Appendix C. **Source and Accuracy Statement**

SOURCE OF DATA

The SIPP universe is the noninstitutionalized resident population living in the United States. This population includes persons living in group quarters, such as dormitories, rooming houses, and religious group dwellings. Not eligible to be in the survey are crew members of merchant vessels, Armed Forces personnel living in military barracks, and institutionalized persons, such as correctional facility inmates and nursing home residents. Also not eligible are United States citizens residing abroad. Foreign visitors who work or attend school in this country and their families are eligible; all others are not eligible. With the exceptions noted above, field representatives interview eligible persons who are at least 15 years of age at the time of the interview.

The 1984 panel SIPP sample is located in 174 Primary Sampling Units (PSUs) comprising 450 counties (including one partial county) and independent cities. Within these areas, the bulk of the sample consisted of clusters of two to four living quarters (LQs), systematically selected from lists of addresses prepared for the 1970 decennial census. The sample was updated to reflect new construction.

The 1985-1991 panel SIPP samples are located in 230 PSUs each consisting of a county or a group of contiguous counties. The 1992 panel SIPP sample is located in 284 PSUs. Within these PSUs, we systematically selected expected clusters of two living quarters (LQs) from lists of addresses prepared for the 1980 decennial census to form the bulk of the sample. To account for LQs built within each of the sample areas after the 1980 census, we selected a sample containing clusters of four LQs from permits issued for construction of residential LQs up until shortly before the beginning of the panel.

In jurisdictions that have incomplete addresses or don't issue building permits, we sampled small land areas, listed expected clusters of four LQs, and then subsampled. In addition, we selected a sample of LQs from a supplemental frame that included LQs identified as missed in the 1980 census.

The 1990 panel differs from other panels as a result of oversampling for low income households. The panel contains an oversample of Black headed households, Hispanic headed households and female headed family households with no spouse present and living with relatives.

The first interview occurred during February, March, April, or May of the panel year. Interviews for approximately one-fourth of the sample took place in each of these months. For the remainder of the panel, interviews for each person occurred every 4 months. At each interview the reference period was the 4 months preceding the interview month.

For the 1984-89 panels, 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 (those in Wave 1 sample households and interviewed in Wave 1 (and/or 2 for 1985 panel)) and persons living with them. The Bureau automatically designated all first wave noninterviewed households as noninterviews for all subsequent interviews. Field representatives conducted personal interviews in the first through sixth waves of the 1990 panel and the first through third waves and the sixth wave of the 1991 panel. The remaining interviews were telephone interviews. For personal interviews we followed original sample persons if they moved to a new address, unless the new address was more than 100 miles from a SIPP sample area. If the original sample persons moved farther than 100 miles from a SIPP sample area, we attempted telephone interviews. When original sample persons moved to remote parts of the country and were unreachable by telephone, moved without leaving a forwarding address, or refused the interview, additional noninterviews resulted.

Noninterviews. Tabulations in this report were drawn from interviews conducted from February 1984 through January 1993. Table C-1 summarizes information on nonresponse for the interview months in which we collected the data used to produce this report.

Some respondents do not respond to some of the questions. Therefore, the overall nonresponse rate for some items such as income and money related items is higher than the nonresponse rates in table C-1. For more discussion of nonresponse see the *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, of the U.S. Census Bureau (301-763-6100).

WEIGHTING PROCEDURE

We derived SIPP person weights in each panel from several stages of weight adjustments. In the first wave, we gave each person a base weight equal to the inverse

of his/her probability of selection. For each subsequent interview, the Bureau gave each person a base weight that accounted for following movers.

We applied a factor to each interviewed person's weight to account for the SIPP sample areas not having the same population distribution as the strata they are from.

We applied a noninterview adjustment factor to the weight of every occupant of interviewed households to account for persons in noninterviewed occupied households which were eligible for the sample. (The Bureau treated individual nonresponse within partially interviewed households with imputation. We made no special adjustment for noninterviews in group quarters.)

The Bureau used complex techniques to adjust the weights for nonresponse. For a further explanation of the techniques used, see the *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. The success of these techniques in avoiding bias is unknown. An example of successfully avoiding bias is in "Current Nonresponse Research for the Survey of Income and Participation" (paper by Petroni, presented at the Second International Workshop on Household Survey Nonresponse, October 1991).

We performed an additional stage of adjustment to persons' weights to reduce the mean square errors 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 date. For the 1984-1990 panels and Waves 1-5 of the 1991 panel, the Bureau brought CPS estimates by age, sex, and race into agreement with adjusted estimates from the 1980 decennial census. Adjustments to the 1980 decennial census estimates reflect births, deaths, immigration, emigration, and changes in the Armed Forces since 1980. For Waves 6-8 of the 1991 panel and the 1992 panel, the Bureau brought CPS estimates by age, sex, and race into agreement with adjusted estimates from the 1990 decennial census. Adjustments to the 1990 decennial census estimates include an adjustment for undercount[1] and also reflect births, deaths, immigration, emigration, and changes in the Armed Forces since 1990. In addition, we controlled SIPP estimates to independent Hispanic controls and made an adjustment to assign equal weights to husbands and wives within the same household. We implemented all of the above adjustments for each reference month and the interview month.

[1]See "The 1990 Post-Enumeration Survey: Operations and Results" by Howard Hogan in the *1993 Proceedings of the Undercount in the 1990 Census Section, American Statistical Association.*

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 questionnaire, instructions, and enumerators. The difference occurs because with an estimate based on a sample survey two types of errors are possible: 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:

- inability to obtain information about all cases in the sample,
- definitional difficulties,
- differences in the interpretation of questions,
- inability or unwillingness on the part of the respondents to provide correct information,
- inability to recall information,
- errors made in collection (e.g. recording or coding the data),
- errors made in processing the data,
- errors made in estimating values for missing data,
- biases resulting from the differing recall periods caused by the interviewing pattern used,
- undercoverage.

We used quality control and edit procedures to reduce errors made by respondents, coders and interviewers. More detailed discussions of the existence and control of nonsampling errors in the SIPP are in the *SIPP Quality Profile.*

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 Nonblacks. Ratio estimation to independent age-race-sex population controls partially corrects for the bias due to 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, before Wave 6 of the 1991 panel, we didn't adjust the independent population controls for undercoverage in the Census.

A common measure of survey coverage is the coverage ratio, the estimated population before ratio adjustment divided by the independent population control. Table C-2 shows CPS coverage ratios for age-sex-race groups for 1992. The CPS coverage ratios can exhibit some variability from month to month, but these are a typical set of coverage ratios. Other Census Bureau household surveys and other SIPP sample panels experience similar coverage.

Unique to the 1986 Panel, we tested a telephone interviewing experiment in Waves 2, 3, and 4. Specifically, we tested half of the sample in rotations 4 and 1 of Wave 2 and rotations 2 and 3 of Wave 3 (Phase I) and rotations 2, 3, and 4 of Wave 4 (Phase II) for telephone interviews. Our analysis (done by designated mode) of household nonresponse, item nonresponse rates for labor force and income core items, and selected cross-sectional estimates of recipiency, income, low income status, and selected topical module items gave no indication of an overall significant mode effect. However, we restricted analysis to a limited number and type of estimates. If differences between two time periods or differences in characteristics for demographic groups result in borderline significant differences, the significance may be due to bias from the use of the telephone mode. Similarly, borderline insignificant differences may also be due to this bias. Thus, although we detected no overall significant mode effect, the user should be aware of the possibility of mode effects while analyzing exclusively the 1986 Panel data or combined data involving the 1986 Panel after Wave 1, especially results based on Waves 2 through 4 data. Details on analyses are in "Effect of Maximum Telephone Interviewing on SIPP Topical Module and Longitudinal Estimates" (paper by Gbur, Cantwell, and Petroni in the *1990 Proceedings of the Survey Research Methods Section, American Statistical Association).*

We used telephone interviewing in Waves 7 and 8 of the 1990 Panel and Waves 4 and 5 of the 1991 Panel. Users should be aware of the possible mode effects associated with telephone interviewing mentioned above.

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. Refer to the *SIPP Quality Profile* for known differences with data from other sources and further discussion.

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. For example, if we selected all possible samples and surveyed each of these under essentially the same conditions and with the same sample design, and if we calculated an estimate and its standard error from each sample, then:

1. 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.

2. 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.

Note Concerning Small Estimates and Small Differences. We show summary measures in the report only when the base is 200,000 or greater. Because of the large standard errors involved, there is little chance that estimates will reveal useful information when computed on a base smaller than 200,000. Also, nonsampling error in one or more of the small number of cases providing the estimate can cause large relative error in that particular estimate. We show estimated numbers, however, even though the relative standard errors of these numbers are larger than those for the corresponding percentages. We provide smaller estimates primarily to permit such combinations of the categories as serve each user's needs. Therefore, be careful in the interpretation of small differences since even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test.

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. Use base "a" and "b" parameters found in tables C-3 through C-12. The column labelled "19xx Base" gives the parameters for an estimate based on a single panel. The column labelled "19xx Q1 - Qx" gives the parameters for combined panel estimates covering the specified time period.

For users who wish further simplification, we also provide general standard errors in tables C-13 through C-16. Note that you need to adjust these standard errors by a factor from tables C-3 through C-12. The standard errors resulting from this simplified approach are less accurate. Methods for using these parameters and tables for computation of standard errors are given in the following sections.

Standard Errors of Estimated Numbers. There are two ways to compute the approximate standard error, s_x, of an estimated number shown in this report. The first uses the formula

$$s_x = fs \qquad (1)$$

where f is a factor from tables C-3 through C-12, and s is the standard error of the estimate obtained by interpolation from table C-13 or C-14. Alternatively, approximate s_x using the formula,

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

from which we calculated the standard errors in tables C-13 and C-14. Here x is the size of the estimate and a and b are the parameters in tables C-3 through C-12 associated with the particular type of characteristic. Use of formula 2 will provide more accurate results than the use of formula 1. When calculating standard errors for numbers from cross-tabulations involving different characteristics, use the factor or set of parameters for the characteristic which will give the largest standard error.

Illustration.

SIPP estimates from text table B of this report show that there were 11,292,000 households with low income during the first quarter of 1986. This is a combined panel estimate (1985 and 1986), so the appropriate "a" and "b" parameters and f-factor from table C-6 and the appropriate general standard error from table C-14 are

$$a = -0.0000644,\ b = 5853,\ f = 0.74,\ s = 323{,}000$$

Using formula 1, the approximate standard error is

$$s_x = 0.74 \times 323{,}000 = 239{,}000$$

Using formula 2, the approximate standard error is

$$s_x = \sqrt{(-0.0000644)(11{,}292{,}000)^2 + (5{,}853)(11{,}292{,}000)} = 241{,}000$$

Based on the standard error from formula 2, the 90-percent confidence interval as shown by the data is from 10,896,000 to 11,688,000. Therefore, a conclusion that

the average estimate derived from all possible samples lies within a range computed 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 (or appropriate factor) from tables C-3 through C-12 indicated by the numerator.

Calculate the approximate standard error, $s_{(x,p)}$, of an estimated percentage p using the formula

$$s_{(x,p)} = fs \qquad (3)$$

where p is the percentage of persons/families/households with a particular characteristic such as the percent of persons owning their own homes.

In this formula, f is the appropriate "f" factor from tables C-3 through C-12, and s is the standard error of the estimate obtained by interpolation from tables C-15 or C-16.

Alternatively, approximate it by the formula:

$$s_{(x,p)} = \sqrt{\frac{b}{x}(p)(100) - p)} \qquad (4)$$

from which we calculated the standard errors in tables C-15 and C-16. Here x is the total number of persons, families, households, or unrelated individuals in the base of the percentage, p is the percentage ($0 \leq p \leq 100$), and b is the "b" parameter in tables C-3 through C-12 associated with the characteristic in the numerator of the percentage. Use of this formula will give more accurate results than use of formula (3) above.

Illustration.

Text table F shows that an estimated 46.7 percent of all nonfarm households received government benefits in the first quarter of 1984. Using formula 3 with the "f" factor from table C-3 and the appropriate standard error from table C-16, the approximate standard error is

$$s_{(x,p)} = 0.80 \times 0.56 = 0.45\%$$

Using formula 4 with the "b" parameter from table 3, the approximate standard error is

$$s_{(x,p)} = \sqrt{\frac{6{,}766}{83{,}643{,}000}(46.7\%)(100\% - 46.7\%)} = 0.45\%$$

Consequently, the 90-percent confidence interval using the standard error from formula 4 is from 46.0 percent to 47.4 percent as shown by the data.

Standard Error of a Difference. The standard error of a difference between two sample estimates, x and y, is approximately equal to

$$s_{(x-y)} = \sqrt{s_x^2 + s_y^2 - 2rs_xs_y} \qquad (5)$$

where s_x and s_y are the standard errors of the estimates x and y and r is the correlation coefficient between the characteristics estimated by x and y. The estimates can be numbers, averages, percents, ratios, etc. Underestimates or overestimates of standard error of differences result if the estimated correlation coefficient is overestimated or underestimated, respectively. In this report, we assume r is as shown in table C-17.

Illustration.

Text table D shows that 114,576,000 people had a job during the second quarter of 1988, and 115,506,000 people had a job during the third quarter of 1988. The standard errors for these numbers are computed using formula 2 to be 443,000 and 442,000 respectively. The appropriate correlation coefficient from table C-17 is r = .71.

The standard error of the estimated difference of 930,000 is

$$s_{(x-y)} = \sqrt{(443{,}000)^2 + (442{,}000)^2 - 2(.71)(443{,}000)(442{,}000)} = 337{,}000$$

To test whether the two estimates differ significantly at the 10-percent significance level, compare the difference of 930,000 to the product of 1.645 x 337,000 = 554,365. Since the difference is larger than 1.645 times the standard error of the difference, the data show that the estimates of 114,576,000 and 115,506,000 differ significantly at the 10-percent level.

Standard Error of a Ratio. Approximate the standard error for the average quantity of persons, families, or households per family or household or for a ratio of means or medians by formula (6):

$$s_{\frac{x}{y}} = \frac{x}{y}\sqrt{\left(\frac{s_x}{x}\right)^2 + \left(\frac{s_y}{y}\right)^2 - 2r\frac{s_xs_y}{xy}} \qquad (6)$$

Where x and y are the numerator and denominator for the average or the means or medians which form the ratio, and r is the correlation coefficient between the characteristics estimated by x and y. Their associated standard errors are s_x and s_y. Underestimates or overestimates of standard error of ratios result if the estimated correlation coefficient is overestimated or underestimated, respectively. In this report, we assume r is as shown in table C-17.

Illustration.

According to text table C, the average monthly estimate of real median earnings for men is $2,211 for the first quarter of 1991, while for women it is $1,571 during the same time period. The standard errors are $20 and $12, respectively. The ratio of female's earnings to male's earnings is 0.711.

Assuming that these two estimates are not correlated (since the populations are independent), the standard error of the ratio is

$$s_{\frac{x}{y}} = \frac{\$1,571}{\$2,211}\sqrt{\left(\frac{\$12}{\$1,571}\right)^2 + \left(\frac{\$20}{\$2,211}\right)^2} = .008$$

The 90-percent confidence interval is from .698 to .724.

Table C-1. **Household Sample Size, by Month and Interview Status: 1984 to 1992 Panels**

Panel, year, and month	Eligible	Interviewed	Noninterviewed	Nonresponse rate (percent)[1]
1984				
Feb. 84	5,400	4,800	500	10
Mar. 84	5,300	4,900	500	9
Apr. 84	5,400	4,800	500	10
May 84	5,400	4,900	500	10
June 84	5,500	4,800	700	13
July 84	5,400	4,700	700	13
Aug. 84	5,500	4,700	700	14
Sep. 84	5,600	4,800	800	14
Oct. 84	5,600	4,800	800	15
Nov. 84	5,600	4,700	900	15
Dec. 84	5,600	4,700	900	17
Jan. 85	5,600	4,700	900	16
Feb. 85	5,600	4,700	1,000	17
Mar. 85	4,600	3,800	800	18
Apr. 85	4,700	3,800	900	18
May 85	4,600	3,800	900	19
June 85	4,600	3,800	900	19
July 85	4,700	3,800	900	19
Aug. 85	4,700	3,800	1,000	20
Sep. 85	4,700	3,700	1,000	22
Oct. 85	4,700	3,800	900	20
Nov. 85	4,700	3,700	900	20
Dec. 85	4,800	3,700	1,100	22
Jan. 86	4,700	3,700	1,000	22
Feb. 86	4,800	3,700	1,000	22
Mar. 86	4,800	3,700	1,100	22
Apr. 86	4,800	3,700	1,100	22
1985				
Feb. 85	3,500	3,300	200	7
Mar. 85	3,600	3,400	200	6
Apr. 85	3,600	3,400	200	6
May 85	3,600	3,300	200	7
June 85	3,700	3,300	400	10
July 85	3,800	3,400	400	11
Aug. 85	3,700	3,300	400	12
Sep. 85	3,700	3,300	400	11
Oct. 85	3,800	3,300	500	13
Nov. 85	3,900	3,300	500	14
Dec. 85	3,800	3,200	600	15
Jan. 86	3,800	3,200	500	14
Feb. 86	3,300	2,700	600	17
Mar. 86	3,300	2,800	600	17
Apr. 86	3,300	2,700	600	17
May 86	3,300	2,700	600	18
June 86	3,300	2,700	600	19
July 86	3,300	2,700	600	18
Aug. 86	3,300	2,700	700	20
Sep. 86	3,300	2,700	600	18
Oct. 86	3,400	2,700	700	20
Nov. 86	3,400	2,700	700	20
Dec. 86	3,300	2,700	700	20
Jan. 87	3,300	2,700	600	19
Feb. 87	3,400	2,700	700	21
Mar. 87	3,400	2,700	700	21
Apr. 87	3,400	2,700	700	21
1986				
Feb. 86	3,200	3,000	200	8
Mar. 86	3,100	2,900	200	8
Apr. 86	3,100	2,900	200	7
May 86	3,000	2,800	200	7
June 86	3,300	2,800	500	14
July 86	3,200	2,700	400	14
Aug. 86	3,200	2,700	400	13
Sep. 86	3,100	2,700	400	12

Table C-1. **Household Sample Size, by Month and Interview Status: 1984 to 1992 Panels**—Continued

Panel, year, and month	Eligible	Interviewed	Noninterviewed	Nonresponse rate (percent)[1]
Oct. 86	3,400	2,800	500	16
Nov. 86	3,200	2,800	500	15
Dec. 86	3,200	2,700	500	15
Jan. 87	3,200	2,700	500	15
Feb. 87	3,400	2,800	600	18
Mar. 87	3,300	2,700	600	18
Apr. 87	3,300	2,700	600	17
May 87	3,200	2,600	600	18
June 87	3,400	2,700	700	20
July 87	3,300	2,700	700	20
Aug. 87	3,300	2,700	600	19
Sep. 87	3,300	2,700	600	18
Oct. 87	3,400	2,700	700	21
Nov. 87	3,400	2,700	700	21
Dec. 87	3,300	2,700	700	20
Jan. 88	3,300	2,600	600	19
Feb. 88	3,500	2,700	800	22
Mar. 88	3,400	2,700	700	21
Apr. 88	3,400	2,700	700	20
1987				
Feb. 87	3,100	2,900	200	7
Mar. 87	3,200	2,900	200	7
Apr. 87	3,000	2,900	200	6
May 87	3,200	3,000	200	7
June 87	3,200	2,800	400	13
July 87	3,200	2,800	400	13
Aug. 87	3,100	2,700	400	12
Sep. 87	3,300	2,800	400	13
Oct. 87	3,200	2,800	400	14
Nov. 87	3,300	2,800	500	15
Dec. 87	3,200	2,700	400	13
Jan. 88	3,300	2,800	500	15
Feb. 88	3,300	2,800	500	16
Mar. 88	3,300	2,800	500	16
Apr. 88	3,200	2,700	500	15
May 88	3,400	2,800	500	16
June 88	3,300	2,700	600	18
July 88	3,400	2,700	600	19
Aug. 88	3,200	2,700	500	17
Sep. 88	3,400	2,700	600	19
Oct. 88	3,400	2,700	600	18
Nov. 88	3,400	2,700	700	20
Dec. 88	3,300	2,700	600	18
Jan. 89	3,400	2,800	700	19
Feb. 89	3,400	2,700	700	19
Mar. 89	3,400	2,700	700	20
Apr. 89	3,300	2,700	600	17
1988				
Feb. 88	3,200	3,000	300	8
Mar. 88	3,200	2,900	200	7
Apr. 88	3,200	3,000	300	8
May 88	3,100	2,900	200	7
June 88	3,300	2,900	400	13
July 88	3,200	2,800	400	13
Aug. 88	3,300	2,900	400	13
Sep. 88	3,100	2,700	400	12
Oct. 88	3,400	2,900	500	15
Nov. 88	3,300	2,800	500	14
Dec. 88	3,400	2,800	500	16
Jan. 89	3,200	2,700	500	14
Feb. 89	3,400	2,900	600	17
Mar. 89	3,300	2,800	500	16
Apr. 89	3,400	2,800	600	17
May 89	3,300	2,700	500	16
June 89	3,500	2,800	700	19

Table C-1. **Household Sample Size, by Month and Interview Status: 1984 to 1992 Panels**—Continued

Panel, year, and month	Eligible	Interviewed	Noninterviewed	Nonresponse rate (percent)[1]
July 89	3,300	2,800	600	17
Aug. 89	3,500	2,800	600	18
Sep. 89	3,300	2,700	600	18
Oct. 89	3,500	2,900	700	19
Nov. 89	3,400	2,800	600	17
Dec. 89	3,500	2,800	700	19
Jan. 90	3,300	2,700	600	17
1989				
Feb. 89	3,300	3,000	300	9
Mar. 89	3,100	2,900	200	8
Apr. 89	3,200	3,000	200	7
May 89	3,200	3,000	200	7
June 89	3,300	2,900	400	13
July 89	3,200	2,800	400	12
Aug. 89	3,300	2,900	400	12
Sep. 89	3,300	2,900	400	12
Oct. 89	3,400	2,900	500	14
Nov. 89	3,300	2,800	400	14
Dec. 89	3,300	2,900	500	14
Jan. 90	3,300	2,900	500	14
1990				
Feb. 90	5,900	5,500	400	7
Mar. 90	5,900	5,500	400	7
Apr. 90	5,900	5,400	400	7
May 90	5,900	5,400	500	8
June 90	6,000	5,300	700	12
July 90	6,100	5,300	800	12
Aug. 90	6,100	5,300	800	13
Sep. 90	6,100	5,300	800	13
Oct. 90	6,200	5,300	900	15
Nov. 90	6,200	5,400	800	13
Dec. 90	6,200	5,300	900	15
Jan. 91	6,200	5,300	900	15
Feb. 91	6,300	5,300	1,000	16
Mar. 91	6,400	5,300	1,000	16
Apr. 91	6,300	5,200	1,100	17
May 91	6,200	5,200	1,000	17
June 91	6,400	5,200	1,200	19
July 91	6,400	5,200	1,200	18
Aug. 91	6,300	5,100	1,200	19
Sep. 91	6,300	5,100	1,200	19
Oct. 91	6,500	5,200	1,300	20
Nov. 91	6,500	5,200	1,300	20
Dec. 91	6,400	5,100	1,300	20
Jan. 92	6,400	5,100	1,300	21
Feb. 92	6,500	5,100	1,300	21
Mar. 92	6,500	5,200	1,300	21
Apr. 92	6,500	5,100	1,400	21
May 92	6,500	5,100	1,400	22
June 92	6,400	5,100	1,300	20
July 92	6,600	5,200	1,400	21
1991				
Feb. 91	4,000	3,600	400	10
Mar. 91	3,900	3,600	300	8
Apr. 91	3,900	3,600	300	8
May 91	3,900	3,600	300	8
June 91	4,000	3,400	600	15
July 91	3,900	3,400	500	14
Aug. 91	4,000	3,400	500	13
Sep. 91	3,900	3,400	500	14
Oct. 91	4,200	3,400	700	18
Nov. 91	4,000	3,400	600	15
Dec. 91	4,100	3,400	600	16
Jan. 92	4,000	3,400	600	15
Feb. 92	4,100	3,300	800	19

Table C-1. **Household Sample Size, by Month and Interview Status: 1984 to 1992 Panels**—Continued

Panel, year, and month	Eligible	Interviewed	Noninterviewed	Nonresponse rate (percent)[1]
Mar. 92	4,100	3,400	700	17
Apr. 92	4,100	3,400	700	17
May 92	4,000	3,300	700	17
June 92	4,200	3,400	800	20
July 92	4,100	3,300	800	19
Aug. 92	4,200	3,400	800	19
Sep. 92	4,100	3,300	800	19
Oct. 92	4,300	3,400	900	21
Nov. 92	4,200	3,300	800	20
Dec. 92	4,200	3,400	800	20
Jan. 93	4,100	3,300	800	20
1992				
Feb. 92	5,400	4,900	500	10
Mar. 92	5,300	4,900	500	9
Apr. 92	5,500	5,000	500	9
May 92	5,300	4,900	500	9
June 92	5,500	4,700	800	15
July 92	5,400	4,600	800	14

[1]Due to rounding of all numbers to the nearest 100, there are some inconsistencies. We calculated the percentage using unrounded numbers.

Table C-2. **1992 CPS Coverage Ratios**

Age	Non-Black		Black		All persons		Total
	Males	Females	Males	Females	Males	Females	
0-14 years	0.963	0.965	0.927	0.926	0.957	0.959	0.958
15 years	0.962	0.949	0.899	0.919	0.952	0.944	0.948
16 years	0.969	0.936	0.923	0.907	0.962	0.932	0.947
17 years	0.981	0.975	0.945	0.862	0.975	0.957	0.966
18 years	0.939	0.926	0.883	0.846	0.930	0.913	0.922
19 years	0.860	0.872	0.754	0.801	0.844	0.861	0.853
20-24 years	0.913	0.927	0.734	0.832	0.889	0.913	0.901
25-26 years	0.927	0.940	0.688	0.877	0.897	0.931	0.914
27-29 years	0.910	0.954	0.707	0.864	0.885	0.941	0.914
30-34 years	0.893	0.948	0.691	0.883	0.870	0.939	0.905
35-39 years	0.910	0.949	0.763	0.899	0.895	0.942	0.919
40-44 years	0.929	0.951	0.824	0.906	0.919	0.946	0.933
45-49 years	0.956	0.966	0.903	0.956	0.951	0.965	0.958
50-54 years	0.940	0.961	0.807	0.877	0.927	0.951	0.940
55-59 years	0.944	0.941	0.826	0.825	0.932	0.928	0.930
60-62 years	0.965	0.956	0.792	0.850	0.948	0.944	0.946
63-64 years	0.905	0.907	0.669	0.872	0.884	0.903	0.894
65-67 years	0.935	0.979	0.783	0.875	0.921	0.969	0.947
68-69 years	0.925	0.942	0.789	0.831	0.913	0.931	0.923
70-74 years	0.926	0.993	0.856	1.014	0.920	0.995	0.962
75-99 years	0.977	0.989	0.764	0.912	0.961	0.983	0.975
15 years and over	0.928	0.953	0.782	0.883	0.912	0.944	0.929
0+	0.936	0.955	0.827	0.895	0.923	0.947	0.935

Table C-3. **SIPP Generalized Variance Parameters for the 1984 Panel**

Characteristics[1]	1984 base[2]		
	a	b	f
Persons			
Total			
16+ program participation and benefits, poverty (1)			
Both sexes	-0.0000943	16,059	0.72
16+ income and labor force (2)			
Both sexes	-0.0000321	5,475	0.42
Male	-0.0000677	5,475	
Female	-0.0000612	5,475	
All others[3] (3)			
Both sexes	-0.0000864	19,911	0.80
Households			
Total	-0.0000744	6,766	0.80

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]To account for sample attrition, multiply the "a" and "b" parameters by 1.39 for quarterly estimates in 1985.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-4. **SIPP Generalized Variance Parameters for the 1985 Panel and the 1984 and 1985 Combined Panels**

Characteristics[1]	1985 base			1985 Q1 to Q3		
	a	b	f	a	b	f
Persons						
Total						
16+ program participation and benefits, poverty (1)						
Both sexes	-0.0001311	22,327	0.85	-0.0000627	10,675	0.58
16+ income and labor force (2)						
Both sexes	-0.0000446	7,612	0.49	-0.0000213	3,639	0.34
Male	-0.0000941	7,612		-0.0000450	3,639	
Female	-0.0000851	7,612		-0.0000407	3,639	
All others[3] (3)						
Both sexes	-0.0001201	27,683	0.94	-0.0000574	13,235	0.65
Households						
Total	-0.0001062	9,407	0.94	-0.0000508	4,497	0.65

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]To account for sample attrition, multiply the "a" and "b" parameters by 1.35 for estimates which cover the fourth quarter of 1985 or later.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-5. **SIPP Generalized Variance Parameters for the 1985 Panel and the 1984 and 1985 Combined Panels**

Characteristics[1]	1985 base			1985 Q4		
	a	b	f	a	b	f
Persons						
Total						
16+ program participation and benefits, Poverty (1)						
Both sexes	-0.0001311	22,327	0.85	-0.0000845	14,399	0.68
16+ income and labor force (2)						
Both sexes	-0.0000446	7,612	0.49	-0.0000288	4,909	0.40
Male	-0.0000941	7,612		-0.0000607	4,909	
Female	-0.0000851	7,612		-0.0000549	4,909	
All others[3] (3)						
Both sexes	-0.0001201	27,683	0.94	-0.0000775	17,853	0.76
Households						
Total	-0.0001062	9,407	0.94	-0.0000685	6,067	0.76

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]To account for sample attrition, multiply the "a" and "b" parameters by 1.35 for estimates which cover the fourth quarter of 1985 or later.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-6. **SIPP Generalized Variance Parameters for the 1986 Panel and the 1985 and 1986 Combined Panels**

Characteristics[1]	1986 base[2]			1986 Q1 - Q4		
	a	b	f	a	b	f
Persons						
Total						
16+ program participation and benefits, poverty (1)						
Both sexes	-0.0001481	25,213	0.90	-0.0000816	13,892	0.67
16+ income and labor force (2)						
Both sexes	-0.0000504	8,596	0.52	-0.0000278	4,736	0.39
Male	-0.0001063	8,596		-0.0000586	4,736	
Female	-0.0000961	8,596		-0.0000530	4,736	
All others[3] (3)						
Both sexes	-0.0001356	31,260	1.00	-0.0000747	17,224	0.74
Households						
Total	-0.0001168	10,623	1.00	-0.0000644	5,853	0.74

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]To account for sample attrition, multiply the "a" and "b" parameters by 1.09 for quarterly estimates in 1987.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-7. **SIPP Generalized Variance Parameters for the 1987 Panel and the 1986 and 1987 Combined Panels**

Characteristics[1]	1987 base[2]			1987 Q1 - Q4		
	a	b	f	a	b	f
Persons						
Total						
16+ program participation and benefits, poverty (1)						
Both sexes	-0.0001481	25,213	0.90	-0.0000876	14,915	0.69
16+ income and labor force (2)						
Both sexes	-0.0000504	8,596	0.52	-0.0000298	5,085	0.40
Male	-0.0001063	8,596		-0.0000629	5,085	
Female	-0.0000961	8,596		-0.0000568	5,085	
All others[3] (3)						
Both sexes	-0.0001356	31,260	1.00	-0.0000802	18,492	0.77
Households						
Total	-0.0001168	10,623	1.00	-0.0000691	6,284	0.77

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]To account for sample attrition, multiply the "a" and "b" parameters by 1.09 for quarterly estimates in 1988.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-8. **SIPP Generalized Variance Parameters for the 1988 Panel and the 1987 and 1988 Combined Panels**

Characteristics[1]	1988 base[2]			1988 Q1 - Q4		
	a	b	f	a	b	f
Persons						
Total						
16+ program participation and benefits, poverty (1)						
Both sexes	-0.0001535	25213	0.90	-0.0000803	13184	0.65
16+ income and labor force (2)						
Both sexes	-0.0000465	8596	0.52	-0.0000243	4495	0.38
Male	-0.0000972	8596		-0.0000508	4495	
Female	-0.0000890	8596		-0.0000465	4495	
All others[3] (3)						
Both sexes	-0.0001297	31260	1.00	-0.0000678	16346	0.72
Households						
Total	-0.0001150	10623	1.00	-0.0000601	5555	0.72

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]To account for sample attrition, multiply the "a" and "b" parameters by 1.09 for quarterly estimates.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-9. **SIPP Generalized Variance Parameters for the 1989 Panel and the 1988 and 1989 Combined Panels**

Characteristics[1]	1989 base			1989 Q1 - Q3		
	a	b	f	a	b	f
Persons						
Total						
16+ program participation and benefits, poverty (1)						
Both sexes	−0.0001522	25,213	0.90	−0.0000796	13,191	0.65
16+ income and labor force (2)						
Both sexes	−0.0000460	8,596	0.52	−0.0000241	4,497	0.38
Male	−0.0000963	8,596		−0.0000504	4,497	
Female	−0.0000882	8,596		−0.0000461	4,497	
All others[3] (3)						
Both sexes	−0.0001283	31,260	1.00	−0.0000671	16,355	0.72
Households						
Total	−0.0001144	10,623	1.00	−0.0000599	5,558	0.72

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-10. **SIPP Generalized Variance Parameters for the 1990 Panel**

Characteristics[1]	1990 base[2]		
	a	b	f
Persons			
Total			
16+ program participation and benefits, poverty (1)			
Both sexes	-0.0000843	14,344	0.68
16+ income and labor force (2)			
Both sexes	-0.0000287	4,890	0.40
Male	-0.0000605	4,890	
Female	-0.0000547	4,890	
All others[3] (3)			
Both sexes	-0.0000771	17,784	0.75
Households			
Total	-0.0000641	6,043	0.75

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]To account for sample attrition, multiply the "a" and "b" parameters by 1.09 for quarterly estimates in 1991 or later.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-11. **SIPP Generalized Variance Parameters for the 1991 Panel and the 1990 and 1991 Combined Panels**

Characteristics[1]	1991 base[2]			1991 Q1 - Q3		
	a	b	f	a	b	f
Persons						
Total						
16+ program participation and benefits, poverty (1)						
Both sexes	-0.0001342	22,040	0.84	-0.0000559	9,175	0.54
16+ income and labor force (2)						
Both sexes	-0.0000407	7,514	0.49	-0.0000169	3,128	0.32
Male	-0.0000850	7,514		-0.0000354	3,128	
Female	-0.0000778	7,514		-0.0000324	3,128	
All others[3] (3)						
Both sexes	-0.0001134	27,327	0.93	-0.0000472	11,376	0.60
Households						
Total	-0.0001005	9,286	0.93	-0.0000418	3,866	0.60

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]To account for sample attrition, multiply the "a" and "b" parameters by 1.09 for quarterly estimates in 1992.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-12. **SIPP Generalized Variance Parameters for the 1992 Panel**

Characteristics[1]	1991 Q4[2]			1992 Q1[2]		
	a	b	f	a	b	f
Persons						
Total						
16+ program participation and benefits, poverty (1)						
Both sexes	−0.0000982	16,724	0.73	−0.0000936	15,937	0.71
16+ income and labor force (2)						
Both sexes	−0.0000334	5,701	0.43	−0.0000318	5,433	0.42
Male	−0.0000705	5,701		−0.0000672	5,433	
Female	−0.0000637	5,701		−0.0000607	5,433	
All others[3] (3)						
Both sexes	−0.0000889	20,736	0.81	−0.0000857	19,760	0.80
Households						
Total	−0.0000795	7,047	0.81	−0.0000758	6,715	0.80

[1]For cross-tabulations, use the parameter of the characteristic with the smaller number in parentheses.
[2]The 1992 panel was not combined with another panel, so the parameters shown above are for a single panel estimate during the specified time period.
[3]Use the "All Others" parameter for 0+ program participation and 0+ benefits, in addition to any other types of tabulations not specifically covered by another characteristic in this table.

Table C-13. **Standard Errors of Estimated Numbers of Persons**

(In thousands)

Size of estimate	Standard error[1]	Size of estimate	Standard error[1]
200	79	22,000	789
300	97	26,000	849
600	137	30,000	903
1,000	176	50,000	1,106
2,000	249	80,000	1,278
3,000	304	100,000	1,330
5,000	391	130,000	1,331
8,000	491	150,000	1,280
10,000	547	180,000	1,111
13,000	619	200,000	910
15,000	662	230,000	129
17,000	702	230,500	31

[1]To account for sample attrition in **Single Panel Estimates,** multiply the standard error of the estimate by 1.18 for 1985 estimates from the 1984 panel, by 1.16 for fourth quarter 1985 or later estimates from the 1985 panel, by 1.04 for 1987 estimates from the 1986 panel, by 1.04 for 1988 estimates from the 1987 panel, by 1.04 for 1989 estimates from the 1988 panel, by 1.04 for 1991 or later estimates for the 1990 panel, or by 1.04 for 1992 estimates from the 1991 panel. The adjustment for sample attrition has already been made for combined panel estimates.

Table C-14. **Standard Errors of Estimated Numbers of Households**

(In thousands)

Size of estimate	Standard error[1]	Size of estimate	Standard error[1]
200	46	13,000	344
300	56	15,000	365
600	80	17,000	383
1,000	103	22,000	421
2,000	144	26,000	444
3,000	176	30,000	462
5,000	224	50,000	489
8,000	278	80,000	320
10,000	307	90,000	100

[1]To account for sample attrition in **Single Panel Estimates,** multiply the standard error of the estimate by 1.18 for 1985 estimates from the 1984 panel, by 1.16 for fourth quarter 1985 or later estimates from the 1985 panel, by 1.04 for 1987 estimates from the 1986 panel, by 1.04 for 1988 estimates from the 1987 panel, by 1.04 for 1989 estimates from the 1988 panel, by 1.04 for 1991 or later estimates for the 1990 panel, or by 1.04 for 1992 estimates from the 1991 panel. The adjustment for sample attrition has already been made for combined panel estimates.

Table C-15. **Standard Errors of Estimated Percentages of Persons**

Base of estimated percentage (thousands)	Estimated percentages[1]					
	≤1 or ≥ 99	2 or 98	5 or 95	10 or 90	25 or 75	50
200	3.93	5.53	8.62	11.86	17.12	19.77
300	3.21	4.52	7.04	9.68	13.98	16.14
600	2.27	3.20	4.97	6.85	9.88	11.41
1000	1.76	2.48	3.85	5.30	7.66	8.84
2000	1.24	1.75	2.72	3.75	5.41	6.25
3000	1.02	1.43	2.22	3.06	4.42	5.10
5000	0.79	1.11	1.72	2.37	3.42	3.95
8000	0.62	0.88	1.36	1.88	2.71	3.13
10000	0.56	0.78	1.22	1.68	2.42	2.80
13000	0.49	0.69	1.07	1.47	2.12	2.45
15000	0.45	0.64	0.99	1.37	1.98	2.28
17000	0.43	0.60	0.93	1.29	1.86	2.14
22000	0.38	0.53	0.82	1.13	1.63	1.88
26000	0.35	0.49	0.76	1.04	1.50	1.73
30000	0.32	0.45	0.70	0.97	1.40	1.61
50000	0.25	0.35	0.54	0.75	1.08	1.25
80000	0.20	0.28	0.43	0.59	0.86	0.99
100000	0.18	0.25	0.39	0.53	0.77	0.88
130000	0.15	0.22	0.34	0.47	0.67	0.78
150000	0.14	0.20	0.31	0.43	0.63	0.72
180000	0.13	0.18	0.29	0.40	0.57	0.66
200000	0.12	0.18	0.27	0.38	0.54	0.63
230000	0.12	0.16	0.25	0.35	0.50	0.58
230500	0.12	0.16	0.25	0.35	0.50	0.58

[1]To account for sample attrition in **Single Panel Estimates,** multiply the standard error of the estimate by 1.18 for 1985 estimates from the 1984 panel, by 1.16 for fourth quarter 1985 or later estimates from the 1985 panel, by 1.04 for 1987 estimates from the 1986 panel, by 1.04 for 1988 estimates from the 1987 panel, by 1.04 for 1989 estimates from the 1988 panel, by 1.04 for 1991 or later estimates for the 1990 panel, or by 1.04 for 1992 estimates from the 1991 panel. The adjustment for sample attrition has already been made for combined panel estimates.

Table C-16. **Standard Errors of Estimated Percentages of Households**

Base of estimated percentage (thousands)	Estimated percentages[1]					
	≤1 or ≥99	2 or 98	5 or 95	10 or 90	25 or 75	50
200	2.29	3.23	5.02	6.91	9.98	11.52
300	1.87	2.63	4.10	5.65	8.15	9.41
600	1.32	1.86	2.90	3.99	5.76	6.65
1000	1.03	1.44	2.25	3.09	4.46	5.15
2000	0.73	1.02	1.59	2.19	3.16	3.64
3000	0.59	0.83	1.30	1.79	2.58	2.98
5000	0.46	0.65	1.00	1.38	2.00	2.30
8000	0.36	0.51	0.79	1.09	1.58	1.82
10000	0.32	0.46	0.71	0.98	1.41	1.63
13000	0.28	0.40	0.62	0.86	1.24	1.43
15000	0.26	0.37	0.58	0.80	1.15	1.33
17000	0.25	0.35	0.54	0.75	1.08	1.25
22000	0.22	0.31	0.48	0.66	0.95	1.10
26000	0.20	0.28	0.44	0.61	0.88	1.01
30000	0.19	0.26	0.41	0.56	0.81	0.94
50000	0.15	0.20	0.32	0.44	0.63	0.73
80000	0.11	0.16	0.25	0.35	0.50	0.58
90000	0.11	0.15	0.24	0.33	0.47	0.54
92000	0.11	0.15	0.23	0.32	0.47	0.54
150000	0.08	0.12	0.18	0.25	0.36	0.42
180000	0.08	0.11	0.17	0.23	0.33	0.38
200000	0.07	0.10	0.16	0.22	0.32	0.36
230000	0.07	0.10	0.15	0.20	0.29	0.34
230500	0.07	0.10	0.15	0.20	0.29	0.34

[1]To account for sample attrition in **Single Panel Estimates,** multiply the standard error of the estimate by 1.18 for 1985 estimates from the 1984 panel, by 1.16 for fourth quarter 1985 or later estimates from the 1985 panel, by 1.04 for 1987 estimates from the 1986 panel, by 1.04 for 1988 estimates from the 1987 panel, by 1.04 for 1989 estimates from the 1988 panel, by 1.04 for 1991 or later estimates for the 1990 panel, or by 1.04 for 1992 estimates from the 1991 panel. The adjustment for sample attrition has already been made for combined panel estimates.

Table C-17. **Correlation Coefficients**

Characteristic	Quarters (Q) in comparison				Quarters (Q) in comparison			
	Qn, Qn+1	Qn, Qn+2	Qn, Qn+3	Qn, Qn+4	Qn, Qn+5	Qn, Qn+6	Qn, Qn+7	Qn, Qn+8
Persons								
Income	.82	.71	.61	.52	.46	.44	.44	.44
Other	.71	.61	.53	.45	.40	.38	.38	.38
Households								
Income	.63	.55	.47	.40	.36	.34	.34	.34
Other	.54	.46	.40	.34	.30	.29	.29	.29

*U.S. Government Printing Office: 1994 — 300-557/00037