

**Dynamics of  
Economic Well-Being:**

**Program  
Participation,  
1991 to 1993**

**SIIPP**

Survey of Income and Program Participation

by *Martina Shea*

U.S. Department of Commerce  
Economics and Statistics Administration  
BUREAU OF THE CENSUS

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## Highlights

*(The numbers in parentheses denote the 90-percent confidence intervals.)*

- About 20.2 ( $\pm 1.3$ ) million persons participated in a major assistance program on a long-term basis; i.e., all 24 months of 1991 and 1992, constituting 8.3 ( $\pm 0.5$ ) percent of the population.
- The median length of time of receiving benefits from major means-tested assistance programs was 7.9 months during the 1991-to-1993 period, the same as during the 1990-to-1992 period.
- Total median monthly family benefits from Aid to Families With Dependent Children (AFDC), General Assistance, Supplemental Security Income (SSI), and food stamps were about \$436 ( $\pm 5.8$ ) in 1992.

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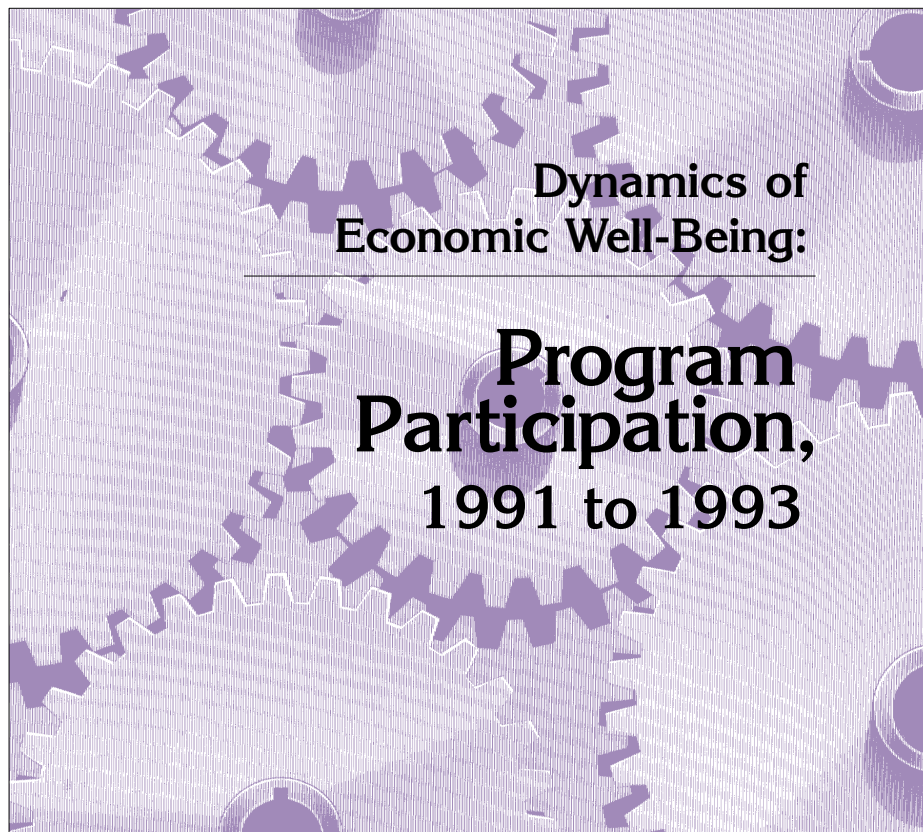
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# Dynamics of Economic Well-Being: Program Participation, 1991 to 1993

**Note:** All demographic surveys, including the Survey of Income and Program Participation (SIPP), are affected by undercoverage of the population. This undercoverage results from missed housing units and missed persons within sample households. Compared to the level of the 1980 decennial census, overall undercoverage in SIPP is about 7 percent. Undercoverage varies with age, sex, and race. For some groups, such as 20 to 24 year old Black males, the undercoverage is as high as 27 percent compared to the census. It is important to note that the survey undercoverage is an addition to the decennial census undercoverage, which in 1980 was estimated to be about 1 percent overall and about 8.5 percent for Black males. The weighting procedures used by the Census Bureau partially correct for the bias due to undercoverage. However, its final impact on estimates is unknown.

## INTRODUCTION

This report uses data from the SIPP to examine the participation in government assistance programs at a point in time and over a 32-month period. It presents data from the complete panel file of the 1991 SIPP which covers the time period from October 1990 through August 1993.

SIPP enables comparisons of rates of program participation and the amounts of benefits received among persons of different demographic and socioeconomic characteristics. It also can be used to study the distribution of spell durations. The panel file contains monthly information on the program participation status of individuals as well as on many other characteristics which can vary over the panel, such as family and labor force status. Efforts were made during the life of the panel to follow persons who moved to ensure that the sample remained representative of the noninstitutional population of the United States.

It should be noted that some longitudinal estimates presented here are based on persons who either were interviewed in all waves of the reference period or for whom imputed wave information exists.<sup>1</sup> Insofar as persons with missing actual or imputed wave information differed in their experience of program participation from those who did not, these longitudinal estimates may be biased.

## HIGHLIGHTS

*(The numbers in parentheses denote the 90-percent confidence intervals.)*

- About 20.2 ( $\pm 1.3$ ) million persons participated in a major assistance program on a long-term basis; i.e., all 24 months of 1991 and 1992, constituting 8.3 ( $\pm 0.5$ ) percent of the population.

<sup>1</sup>A "missing wave imputation" procedure was used for persons who missed an interview but had completed interviews before and after the missing wave.

- The median length of time of receiving benefits from major means-tested assistance programs was 7.9 months during the 1991-to-1993 period, the same as during the 1990-to-1992 period.
- Total median monthly family benefits from Aid to Families With Dependent Children (AFDC), General Assistance, Supplemental Security Income (SSI), and food stamps were about \$436 ( $\pm 5.8$ ) in 1992.
- About 5.8 ( $\pm 0.5$ ) percent of White persons participated long-term in major assistance programs, compared to 18.9 ( $\pm 2.5$ ) percent of persons of Hispanic origin (who may be of any race) and 24.2 ( $\pm 1.4$ ) percent of Black persons. Most long-term participants in means-tested assistance programs were White, 57.9 ( $\pm 3.2$ ) percent, versus 36.2 ( $\pm 2.6$ ) percent who were Black and 20.9 ( $\pm 2.7$ ) percent who were Hispanic.
- Children were more likely to be long-term participants in major assistance programs than elderly persons and nonelderly adults, 13.4 ( $\pm 1.2$ ) percent versus 11.1 ( $\pm 1.6$ ) and 5.6 ( $\pm 0.5$ ) percent.
- Unemployed workers and those out of the labor force, although not significantly different from one another, had substantially higher long-term participation rates in major assistance programs than persons employed either full or part time.
- The presence of a work disability increased the likelihood of long-term participation in major assistance programs from 3.8 ( $\pm 0.5$ ) to 18.3 ( $\pm 2.3$ ) percent.
- Persons in female-householder families were 22 times as likely as persons in married-couple families to have received AFDC or General Assistance and 13 times as likely to have received food stamps on a long-term basis.

## PROGRAM PARTICIPATION STATUS IN THE UNITED STATES: 1991 TO 1993

The tables in this report show data for persons rather than for families or households. Persons are considered participants in AFDC, General Assistance, or in the Food Stamp Program if they are the primary recipient or if they are covered under another person's allotment. Persons are counted as participants in a *major* means-tested assistance program if they live in public housing or are beneficiaries of one of the following programs: AFDC, General Assistance, SSI, Medicaid, food stamps, and Federal or State rent assistance. Benefit amounts from major means-tested assistance programs include AFDC, General Assistance, SSI, and food stamp benefits. For meaningful comparison of benefits, they are valued in constant 1992 dollars.

We consider four aspects of program participation:

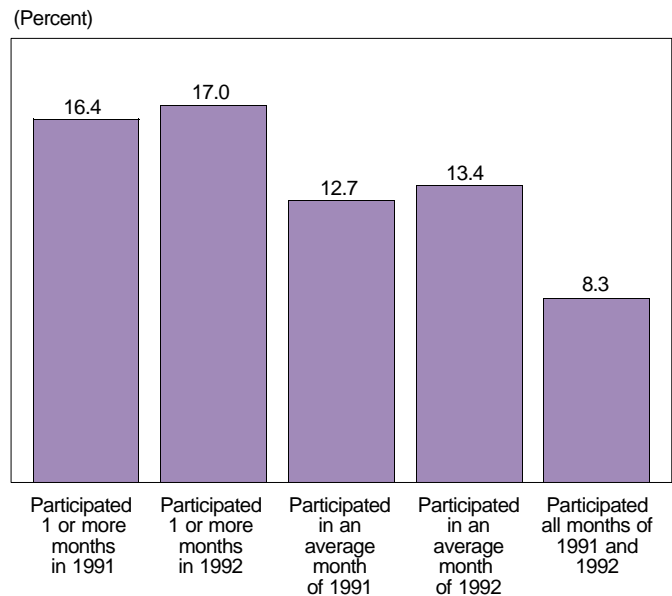
1. The length of participation in various programs.
2. Long-term participation; i.e., the number and percent of persons who participated each month of 1991 and 1992.
3. The number and percent of persons who participated in various programs in an average month of 1991 (1992).
4. The number and percent of persons who participated 1 month or more during 1991 (1992).

Time spent in programs is an important dimension of program participation. Some individuals have longer spells than others, and policy approaches to provide short-term relief are likely to differ from those intended to remedy long-term dependency. SIPP allows longitudinal analysis of program participation. It allows one to calculate median spell durations as well as distributions of spells by spell length, using survival analysis.

A substantial number of persons, 20.2 million, participated all 24 months of 1991 and 1992 in major means-tested programs. These long-term participants represented 8.3 percent of the population, a substantially higher proportion than the 7.6 percent in the previous 2-year period (1990-1991). Approximately 34.0 million persons participated in a major means-tested assistance program in an average month during 1992, representing 13.4 percent of the population. The number of persons who ever participated during a single calendar year, 1992, was significantly higher, 42.5 million (17.0 percent of the population), demonstrating substantial mobility (see table A and figure 1).

Table A shows that 2.8 percent of the population (almost 7 million) participated the entire 1991-1992 period in AFDC or General Assistance, compared to 2.4 percent during the 1990-1991 period. About 4.3 percent of the population (10.4 million persons) were long-term participants in the Food Stamp Program, significantly higher than the 3.8 percent in the previous 2-year period.

Figure 1.  
Rates of Participation in Major Means-Tested Programs: 1991 and 1992



The median spell duration of major means-tested assistance programs was 7.9 months during the 1991-to-1993 period, the same as during the 1990-to-1992 period. This means that half of all spells lasted less than 7.9 months and half lasted longer (figure 2). While 34.0 percent of spells lasted between 1 and 4 months, smaller proportions of spells fell in subsequent length categories: 16.0 percent lasted between 5 and 8 months, and 7.0 percent between 9 and 12 months. However, 30.0 percent of all spells lasted longer than 2 years (figure 3). As can be seen in figure 4, the median length of time receiving AFDC or General Assistance was 7.4 months during 1991 to 1993, significantly shorter than food stamp spells (9.6 months).

Table A shows that the median benefit amount received in 1992 was \$436 from one or more major means-tested assistance programs, \$363 from AFDC/General Assistance, and \$206 from food stamps.

**Race and Hispanic origin**<sup>2</sup>. There was a strong association between race and Hispanic origin and the likelihood of receiving means-tested assistance. Whites had significantly lower participation rates than Blacks, and persons of Hispanic origin had rates intermediate between Whites and Blacks. One-fourth (24.2 percent) of all Blacks received assistance from a means-tested program during all 24 months of 1991 and 1992. The comparable figures for Whites and persons of Hispanic origin were 5.8 percent and 18.9 percent, respectively.

<sup>2</sup>Persons of Hispanic origin may be of any race. The information on the Hispanic population shown in this report was collected in the 50 States and the District of Columbia, and therefore, does not include residents of Puerto Rico.



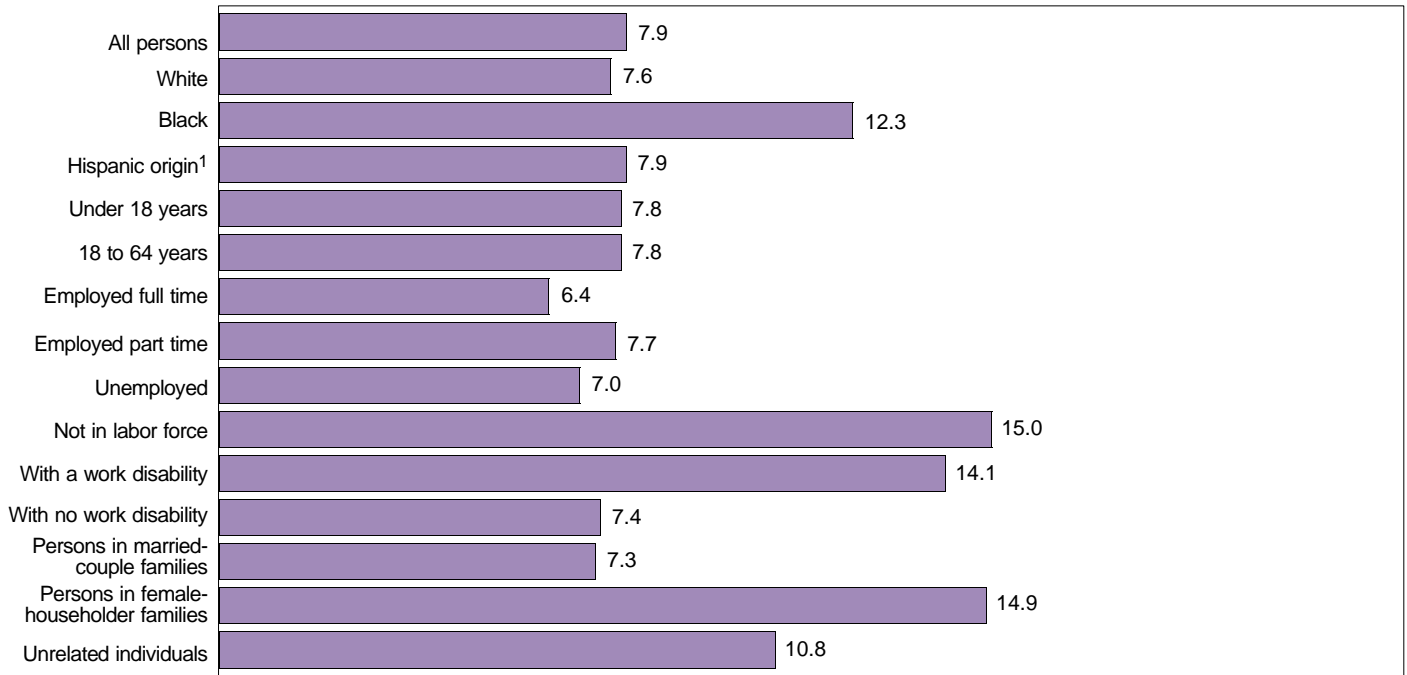
Table A. Receipt of Public Assistance by Race and Hispanic Origin

Race and Hispanic origin	Average monthly participation (thousands)				Persons ever participating (thousands)				Persons participating all 24 months (thousands)				Median spell duration (months)		Median monthly benefits (1992 dollars)	
	Calendar year 1991		Calendar year 1992		Calendar year 1991		Calendar year 1992		Calendar years 1991 and 1992 (91 panel)		Calendar years 1990 and 1991 (90 panel)		91 panel	90 panel	Calendar year 1991	Calendar year 1992
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent				
<b>ALL PROGRAMS<sup>1</sup></b>																
<b>Total.....</b>	<b>31 695</b>	<b>12.7</b>	<b>33 954</b>	<b>13.4</b>	<b>40 606</b>	<b>16.4</b>	<b>42 470</b>	<b>17.0</b>	<b>20 244</b>	<b>8.3</b>	<b>18 093</b>	<b>7.6</b>	<b>7.9</b>	<b>7.9</b>	<b>451</b>	<b>436</b>
White .....	19 875	9.5	21 690	10.3	26 319	12.8	28 256	13.6	11 731	5.8	9 894	5.0	7.6	7.8	401	399
Black.....	10 126	32.5	10 507	33.0	12 162	39.4	12 135	38.8	7 323	24.2	7 172	24.6	12.3	8.7	510	484
Hispanic origin <sup>2</sup> .....	5 743	26.4	6 410	26.9	7 980	34.9	8 348	34.2	4 225	18.9	3 323	17.7	7.9	10.2	517	478
<b>AFDC OR GENERAL ASSISTANCE</b>																
<b>Total.....</b>	<b>11 869</b>	<b>4.7</b>	<b>11 862</b>	<b>4.7</b>	<b>15 714</b>	<b>6.4</b>	<b>15 111</b>	<b>6.0</b>	<b>6 777</b>	<b>2.8</b>	<b>5 634</b>	<b>2.4</b>	<b>7.4</b>	<b>10.4</b>	<b>374</b>	<b>363</b>
White .....	6 484	3.1	6 379	3.0	8 839	4.3	8 482	4.1	3 184	1.6	2 545	1.3	6.6	8.3	415	404
Black.....	4 560	14.6	4 723	14.8	5 819	18.8	5 736	18.4	3 008	10.0	2 497	8.6	11.8	14.0	319	300
Hispanic origin <sup>2</sup> .....	2 351	10.8	2 439	10.2	3 287	14.4	3 258	13.3	1 463	6.5	1 066	5.7	11.7	15.3	434	404
<b>FOOD STAMPS</b>																
<b>Total.....</b>	<b>19 383</b>	<b>7.8</b>	<b>20 700</b>	<b>8.2</b>	<b>25 837</b>	<b>10.5</b>	<b>27 113</b>	<b>10.8</b>	<b>10 402</b>	<b>4.3</b>	<b>9 102</b>	<b>3.8</b>	<b>9.6</b>	<b>8.8</b>	<b>206</b>	<b>206</b>
White .....	11 435	5.5	12 583	6.0	15 770	7.7	17 231	8.3	5 829	2.9	4 707	2.4	7.9	7.8	198	199
Black.....	6 901	22.1	7 072	22.2	8 716	28.2	8 605	27.5	4 021	13.3	3 823	13.1	14.9	13.9	226	224
Hispanic origin <sup>2</sup> .....	3 770	17.3	4 222	17.7	5 309	23.2	5 859	24.0	2 299	10.3	1 724	9.2	14.2	10.5	210	217

<sup>1</sup>All programs include AFDC, General Assistance, SSI, food stamps, Medicaid, and housing assistance. Median monthly benefits from all programs include benefits from the AFDC, General Assistance, SSI, and Food Stamp programs only.

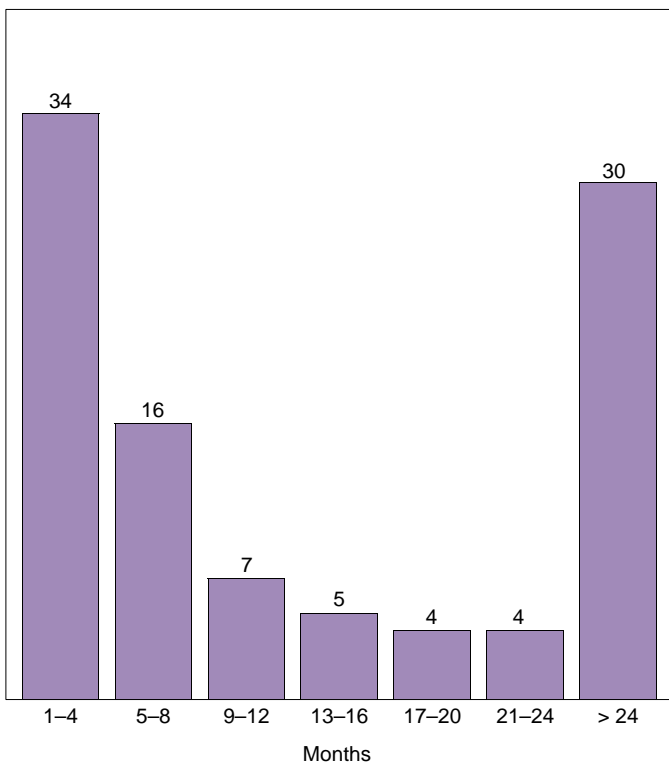
<sup>2</sup>Persons of Hispanic origin may be of any race.

**Figure 2.**  
**Median Durations of Major Means-Tested Program**  
**Spells by Various Characteristics: 1991 to 1993**  
 (Months)

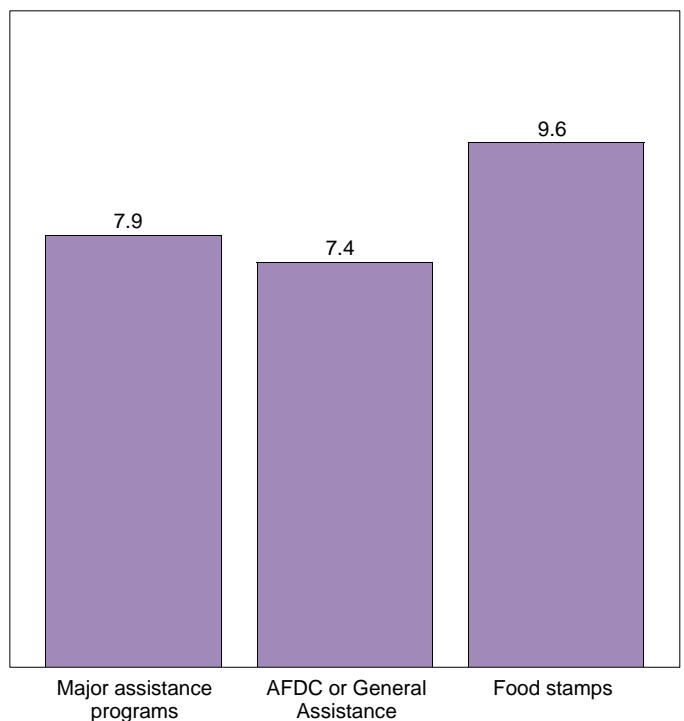


<sup>1</sup> Persons of Hispanic origin may be of any race.

**Figure 3.**  
**Distribution of Spells of Participation in Major**  
**Means-Tested Programs by Spell Length:**  
**1991 to 1993**  
 (Percent)



**Figure 4.**  
**Median Durations of Program Spells: 1991 to 1993**  
 (Months)



Whites experienced an increased probability of long-term participation in means-tested programs combined, and in food stamps, compared to the previous time period. Their participation in means-tested programs increased from 5.0 percent for the 1990-1991 period to 5.8 percent for the 1991-1992 period. The corresponding increase in food stamp participation was from 2.4 to 2.9 percent. Blacks experienced a higher likelihood of long-term AFDC/General Assistance participation in the latter 2-year period, 10.0 percent compared to 8.6 percent, but no higher overall participation probability.

Lengths of participation differed significantly between Whites and Blacks (see table A). Whites received AFDC/General Assistance, food stamps, and major combined benefits for shorter periods than Blacks. For instance, a median AFDC/General Assistance spell lasted 6.6 months for Whites, compared to 11.8 months for Blacks. There were no consistent significant differences in the median time of participation between Whites and persons of Hispanic origin on one hand, and between Blacks and persons of Hispanic origin on the other hand.

Persons of Hispanic origin had shorter spells of major assistance and AFDC/General Assistance during the 1991-to-1993 period than during the 1990-to-1992 period. Table A shows that their median AFDC/General Assistance spell duration fell from 15.3 months in the 1990 panel to 11.7 months in the 1991 panel. Similarly, the median duration of major assistance spells fell from 10.2 to 7.9 months.

The median of the sum of means-tested family benefits was higher for Black participants than for their White counterparts. Whites received median benefits of \$399 in 1992, compared to \$484 for Blacks. Persons of Hispanic origin had median benefits of \$478, not significantly different from Blacks. Similar differences by race and ethnicity existed for food stamp benefits. In contrast, the median benefits from AFDC/General Assistance received by Black participants were substantially lower than those received by their White and Hispanic origin counterparts. Whites and Hispanic origin persons received equal AFDC/General Assistance benefits.

The disparity between Whites, Blacks, and persons of Hispanic origin in the likelihood of receiving benefits and the amount of means-tested assistance they received result from differences in poverty status and its correlates, such as family type. Blacks were almost three times as likely as Whites to be poor in an average month of 1992, and persons of Hispanic origin had a similar rate to Blacks. Blacks, however, were significantly more likely than persons of Hispanic origin to be poor all 24 months of 1991 and 1992, 15.7 versus 11.8 percent.<sup>3</sup> While 10.4 percent of

Whites lived in female-householder families without a spouse present in 1992, 38.6 percent of Blacks and 18.5 percent of persons of Hispanic origin did so.<sup>4</sup>

Despite significantly higher participation rates for Blacks and persons of Hispanic origin, most participants were White. Of those who participated in a major assistance program all 24 months of 1991 and 1992, 57.9 percent were White, 36.2 percent were Black, and 20.9 percent were of Hispanic origin.

**Age.** Children had higher rates of participation in major means-tested assistance programs than persons in other age groups, reflecting their higher likelihood of living in poverty. As shown in table B, 13.4 percent of all children participated all 24 months of 1991 and 1992 in means-tested assistance programs, while only 5.6 percent of nonelderly adults and 11.1 percent of the elderly did so. Children were also more likely than other age groups to receive AFDC/General Assistance and food stamps on a long-term basis.<sup>5</sup>

Table B shows that the median food stamp spell for children was 11.9 months, significantly longer than the 7.6 months for nonelderly adults. Children had a median AFDC/General Assistance spell of 7.8 months, significantly shorter than the 12.5 months in previously published data based on the 1990-to-1993 period.

Median monthly family benefits were substantially higher for children than for nonelderly adults, and were higher for nonelderly adults than for the elderly. While children received median benefits from means-tested programs in the amount of \$531 in 1992, nonelderly adults and the elderly received \$417 and \$198, respectively (table B).

**Employment status.** Table C shows data on the relationship between the employment status of persons 18 years and older and their participation in means-tested programs. The probability of long-term participation in major means-tested programs was highest for the unemployed (16.7 percent) and those out of the labor force (15.0 percent), followed by those employed part time (3.7 percent), and full-time workers (1.3 percent). (The percentages for the unemployed and those out of the labor force were not significantly different).

The relationship between employment status and the degree to which assistance is received reflects differences in income. The unemployed had the highest average monthly poverty rate in 1992, 37.8 percent, followed by persons not in the labor force (19.2 percent), those employed part time (12.6 percent), and those employed full time (3.5 percent).<sup>3</sup>

<sup>3</sup>U.S. Bureau of the Census, Current Population Reports, Series P-70, No. 45, *Dynamics of Economic Well-Being: Poverty, 1991 to 1993* forthcoming.

<sup>4</sup>U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 185, *Poverty in the United States: 1992*, U.S. Government Printing Office, Washington, DC, 1993.

<sup>5</sup>There was no significant difference between elderly and nonelderly adults in the likelihood of receiving food stamps on a long-term basis.

Table B. Receipt of Public Assistance by Age

Age	Average monthly participation (thousands)				Persons ever participating (thousands)				Persons participating all 24 months (thousands)				Median spell duration (months)		Median monthly benefits (1992 dollars)	
	Calendar year 1991		Calendar year 1992		Calendar year 1991		Calendar year 1992		Calendar years 1991 and 1992 (91 panel)		Calendar years 1990 and 1991 (90 panel)		91 panel	90 panel	Calendar year 1991	Calendar year 1992
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent				
<b>ALL PROGRAMS<sup>1</sup></b>																
<b>Total.....</b>	<b>31 695</b>	<b>12.7</b>	<b>33 954</b>	<b>13.4</b>	<b>40 606</b>	<b>16.4</b>	<b>42 470</b>	<b>17.0</b>	<b>20 244</b>	<b>8.3</b>	<b>18 093</b>	<b>7.6</b>	<b>7.9</b>	<b>7.9</b>	<b>451</b>	<b>436</b>
Under 18 years.....	13 991	21.2	15 222	22.5	18 104	27.1	18 833	27.8	8 993	13.4	7 817	12.2	7.8	7.4	570	531
18 to 64 years .....	13 813	9.0	14 751	9.5	18 369	12.1	19 409	12.6	8 315	5.6	7 761	5.3	7.8	8.1	418	417
65 years and over .....	3 890	12.8	3 982	13.0	4 133	14.5	4 229	14.6	2 937	11.1	2 515	9.6	(X)	13.5	198	198
<b>AFDC OR GENERAL ASSISTANCE</b>																
<b>Total.....</b>	<b>11 869</b>	<b>4.7</b>	<b>11 862</b>	<b>4.7</b>	<b>15 714</b>	<b>6.4</b>	<b>15 111</b>	<b>6.0</b>	<b>6 777</b>	<b>2.8</b>	<b>5 634</b>	<b>2.4</b>	<b>7.4</b>	<b>10.4</b>	<b>374</b>	<b>363</b>
Under 18 years.....	7 222	10.9	7 292	10.8	9 333	14.0	8 986	13.3	4 279	6.4	3 469	5.4	7.8	12.5	387	376
18 to 64 years .....	4 576	3.0	4 492	2.9	6 273	4.1	6 027	3.9	2 450	1.6	2 134	1.4	6.4	9.1	351	340
65 years and over .....	71	0.2	78	0.3	107	0.4	98	0.3	48	0.2	32	0.1	(B)	(B)	180	152
<b>FOOD STAMPS</b>																
<b>Total.....</b>	<b>19 383</b>	<b>7.8</b>	<b>20 700</b>	<b>8.2</b>	<b>25 837</b>	<b>10.5</b>	<b>27 113</b>	<b>10.8</b>	<b>10 402</b>	<b>4.3</b>	<b>9 102</b>	<b>3.8</b>	<b>9.6</b>	<b>8.8</b>	<b>206</b>	<b>206</b>
Under 18 years.....	10 127	15.3	10 780	15.9	13 177	19.7	13 634	20.2	5 717	8.5	4 798	7.5	11.9	9.5	245	246
18 to 64 years .....	8 125	5.3	8 716	5.6	11 363	7.5	12 079	7.9	3 945	2.6	3 652	2.5	7.6	7.9	189	189
65 years and over .....	1 131	3.7	1 204	3.9	1 297	4.6	1 400	4.8	741	2.8	652	2.5	12.8	15.3	40	47

X Not applicable. B The base for the derived figure is less than 200,000.

<sup>1</sup>All programs include AFDC, General Assistance, SSI, food stamps, Medicaid, and housing assistance. Median monthly benefits from all programs include benefits from the AFDC, General Assistance, SSI, and Food Stamp programs only.

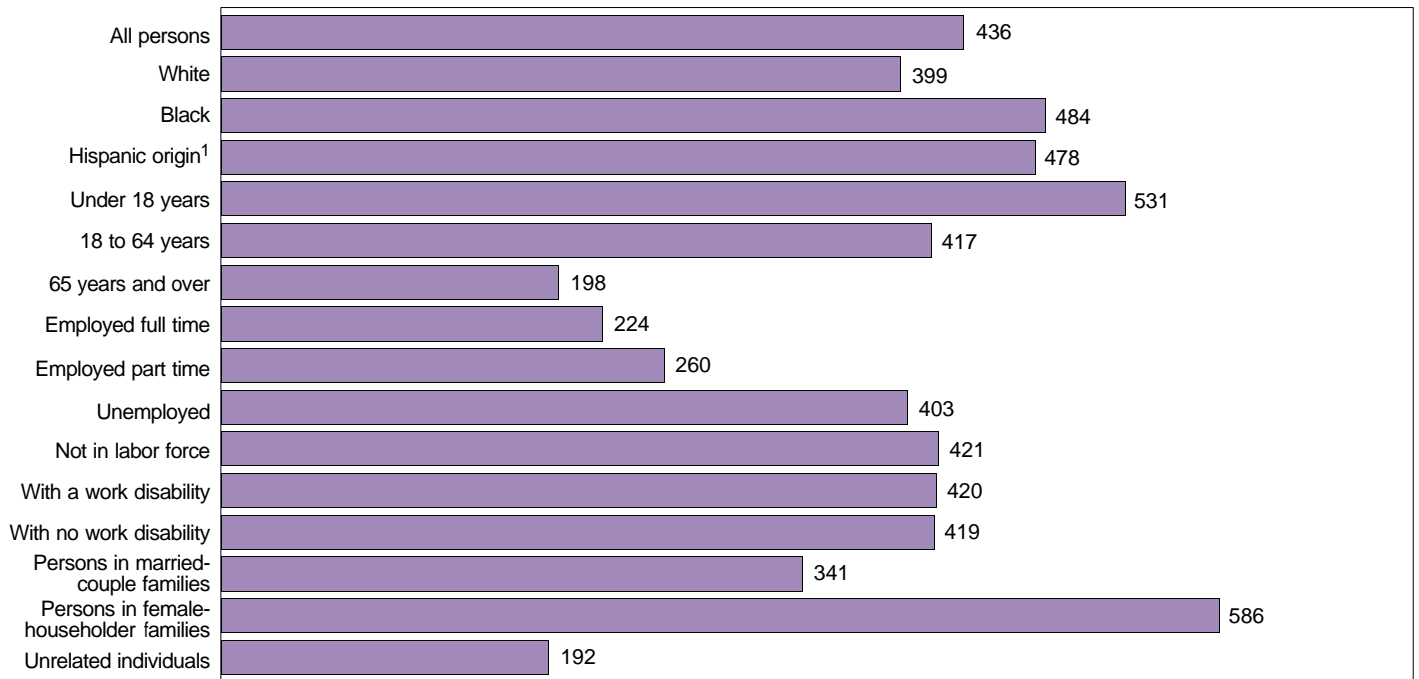
Table C. Receipt of Public Assistance by Employment and Disability Status

Employment and disability status	Average monthly participation (thousands)				Persons ever participating (thousands)				Persons participating all 24 months (thousands)				Median spell duration (months)		Median monthly benefits (1992 dollars)	
	Calendar year 1991		Calendar year 1992		Calendar year 1991		Calendar year 1992		Calendar years 1991 and 1992 (91 panel)		Calendar years 1990 and 1991 (90 panel)		91 panel	90 panel	Calendar year 1991	Calendar year 1992
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent				
<b>ALL PROGRAMS<sup>1</sup></b>																
<b>Employment and Labor Force Status (persons 18 years and over)</b>																
Employed full time . . . . .	3 119	3.3	3 103	3.3	5 497	5.8	5 249	5.6	1 218	1.3	1 191	1.3	6.4	6.3	228	224
Employed part time . . . . .	1 656	7.6	1 855	8.4	2 479	11.3	2 819	12.4	810	3.7	677	3.3	7.7	8.2	275	260
Unemployed . . . . .	1 600	23.5	1 721	22.8	2 269	32.6	2 173	29.8	1 063	16.7	821	16.7	7.0	7.6	416	403
Not in labor force . . . . .	11 330	18.8	12 053	19.8	12 256	21.4	13 396	23.0	8 161	15.0	7 586	14.2	15.0	11.9	418	421
<b>Disability Status (persons 15 to 69 years)</b>																
With a work disability . . . . .	6 231	22.2	6 496	23.6	7 180	27.1	7 504	29.6	4 598	18.3	4 258	16.4	14.1	11.4	418	420
With no work disability . . . . .	10 072	6.9	11 002	7.4	14 506	9.9	15 316	10.3	5 557	3.8	5 050	3.6	7.4	7.6	448	419
<b>AFDC OR GENERAL ASSISTANCE</b>																
<b>Employment and Labor Force Status (persons 18 years and over)</b>																
Employed full time . . . . .	347	0.4	287	0.3	888	0.9	738	0.8	45	0.0	46	0.0	3.7	3.5	235	235
Employed part time . . . . .	302	1.4	345	1.6	669	3.0	564	2.5	72	0.3	103	0.5	4.1	6.1	337	297
Unemployed . . . . .	712	10.5	670	8.9	1 021	14.7	1 021	14.0	442	7.0	286	5.8	7.2	7.3	350	361
Not in labor force . . . . .	3 285	5.4	3 267	5.4	3 802	6.6	3 802	6.5	1 940	3.6	1 731	3.2	8.2	14.7	358	344
<b>Disability Status (persons 15 to 69 years)</b>																
With a work disability . . . . .	1 666	5.9	1 508	5.5	2 355	8.9	1 912	7.5	745	3.0	660	2.5	5.3	6.8	322	307
With no work disability . . . . .	3 655	2.5	3 787	2.6	5 002	3.4	5 188	3.5	1 970	1.4	1 661	1.2	7.1	9.6	388	366
<b>FOOD STAMPS</b>																
<b>Employment and Labor Force Status (persons 18 years and over)</b>																
Employed full time . . . . .	1 204	1.3	1 180	1.2	2 531	2.7	2 509	2.7	326	0.3	298	0.3	4.7	5.7	195	177
Employed part time . . . . .	909	4.2	1 014	4.6	1 431	6.5	1 658	7.3	323	1.5	234	1.1	5.7	6.5	173	161
Unemployed . . . . .	1 165	17.1	1 277	16.9	1 790	25.7	1 725	23.6	655	10.3	465	9.4	5.9	7.2	207	206
Not in labor force . . . . .	5 979	9.9	6 449	10.6	6 908	12.1	7 586	13.0	3 381	6.2	3 307	6.2	12.3	11.9	147	151
<b>Disability Status (persons 15 to 69 years)</b>																
With a work disability . . . . .	3 375	12.0	3 418	12.4	4 323	16.3	4 366	17.2	1 717	6.8	1 678	6.5	8.4	9.2	132	130
With no work disability . . . . .	6 101	4.2	6 818	4.6	8 865	6.1	9 808	6.6	2 922	2.0	2 497	1.8	7.5	7.8	211	211

<sup>1</sup>All programs include AFDC, General Assistance, SSI, food stamps, Medicaid, and housing assistance. Median monthly benefits from all programs include benefits from the AFDC, General Assistance, SSI, and Food Stamp programs only.

Figure 5.  
**Median Benefits From Major Means-Tested Assistance  
 Programs by Various Characteristics: 1992**

(Dollars)



Persons who were not in the labor force had longer major assistance and food stamp spells than any of the groups in the labor force. For instance, table C shows that the median duration of major assistance spells was 15.0 months for persons out of the work force, 7.0 months for the unemployed, 7.7 months for part-time workers and 6.4 months for full-time workers. Median food stamp spells followed the same pattern.<sup>6</sup>

In 1992, the median sums of benefits from means-tested programs for unemployed workers and persons out of the labor force, while not statistically different from each other, were higher than for those holding full- or part-time jobs. As table C shows, unemployed workers received more generous food stamp benefits than full- and part-time workers and persons out of the labor force.<sup>7</sup>

**Disability status.** The presence of a work disability in persons 15 to 69 years of age increased the participation rates in major means-tested programs. While 3.8 percent of persons without a disability received assistance from one or more programs in all months of 1991 and 1992, 18.3 percent of those with a disability did so (table C).

<sup>6</sup>There were no significant differences in median major assistance and food stamp spell lengths between the three groups in the labor force.

<sup>7</sup>There were no significant differences in median food stamp benefits between full- and part-time workers on one hand, and between part-time workers and those out of the labor force, on the other hand.

Again, the relative participation rates reflect differential propensities of being poor. Persons with a work disability were much more likely to be poor than persons with no disability, 20.0 versus 9.9 percent in an average month of 1992.<sup>8</sup>

Median monthly family benefits from the Food Stamp and AFDC/General Assistance programs were significantly higher for persons without a work disability than for persons with a work disability, as can be seen in table C. In 1992, a work disability was associated with median monthly family benefits of \$130 for food stamp participants and \$307 for AFDC/General Assistance participants. Participants without a work disability received median benefits of \$211 and \$366, respectively.

**Family status.** Participation in means-tested assistance programs is higher for persons in female-householder families than for persons in married-couple families and unrelated individuals, as can be seen in table D. About 30.8 percent of persons in female-householder families participated all 24 months of 1991 and 1992, compared to 3.4 percent of persons in married-couple families and 10.0 percent of unrelated individuals. Furthermore, persons in female-householder families were 22 times as likely as

<sup>8</sup>U.S. Bureau of the Census, Current Population Reports, Series P-70, No. 45, *Dynamics of Economic Well-Being: Poverty, 1991-1993*, forthcoming.

persons in married-couple families to have received AFDC/General Assistance on a long-term basis, and 13 times as likely to have received food stamps.

Persons in female-householder families had longer median spells than persons in married-couple families for major programs taken together, and AFDC/General Assistance, and food stamps separately. As can be seen in table D, persons in married-couple families received AFDC/General Assistance for 5.6 months, compared to 12.0 months for persons in female-householder families. The shorter AFDC stay of married-couple families is partly due to the transitory nature of unemployment (needy married-couple families must have an unemployed parent in order to receive AFDC). Longer welfare spells generally reflect the inability of female-householder families to exit poverty. As shown in a companion report, persons in female-householder families have significantly longer poverty spells than persons in married-couple households.<sup>9</sup>

Persons in female-householder families experienced an increase in the spell duration of the major programs combined, and the Food Stamp Program. For instance, previously published data based on the 1990-to-1992 period showed median food stamp spell durations of 11.5 months, compared to 19.3 months during the 1991-to-1993 period.

Persons in married-couple families had significantly higher AFDC/General Assistance and food stamp benefits than persons in female-householder families, while the

<sup>9</sup>U.S. Bureau of the Census, Current Population Reports, Series P-70, No. 45, *Dynamics of Economic Well-Being: Poverty, 1991-1993*, forthcoming.

opposite held true for benefits from major programs combined, as shown in table D. Median combined family benefits for persons in female-householder families amounted to \$586 in 1992, which is substantially higher than the \$341 received by their counterparts in married-couple families. This suggests that female-householder families drew benefits from more programs or from a different mix of programs than married-couple families. Households composed entirely of recipients of AFDC are automatically eligible for food stamps as long as they meet food stamp employment-related requirements.<sup>10</sup> Multiple program participation through "categorical" eligibility explains in part the higher combined median benefits of female-householder families compared to married-couple families. In addition, not only was the poverty rate of persons in female-householder families significantly higher than that of persons in married-couple families (37.5 versus 7.6 average monthly percent in 1992),<sup>9</sup> but persons in female-householder families were also significantly more likely than persons in married-couple families to have family incomes below one-half of their respective poverty thresholds (19.8 versus 2.3 percent in 1992).<sup>11</sup> Such low income levels make multiple program participation and, therefore, higher combined benefits more likely.

<sup>10</sup>U.S. Library of Congress. Congressional Research Service. *Cash and Noncash Benefits for Persons With Limited Income: Eligibility Rules, Recipient and Expenditure Data, Fiscal Year 1986-88*. Report for Congress No. 89-595 EPW, compiled by Vee Burke. Washington, DC, 1989. 86 p.

<sup>11</sup>U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 185, *Poverty in the United States: 1992*, U.S. Government Printing Office, Washington, DC, 1993.

Table D. Receipt of Public Assistance by Family Status

Family status	Average monthly participation (thousands)				Persons ever participating (thousands)				Persons participating all 24 months (thousands)				Median spell duration (months)		Median monthly benefits (1992 dollars)	
	Calendar year 1991		Calendar year 1992		Calendar year 1991		Calendar year 1992		Calendar years 1991 and 1992 (91 panel)		Calendar years 1990 and 1991 (90 panel)		91 panel	90 panel	Calendar year 1991	Calendar year 1992
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent				
<b>ALL PROGRAMS<sup>1</sup></b>																
<b>Total .....</b>	<b>31 695</b>	<b>12.7</b>	<b>33 954</b>	<b>13.4</b>	<b>40 606</b>	<b>16.4</b>	<b>42 470</b>	<b>17.0</b>	<b>20 244</b>	<b>8.3</b>	<b>18 093</b>	<b>7.6</b>	<b>7.9</b>	<b>7.9</b>	<b>451</b>	<b>436</b>
In families .....	26 721	12.5	29 063	13.4	34 852	16.4	36 899	17.1	16 910	8.1	15 108	7.4	7.8	7.8	503	471
In married-couple families ..	11 436	6.7	12 895	7.5	17 033	10.0	18 862	10.9	5 821	3.4	5 533	3.3	7.3	7.3	358	341
In families with a female householder, no spouse present .....	14 232	40.1	15 068	40.7	16 467	46.9	16 762	46.0	10 547	30.8	9 154	29.0	14.9	11.4	591	586
Unrelated individuals .....	4 973	13.6	4 891	13.5	5 754	16.5	5 571	16.3	3 334	10.0	2 985	9.3	10.8	8.6	199	192
<b>AFDC OR GENERAL ASSISTANCE</b>																
<b>Total .....</b>	<b>11 869</b>	<b>4.7</b>	<b>11 862</b>	<b>4.7</b>	<b>15 714</b>	<b>6.4</b>	<b>15 111</b>	<b>6.0</b>	<b>6 777</b>	<b>2.8</b>	<b>5 634</b>	<b>2.4</b>	<b>7.4</b>	<b>10.4</b>	<b>374</b>	<b>363</b>
In families .....	11 544	5.4	11 590	5.3	15 156	7.1	14 677	6.8	6 692	3.2	5 530	2.7	7.4	10.9	377	366
In married-couple families ..	3 001	1.8	3 012	1.7	4 664	2.7	4 881	2.8	1 160	0.7	1 041	0.6	5.6	5.8	389	397
In families with a female householder, no spouse present .....	8 257	23.2	8 287	22.4	10 028	28.5	9 485	26.0	5 380	15.7	4 414	14.0	12.0	18.2	376	364
Unrelated individuals .....	325	0.9	272	0.8	558	1.6	434	1.3	85	0.3	104	0.3	3.9	5.7	210	202
<b>FOOD STAMPS</b>																
<b>Total .....</b>	<b>19 383</b>	<b>7.8</b>	<b>20 700</b>	<b>8.2</b>	<b>25 837</b>	<b>10.5</b>	<b>27 113</b>	<b>10.8</b>	<b>10 402</b>	<b>4.3</b>	<b>9 102</b>	<b>3.8</b>	<b>9.6</b>	<b>8.8</b>	<b>206</b>	<b>206</b>
In families .....	17 582	8.2	18 848	8.7	23 587	11.1	24 703	11.4	9 335	4.4	8 125	4.0	9.5	8.6	226	224
In married-couple families ..	6 566	3.9	7 313	4.2	10 196	6.0	11 352	6.6	2 588	1.5	2 602	1.5	7.2	7.0	238	232
In families with a female householder, no spouse present .....	10 474	29.5	10 968	29.7	12 629	35.9	12 643	34.7	6 556	19.2	5 424	17.2	19.3	11.5	215	223
Unrelated individuals .....	1 801	4.9	1 853	5.1	2 250	6.5	2 409	7.1	1 067	3.2	977	3.0	11.3	10.5	52	51

<sup>1</sup>All programs include AFDC, General Assistance, SSI, food stamps, Medicaid, and housing assistance. Median monthly benefits from all programs include benefits from the AFDC, General Assistance, SSI, and Food Stamp programs only.



## Appendix A.

# Definitions and Explanations

**Population coverage.** The estimates in this report are restricted to the civilian noninstitutional resident population of the United States and members of the Armed Forces living off post or with their families on post.

**Weights.** Five sets of weights were used in this report. Monthly weights for calendar years 1991 and 1992 were used in deriving average monthly participation and monthly family benefits for each year. Estimates of the number of persons who participated all of 1991 and 1992 were based on the 1991 panel weight. Calendar year weights for 1991 and 1992 were used to obtain estimates of the number of persons who ever participated during a given year.

**Reference periods for the characteristics age, employment status, family status, and participation in assistance programs.** While employment status is observed each wave, the other characteristics are observed each month. In order to calculate average monthly statistics, the characteristics are used as they prevail in the particular month. In order to determine the number of persons who ever or always were poor or participated in a program during a given time period, the characteristics are used as of the first month (wave) of the time period in question. When looking at spells of program participation, the characteristics of persons experiencing the spells are as of the month (wave) during which the spell began.

**Aid to Families With Dependent Children (AFDC) and General Assistance.** Persons were considered participants in AFDC or General Assistance if they were identified as primary recipients or if they were covered under other persons' allotment.

**Federal and State rent assistance.** Survey of Income and Program Participation (SIPP) respondents were asked whether their residence is owned by a local housing authority or whether the Federal, State, or local government is paying part of the rent. A "yes" to either question identified the respondent and others living at the same residence as participants in a public or subsidized rental housing program.

**Food stamps.** The questions on participation in the Food Stamp Program in SIPP were designed to identify households in which one or more of the current members received food stamps. Once a food stamp household was identified, a question was asked to determine the number

of current household members covered by food stamps. Questions also were asked about the number of months food stamps were received and the total face value of all food stamps received during the period.

**Medicaid.** The Medicaid question in SIPP attempted to identify all adults who were covered by Medicaid. The term "covered" means enrolled in the Medicaid program; e.g., had a Medicaid medical assistance card or incurred medical bills which were paid for by Medicaid. In order to be counted, the person did not have to receive medical care paid for by Medicaid. Coverage was assigned in situations where it was not reported but should have been; i.e., where persons were categorically eligible through their reported participation in other cash transfer programs.

**Supplemental Security Income (SSI).** A person was considered a participant in the SSI program during a given month, if he/she received payments from the U.S. Government or from a State or local welfare office during that month.

**Survival analysis.** Some of the estimates presented in this report are distributions of spell duration for individuals with different characteristics. We use a survival analysis technique to derive these distributions and the resulting estimates of median spell duration for persons observed entering a particular program during the 32 months of the panel. We consider only individuals who were present in the survey all 32 months. One alternative would have been to include all persons up until the time of attrition. It is, however, extremely difficult to come up with appropriate weights for such an analysis, and it was therefore not attempted here.

Spells of program participation must have an observed beginning; i.e., have to be preceded by 1 or more months of "non" spells during the panel. Furthermore, while a spell can be as short as one month, two spells must be more than 1 month apart in order to be counted as separate spells. If two potential spells are separated by only 1 month, they count as one spell. The connecting month is counted as part of the resulting spell. A spell is observed either until it ends or until it is right-censored. Since an individual must have completed interviews for all months of the panel in order to be included in the sample, right-censoring occurs only if an individual is still participating in the last month of the panel.

The probability of exiting a spell in month  $t$ , given that the person was experiencing a spell in the beginning of that month, is defined as

$$h(t) = \frac{\text{exits}(t)}{\text{prog}(t) - (\text{rcens}(t)/2)}$$

where  $\text{exits}(t)$  denotes the number of spell exits in month  $t$ ,  $\text{prog}(t)$  is the number of spells that were in progress in the beginning of month  $t$ , and  $\text{rcens}(t)$  is the number of spells which were right-censored in month  $t$ .

The survival rate in month  $t$ , which is the probability that a spell lasts longer than  $t$  months, can then be written as

$$S(t) = \prod_{k=1}^t (1 - h(k))$$

The survival function evaluated at  $t$  gives the probability that an *entrant* into a program is still participating in the program  $t$  time periods later.

The median survival time or spell duration  $M$  can be estimated by linear interpolation. Let  $[t, t+1)$  be the interval such that  $S(t) \geq .5$  and  $S(t+1) < .5$ .

$$M = t + \frac{S(t) - 0.5}{S(t) - S(t+1)}$$

Since a spell must be preceded by a period of nonparticipation, left censored spells of participation are not included in our analysis. Observations are left censored when the beginning of a spell of interest is not observed, that is, a spell began at some time before the reference period.

While dynamic estimates may be unbiased for spells with observed beginnings in the reference period, there remains concern about the deletion of left-censored spells from such analyses. There may be particular characteristics of persons, associated with the experience of very long spells, that preclude their inclusion in our sample. For example, in our analysis, which is restricted to persons in sample the entire period, selecting spells with observed beginnings leads to a sample without those persons who participated in a means-tested program from the first month of life onward. Even if one defines the spells of those "born into participation" as spells with observed beginnings, the problem of unavailable appropriate weights make their inclusion all but impossible. Studies of spells with observed beginnings might result in reasonable estimates of spell distribution and median duration *for such spells with observed beginnings*, but it might result in downward biased estimates of the median duration of *all spells*.

## Appendix B.

# Source and Accuracy Statement

### SOURCE OF DATA

The Survey of Income and Program Participation (SIPP) universe is the noninstitutionalized resident population living in the United States. Field representatives interview eligible persons who are at least 15 years of age at the time of the interview. Not eligible to be in the survey are crew members of merchant vessels; Armed Forces personnel living in military barracks; institutionalized persons, such as correctional facility inmates and nursing home residents; and U.S. citizens residing abroad.

The SIPP sample for the 1991 panel is located in 230 Primary Sampling Units (PSU's) each consisting of a county or a group of contiguous counties. This report also contains some data from the 1990 panel.<sup>1</sup>

For the 1991 panel, interviewing began in February, March, April, or May of 1991 for four random subsamples, respectively. For the remainder of the panel, interviews for each person occurred every 4 months for a total of eight interviews. At each interview, the reference period was the 4 months preceding the interview month.

Occupants of about 93 percent of all eligible living quarters participated in the first interview of the panel. For later interviews, field representatives interviewed only original sample persons and persons living with them. We follow respondents who move during the panel. The Census Bureau automatically designated all first-interview non-interviewed households as noninterviews for all subsequent interviews.<sup>2</sup>

We classified a person as interviewed for the entire panel and both calendar years based on the following two definitions:<sup>3</sup>

1. Those for whom self, proxy, or imputed responses were obtained for each reference month of all eight interviews for the 1991 panel, and all three interviews for each calendar year; or
2. Those for whom self or proxy responses were obtained for the first reference month of the interview period and responses exist for each subsequent month until they were known to have died or moved to an ineligible address (foreign living quarters, institutions, or military barracks).

Everyone else is considered noninterview.<sup>4</sup>

Some estimates are based on monthly averages from cross-sectional files. Nonresponse rates for the months on the file vary from 10 percent to 21 percent.<sup>2</sup>

Some respondents did not respond to some of the questions. Therefore, the overall nonresponse rate for some items, especially sensitive income and money related items, is higher than the person nonresponse rate.<sup>5</sup>

### ESTIMATION

We used several stages of weight adjustments in the estimation procedure to derive the SIPP longitudinal person weights. We gave each person a base weight equal to the inverse of his/her probability of selection. We applied two noninterview adjustment factors. One adjusted the weights of interviewed persons in interviewed households to account for households that were eligible for the sample but which field representatives could not interview at the first interview. The second compensated for person noninterviews occurring in subsequent interviews.<sup>6</sup>

We performed an additional stage of adjustment to longitudinal person weights to reduce the mean square error of the survey estimates. We accomplished this by ratio adjusting the sample estimates to agree with monthly Current Population Survey (CPS) type estimates of the civilian (and some military) noninstitutional population of the United States at the national level by demographic characteristics including age, sex, and race, as of the specified control date. We also controlled SIPP estimates to independent Hispanic controls.<sup>2</sup>

### ACCURACY OF ESTIMATES

We base SIPP estimates on a sample. The sample estimates may differ somewhat from the values obtained from administering a complete census using the same

<sup>1</sup>P70-42.

<sup>2</sup>"SIPP 91: Source and Accuracy Statement for the Longitudinal Panel File REVISION," dated October 19, 1994.

<sup>3</sup>"Weighting of Persons for SIPP Longitudinal Tabulations," paper by Judkins, Hubble, Dorsch, McMillen, and Ernst in the 1994 *Proceedings of the Survey Research Methods Section, American Statistical Association*.

<sup>4</sup>"Weighting Adjustment for Partial Nonresponse in the 1984 SIPP Panel," paper by Lepkowski, Kalton, and Kasprzyk in the 1989 *Proceedings of the Survey Research Methods Section, American Statistical Association*.

<sup>5</sup>*Quality Profile for the Survey of Income and Program Participation*, May 1990, by T. Jabine, K. King, and R. Petroni. Available from Customer Services, Data Users Services Division (301-457-1139).

<sup>6</sup>*Nonresponse Adjustment Methods for Demographic Surveys at the U.S. Bureau of the Census*, November 1988, Working Paper 8823, by R. Singh and R. Petroni.

questionnaire, instructions, and enumerators. The difference occurs because a sample survey estimate is subject to two types of errors: nonsampling and sampling. We can provide estimates of the magnitude of the SIPP sampling error, but this is not true of nonsampling error. The next few sections describe SIPP nonsampling error sources, followed by a discussion of sampling error, its estimation, and its use in data analysis.

**Nonsampling variability.** We attribute nonsampling errors to many sources; they include but are not limited to the following:

- Inability to obtain information about all cases in the sample
- Inability or unwillingness on the part of the respondents to provide correct information
- Errors made in collection (e.g., recording or coding the data)
- Undercoverage

We used quality control and edit procedures to reduce errors made by respondents, coders, and interviewers.<sup>7</sup>

Undercoverage in SIPP resulted from missed living quarters and missed persons within sample households. It is known that undercoverage varies with age, race, and sex. Generally, undercoverage is larger for males than for females and larger for Blacks than for non-Blacks. Ratio estimation to independent age-race-sex population controls partially corrects for the bias resulting from survey undercoverage. However, biases exist in the estimates when persons in missed households or missed persons in interviewed households have characteristics different from those of interviewed persons in the same age-race-sex group. Further, we did not adjust the independent population controls for undercoverage in the census.<sup>8</sup>

**Comparability with other estimates.** Exercise caution when comparing data from this report with data from other SIPP publications or with data from other surveys. Comparability problems are from varying seasonal patterns for many characteristics, different nonsampling errors, and different concepts and procedures.<sup>7</sup>

**Sampling variability.** Standard errors indicate the magnitude of the sampling error. They also partially measure the effect of some nonsampling errors in response and enumeration, but do not measure any systematic biases in the data. The standard errors mostly measure the variations that occurred by chance because we surveyed a sample rather than the entire population.

## USES AND COMPUTATION OF STANDARD ERRORS

**Confidence intervals.** The sample estimate and its standard error enable one to construct confidence intervals; ranges that would include the average result of all possible samples with a known probability.

Approximately 90 percent of the intervals from 1.645 standard errors below the estimate to 1.645 standard errors above the estimate would include the average result of all possible samples.

Approximately 95 percent of the intervals from 1.960 standard errors below the estimate to 1.960 standard errors above the estimate would include the average result of all possible samples.

The average estimate derived from all possible samples is or is not contained in any particular computed interval. However, for a particular sample, one can say with a specified confidence that the confidence interval includes the average estimate derived from all possible samples.

**Hypothesis testing.** One may also use standard errors for hypothesis testing. Hypothesis testing is a procedure for distinguishing between population characteristics using sample estimates. The most common type of hypothesis tested is (1) the population characteristics are identical versus (2) they are different. One can perform tests at various levels of significance, where a level of significance is the probability of concluding that the characteristics are different when, in fact, they are identical.

Unless noted otherwise, all statements of comparison in the report passed a hypothesis test at the 0.10 level of significance or better. This means that, for differences cited in the report, the estimated absolute difference between parameters is greater than 1.645 times the standard error of the difference.

To perform the most common test, compute the difference  $X_A - X_B$ , where  $X_A$  and  $X_B$  are sample estimates of the characteristics of interest. A later section explains how to derive an estimate of the standard error of the difference  $X_A - X_B$ . Let that standard error be  $s_{DIFF}$ . If  $X_A - X_B$  is between  $-1.645$  times  $s_{DIFF}$  and  $+1.645$  times  $s_{DIFF}$ , no conclusion about the characteristics is justified at the 10-percent significance level. If, on the other hand,  $X_A - X_B$  is smaller than  $-1.645$  times  $s_{DIFF}$  or larger than  $+1.645$  times  $s_{DIFF}$ , the observed difference is significant at the 10-percent level. In this event, it is commonly accepted practice to say that the characteristics are different. Of course, sometimes this conclusion will be wrong. When the characteristics are, in fact, the same, there is a 10-percent chance of concluding that they are different.

Note that as we perform more tests, more erroneous significant differences will occur. For example, at the 10-percent significance level, if we perform 100 independent hypothesis tests in which there are no real differences, it is likely that about 10 erroneous differences will occur. Therefore, interpret the significance of any single test cautiously.

<sup>7</sup>P70-42.

<sup>8</sup>Quality Profile for the Survey of Income and Program Participation, May 1990, by T. Jabine, K. King, and R. Petroni. Available from Customer Services, Data Users Services Division (301-457-1139).

**Standard error parameters and tables and their use.** Most SIPP estimates have greater standard errors than those obtained through a simple random sample because we sampled clusters of living quarters for the SIPP. To derive standard errors at a moderate cost and applicable to a wide variety of estimates, we made a number of approximations. We grouped estimates with similar standard error behavior and developed two parameters (denoted “a” and “b”) to approximate the standard error behavior of each group of estimates. Because the actual standard error behavior was not identical for all estimates within a group, the standard errors we computed from these parameters provide an indication of the order of magnitude of the standard error for any specific estimate. These “a” and “b” parameters vary by characteristic and by demographic subgroup to which the estimate applies.

Methods for using these parameters and tables for computation of standard errors are given in the following sections. To calculate standard errors for estimates of persons ever participating or persons participating all of 2 years, use the parameters in tables 1 and 2. To calculate standard errors for estimates of average monthly participation, use the parameters in tables 3 and 4. The standard errors for median monthly family benefits and median spell duration have already been calculated and are in tables 5 and 6, respectively. The bases for percentages are in table 7.

**Standard errors of estimated numbers.** Approximate  $s_x$  using the formula,

$$s_x = \sqrt{ax^2 + bx} \quad (1)$$

Here  $x$  is the size of the estimate and  $a$  and  $b$  are the parameters in tables 1 through 4 associated with the particular type of characteristic. When calculating standard errors for numbers from cross-tabulations involving different characteristics, use the factor or set of parameters for the characteristic that will give the largest standard error.

**Illustration.** Suppose the 1991 SIPP estimates that approximately 34 million persons participated in a major means-tested assistance program in an average month during 1992. The appropriate “a” and “b” parameters from table 4 are:

$$a = -0.0001063 \quad b = 25,616$$

Using formula (1), the approximate standard error is

$$s_x = \sqrt{(-0.0001063)(33,954,000)^2 + (25,616)(33,954,000)} = 864,000$$

The 90-percent confidence interval is from 32,533,000 to 35,375,000. Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all samples.

**Standard errors of estimated percentages.** The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends on the size of the percentage and its base. When the numerator and denominator of the percentage have different parameters, use the parameter from tables 1 through 4 indicated by the numerator.

Approximate the standard error by the formula:

$$s_{(x,p)} = \sqrt{\frac{b}{x}p(100-p)} \quad (2)$$

Here  $x$  is the total number of persons in the base of the percentage,  $p$  is the percentage ( $0 \leq p \leq 100$ ), and  $b$  is the “b” parameter in tables 1 through 4 associated with the characteristic in the numerator of the percentage.

**Illustration.** As shown in text table A, the 1991 SIPP estimates that 4.3 percent of the population received food stamps each month of 1991 and 1992. To find the base for the percentage, use table 7 of this source and accuracy statement. In this example, the base is 243,348,000. The appropriate “b” parameter from table 2 is

$$b = 26,142$$

Using formula (2), the approximate standard error is

$$s_x = \sqrt{\left(\frac{26,142}{243,348,000}\right)(4.3)(100-4.3)} = 0.2 \text{ percent}$$

The 90-percent confidence interval is from 4.0 to 4.6 percent. Therefore, a conclusion that the average percentage derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all samples.

Table B-1. **SIPP Generalized Variance Parameters for Estimates From the 1990 Longitudinal File**

Characteristics of persons	Weights					
	1990 panel		1990 calendar year		1991 calendar year	
	a	b	a	b	a	b
<b>TOTAL<sup>1</sup></b>						
18+ program participation . . . . .	-0.0001077	18 329	-0.0000965	16 418	-0.0001002	17 051
All others . . . . .	-0.0000985	22 724	-0.0000882	20 356	-0.0000916	21 140
White . . . . .	-0.0001093	25 185	-0.0000979	22 560	-0.0001016	23 429
Black . . . . .	-0.0002202	6 076	-0.0001972	5 443	-0.0002048	5 652
Hispanic origin <sup>2</sup> . . . . .	-0.0002931	6 076	-0.0002626	5 443	-0.0002727	5 652

<sup>1</sup>Use the "All Others" parameter for 0+ program participation and any other type of tabulation not covered by the characteristic "18+ program participation."

<sup>2</sup>Persons of Hispanic origin may be of any race.

Table B-2. **SIPP Generalized Variance Parameters for Estimates From the 1991 Longitudinal File**

Characteristics of persons	Weights					
	1991 panel		1991 calendar year		1992 calendar year	
	a	b	a	b	a	b
<b>TOTAL OR WHITE</b>						
18+ program participation . . . . .	-0.0001592	26 142	-0.0001484	24 380	-0.0001531	25 143
All others . . . . .	-0.0001345	32 413	-0.0001254	30 228	-0.0001294	31 174
<b>BLACK</b>						
Poverty . . . . .	-0.0007588	22 299	-0.0007076	20 796	-0.0007298	21 447
All others . . . . .	-0.0004081	11 992	-0.0003806	11 183	-0.0003925	11 533

Table B-3. **SIPP Indirect Generalized Variance Parameters for Annual Estimates Based on Monthly Averages From the 1990 Cross-Sectional Files**

Characteristics of persons	1990 calendar year		1991 calendar year	
	a	b	a	b
<b>TOTAL</b>				
All others . . . . .	-0.0000663	15 294	-0.0000723	16 671

Table B-4. **SIPP Indirect Generalized Variance Parameters for Annual Estimates Based on Monthly Averages From the 1991 Panel Cross-Sectional Files**

Characteristics of persons	1991 calendar year		1992 calendar year	
	a	b	a	b
<b>TOTAL OR WHITE</b>				
All others . . . . .	-0.0000975	23 501	-0.0001063	25 616

Table B-5. **Standard Errors of Median Monthly Family Benefits in the 1991 SIPP Panel by Selected Characteristics**

(In 1992 dollars)

Characteristic	Standard error of median monthly family benefits					
	All programs		AFDC		Food stamps	
	1991	1992	1991	1992	1991	1992
<b>Total</b> .....	<b>2.0</b>	<b>3.5</b>	<b>3.5</b>	<b>3.0</b>	<b>1.5</b>	<b>2.0</b>
<b>RACE AND HISPANIC ORIGIN</b>						
White .....	9.0	4.0	7.0	2.5	1.0	0.5
Black .....	4.5	5.5	3.5	4.0	0.5	0.5
Hispanic origin <sup>1</sup> .....	5.5	14.0	2.5	1.0	2.5	6.0
<b>AGE</b>						
Under 18 years .....	6.5	8.5	9.0	8.0	2.0	2.5
18 to 64 years .....	1.0	5.5	3.0	5.5	4.0	2.0
65 years and over .....	7.0	6.5	28.5	20.5	1.5	3.5
<b>EMPLOYMENT AND LABOR FORCE STATUS (18+)</b>						
Employed full time .....	8.5	9.5	22.5	19.0	3.5	6.5
Employed part time .....	8.5	11.0	14.0	22.5	9.5	7.5
Unemployed .....	16.5	19.0	3.5	22.0	6.0	4.5
Not in labor force .....	0.0	3.0	3.5	7.5	3.5	2.5
<b>DISABILITY STATUS (15-69)</b>						
With a work disability .....	1.5	4.0	12.5	8.5	4.0	4.5
With no work disability .....	8.0	7.0	8.5	8.0	3.0	3.5
<b>FAMILY STATUS</b>						
In families .....	8.5	5.5	4.0	4.0	2.0	1.5
In married-couple families .....	5.5	7.5	8.0	5.0	2.0	3.0
In families with a female householder, no spouse present .....	3.0	4.0	3.5	2.5	2.5	2.0
Unrelated individuals .....	8.5	8.0	4.0	0.5	2.0	1.5

<sup>1</sup>Persons of Hispanic origin may be of any race.Table B-6. **Standard Errors of Median Spell Duration for Persons Experiencing Spells in the 1991 SIPP Panel by Selected Characteristics**

Characteristic	Standard error of spell duration medians		
	All programs	AFDC	Food stamps
<b>Total</b> .....	<b>0.26547</b>	<b>0.49443</b>	<b>1.18046</b>
<b>RACE AND HISPANIC ORIGIN</b>			
White .....	0.29847	0.98879	0.51125
Black .....	2.39501	1.02666	1.67975
Hispanic origin <sup>1</sup> .....	0.46185	1.41134	3.89635
<b>AGE</b>			
Under 18 years .....	0.41482	0.52885	1.17543
18 to 64 years .....	0.31579	1.28218	0.57590
65 years and over .....			4.19450
<b>EMPLOYMENT AND LABOR FORCE STATUS (18+)</b>			
Employed full time .....	2.26294	0.28511	0.81229
Employed part time .....	0.95997	6.50759	0.89904
Unemployed .....	0.93658	0.98807	0.83814
Not in labor force .....	2.21738	12.0324	2.55189
<b>DISABILITY STATUS (15-69)</b>			
With a work disability .....	14.3854	1.47068	10.8277
With no work disability .....	0.33995	0.94395	0.68706
<b>FAMILY STATUS</b>			
In families .....	0.27074	0.50702	1.30211
In married-couple families .....	0.32720	0.54448	0.60894
In families with a female householder, no spouse present .....	1.74421	1.98670	1.80215
Unrelated individuals .....	2.29520	0.56485	2.39797

<sup>1</sup>Persons of Hispanic origin may be of any race.

Table B-7. **Bases for Estimates**

Characteristic	Average monthly participation		Persons who participated 1 or more months		Persons who participated all 24 months of 1991 and 1992
	1991	1992	1991	1992	
<b>All persons</b> .....	<b>249 904</b>	<b>253 642</b>	<b>247 187</b>	<b>250 020</b>	<b>243 348</b>
<b>Race and Hispanic Origin</b>					
White.....	208 344	211 459	205 820	208 483	202 995
Black.....	31 168	31 812	30 878	31 237	30 232
Hispanic origin <sup>1</sup> .....	21 742	23 838	22 885	24 442	22 386
<b>Age</b>					
Under 18 years.....	66 019	67 639	66 745	67 626	67 078
18 to 64 years.....	153 481	155 331	151 969	153 519	149 699
65 years and over.....	30 404	30 672	28 472	28 875	26 571
<b>Employment and Labor Force Status (persons 18 years and over)</b>					
Employed full time.....	95 077	95 347	94 210	94 010	93 767
Employed part time.....	21 707	22 128	22 036	22 779	21 906
Unemployed.....	6 810	7 543	6 955	7 301	6 353
Not in labor force.....	60 290	60 984	57 241	58 303	54 245
<b>Disability Status (persons 15 to 69 years)</b>					
With a work disability.....	28 076	27 493	26 523	25 386	25 125
With no work disability.....	145 941	148 417	145 833	148 517	144 645
<b>Family Status</b>					
In families.....	213 344	217 475	212 391	215 902	209 870
In married-couple families.....	170 505	172 919	170 599	173 164	169 481
In families with a female householder, no spouse present.....	35 528	36 990	35 142	36 434	34 219
Unrelated individuals.....	36 561	36 168	34 795	34 118	33 478

<sup>1</sup>Persons of Hispanic origin may be of any race.