSCALRI) 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 deprivation. 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 (FSSTATRI) 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.

HFS: Adult Food Security Raw Score (FSRAADRI) 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 (FSSCADRI) 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 deprivation. 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 (FSSTADRI) 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.

HFS: Children's Food Security Raw Score (FSRACHRI) 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.

HFS: Children's Food Security Scale Score (FSSCCHRI) 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 deprivation. 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 (FSSTCHRI) is a categorical measure that identifies households 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.

Appendix A. Data Dictionary

```

*****
*   HOUSEHOLD MATCH VARIABLE   *
*****
DATA      SIZE      BEGIN
D IHHKEY01  15      1
T SC: Unique household identifier 01
      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 FSSCRNR1   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 FSRRAWR1   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 FSSCALR1   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:   .Number
V 13.03   .Number
V -1      .Not In Universe (not interviewed)
V -9      .Missing--no valid food security items

D FSSTATR1   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 FSRAADR1   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

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D FSSCADR1 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 FSSTADR1 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 FSRACHR1 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 FSSCCHR1 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 FSSTCHR1 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 2001 Food Security Data File

```
*SAS program to read public-use SPD 2001 food security data file;

data temp; infile 'd:\foodsecu\spd\spd2001\spd01fs1.dat' lrecl=42;
*modify path and filename in accordance with file location in your system;

input
@1 ihhkey01 $ 15. /* unique household identifier based on SIPP_PNL, PP_ID, ADDIDE1 */
@17 fsscrnr1 2. /* food security module screening status */
@19 fsrawr1 2. /* household food security raw score */
@21 fsscalr1 4. /* household food security scale score (interval-level measure) */
@25 fsstatr1 2. /* household food security status category (categorical measure) */
@27 fsraadr1 2. /* adult food security raw score */
@29 fsscadr1 4. /* adult food security scale score (interval-level measure) */
@33 fsstadr1 2. /* adult food security status category (categorical measure) */
@35 fsrchr1 2. /* children's food security raw score */
@37 fsscchr1 4. /* children's food security scale score (interval-level measure) */
@41 fsstchr1 2.; /* children's food security status category (categorical measure) */

if fsscalr1 gt 0 then fsscalr1=fsscalr1/100; *to restore the 2 decimal places;
if fsscadr1 gt 0 then fsscadr1=fsscadr1/100; *to restore the 2 decimal places;
if fsscchr1 gt 0 then fsscchr1=fsscchr1/100; *to restore the 2 decimal places;
run;

proc freq data=temp; tables fsscrnr1--fsstchr1;
title1 'Run 9: HH, unweighted';
run;
```

*This SAS data set will now match to the SPD 2001 Cross-Sectional File by IHHKEY01;
*The 10 food security variables are stored without leading zeros;

Appendix C. Frequencies of Variables in SPD 2001 Food Security Data File

Run 9: HH, unweighted

The FREQ Procedure

fsscrr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	757	2.44	757	2.44
-1	8716	28.14	9473	30.58
1	11843	38.23	21316	68.81
2	6072	19.60	27388	88.41
3	1998	6.45	29386	94.86
4	1593	5.14	30979	100.00

fsrawr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	757	2.44	757	2.44
-1	8716	28.14	9473	30.58
0	17954	57.96	27427	88.53
1	764	2.47	28191	91.00
2	641	2.07	28832	93.07
3	581	1.88	29413	94.94
4	300	0.97	29713	95.91
5	258	0.83	29971	96.75
6	279	0.90	30250	97.65
7	188	0.61	30438	98.25
8	179	0.58	30617	98.83
9	102	0.33	30719	99.16
10	129	0.42	30848	99.58
11	38	0.12	30886	99.70
12	30	0.10	30916	99.80
13	21	0.07	30937	99.86
14	16	0.05	30953	99.92
15	14	0.05	30967	99.96
16	5	0.02	30972	99.98
17	1	0.00	30973	99.98
18	6	0.02	30979	100.00

fsscal r1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	757	2.44	757	2.44
-6	17954	57.96	18711	60.40
-1	8716	28.14	27427	88.53
1.43	386	1.25	27813	89.78
1.72	378	1.22	28191	91.00
2.56	321	1.04	28512	92.04
3.10	320	1.03	28832	93.07
3.40	228	0.74	29060	93.81
4.14	181	0.58	29241	94.39
4.23	353	1.14	29594	95.53
4.81	134	0.43	29728	95.96
5.23	119	0.38	29847	96.35
5.43	145	0.47	29992	96.81
6.02	88	0.28	30080	97.10
6.16	124	0.40	30204	97.50
6.61	87	0.28	30291	97.78
7.07	134	0.43	30425	98.21
7.18	65	0.21	30490	98.42
7.74	40	0.13	30530	98.55
8.00	100	0.32	30630	98.87
8.28	38	0.12	30668	99.00
8.79	30	0.10	30698	99.09
8.98	92	0.30	30790	99.39
9.31	21	0.07	30811	99.46
9.84	16	0.05	30827	99.51
10.15	37	0.12	30864	99.63
10.42	14	0.05	30878	99.67
11.05	89	0.29	30967	99.96
11.13	5	0.02	30972	99.98
12.16	1	0.00	30973	99.98
13.03	6	0.02	30979	100.00

fsstatr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	757	2.44	757	2.44
-1	8716	28.14	9473	30.58
1	19359	62.49	28832	93.07
2	1372	4.43	30204	97.50
3	775	2.50	30979	100.00

fsraadr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	760	2.45	760	2.45
-1	8716	28.14	9476	30.59
0	18040	58.23	27516	88.82
1	807	2.60	28323	91.43
2	708	2.29	29031	93.71
3	692	2.23	29723	95.95
4	253	0.82	29976	96.76
5	231	0.75	30207	97.51
6	231	0.75	30438	98.25
7	187	0.60	30625	98.86
8	164	0.53	30789	99.39
9	62	0.20	30851	99.59
10	128	0.41	30979	100.00

fsscadr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	760	2.45	760	2.45
-6	18040	58.23	18800	60.69
-1	8716	28.14	27516	88.82
1.72	807	2.60	28323	91.43
3.10	708	2.29	29031	93.71
4.23	692	2.23	29723	95.95
5.23	253	0.82	29976	96.76
6.16	231	0.75	30207	97.51
7.07	231	0.75	30438	98.25
8.00	187	0.60	30625	98.86
8.98	164	0.53	30789	99.39
10.15	62	0.20	30851	99.59
11.05	128	0.41	30979	100.00

fsstadr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	760	2.45	760	2.45
-1	8716	28.14	9476	30.59
1	19555	63.12	29031	93.71
2	1176	3.80	30207	97.51
3	772	2.49	30979	100.00

fsrachr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	407	1.31	407	1.31
-1	20861	67.34	21268	68.65
0	8646	27.91	29914	96.56
1	474	1.53	30388	98.09
2	274	0.88	30662	98.98
3	216	0.70	30878	99.67
4	43	0.14	30921	99.81
5	23	0.07	30944	99.89
6	15	0.05	30959	99.94
7	11	0.04	30970	99.97
8	9	0.03	30979	100.00

fsscchr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	407	1.31	407	1.31
-6	8646	27.91	9053	29.22
-1	20861	67.34	29914	96.56
411	474	1.53	30388	98.09
585	274	0.88	30662	98.98
754	216	0.70	30878	99.67
879	43	0.14	30921	99.81
962	23	0.07	30944	99.89

1045	15	0.05	30959	99.94
1150	11	0.04	30970	99.97
1225	9	0.03	30979	100.00

fsstchr1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	407	1.31	407	1.31
-1	20861	67.34	21268	68.65
1	9653	31.16	30921	99.81
2	58	0.19	30979	100.00