Poverty Estimates in the ACS and Other Income Surveys:
What is the Impact of Methodology?

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Introduction and Summary

Background and purpose: In 1996, the Census Bureau began field tests of the American Community Survey (ACS). This new survey is designed to produce timely estimates of population, demographics, income, and poverty rates for local areas down to the census tract level. After full implementation of the ACS, it would replace the current source of such data, the Decennial Census Long Form (Posey et al., 2003, Bureau of the Census, 2002). The ACS offers many positive benefits**.** To take full advantage of the opportunities it presents, users need to be aware of methodological differences between the ACS and other surveys before using this survey. [2]

The Census Bureau conducts other surveys providing income and poverty data: the Annual Social and Economic Supplement to the Current Population Survey (CPS), the Survey of Income and Program Participation (SIPP)[3], and the Decennial Census Long Form Survey (Long Form). It is important to understand how ACS estimates of income and poverty compare to familiar statistics and estimates from the CPS and the Long Form, especially given the important role envisioned for the new survey.

Structure of the paper: This paper examines three features of the ACS which differ from the CPS and Long Form: a rolling sample, a rolling reference period, and Consumer Price Index (CPI) adjustments to the (rolling) income data – the ACS uses these adjustments to approximate fixed sampling and reference periods. The paper addresses the relative effect of these major methodological differences.

Using the 1996 SIPP panel, we construct pseudo ACS, CPS and Long Form estimates for 1998; replicating the sampling, reference period, weighting and CPI-adjustments of each survey as faithfully as possible. A stepwise approach in which one of the three features is changed at a time pinpoints the contribution to differences in estimates from each factor. The estimates all use SIPP income data, and cannot include differences in income and poverty estimates attributable to

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[2] The views expressed are the authors' and do not represent the official position of the Department of Health and Human Services. Special thanks are due to Don Oellerich, Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, Charles T. Nelson, Bureau of the Census, and Connie Citro, National Academy of Sciences, for reviewing this report.

[3]Because of long time lags in data release, SIPP is seldom used for income and poverty estimates.

differences in the number of income questions, the recall periods or family relationship measures among the surveys. In order to approximate what is actually seen when these surveys are compared, additional adjustments reflecting the impact of differences in income questions, recall period and family relationship measures are made to the CPS, ACS and Long Form estimates obtained using SIPP.

Based on the fact that two years of the CPS better approximates the time period during which income data is collected on the ACS[4], the Census is recommending comparisons of the two using a two year average of the CPS. Recently, the Census compared the 2003 ACS to an average of the 2002 and 2003 CPS and found a .2 percentage point different in poverty rates. Given the vastly different income questions and reference periods used on the ACS and the CPS, these poverty numbers are remarkably similar. Thus a CPS estimate that is the average of estimates for calendar years 1997 and 1998 is also presented.

Results: Our tests show that the ACS rolling sample for 1997-1998 yields a higher estimate of poverty than the fixed sample and reference periods of the 1998 CPS and Long Form. This finding holds even with CPI adjustments and an adjustment for SIPP panel attrition which partially offsets the measured differential. Since the ACS rolling sample is lagged compared to true calendar year income, this result could reflect understatement in the ACS of increases in real income over the lag. Using a two year CPS average damped this effect.

The ACS was designed, developed and tested during a period of low inflation and continued growth in real incomes. An area still to be explored is whether ACS methodology and estimates are stable and consistent under other conditions. Further methodological work exploring the dynamic response of the ACS to economic change seems highly desirable.

Income and Poverty Estimates

Official annual statistics on income and poverty are calculated from the CPS, and are valid at the national, State and larger (over half-million) MSA level.[5] Currently, survey-based measures[6] of income and poverty for smaller areas are obtained every ten years from the Long Form. The Census Bureau's Small Area Income and Poverty Estimates program (SAIPE) uses statistical models based on the latest Long Form information supplemented by administrative and survey data for more current estimates, forcing the totals to agree with CPS aggregates.

The ACS will provide data for all states and for local areas with 65,000 or more persons annually. Three to five years of data will be needed to accumulate adequate sample size for areas as small as census tracts, but after five years local area data, that is updated annually, will be

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[4] E-mail from Charles Nelson, Bureau of the Census, October 28, 1004.

[5] The redesign and expansion of the CPS sample responded to requirements in the Balanced Budget Act of 1997 creating the State Children's Health Insurance Program, that the Census Bureau improve State estimates of the number of children who live in low-income families and lack health insurance.

[6] These are always estimates, not official poverty statistics.

available for all areas. As the ACS matures, it will provide more timely and consistent estimates for analysis of economic conditions, administration and evaluation of government programs, and demographic and social characteristics for comparisons across groups, States and local communities than now available from the Long Form (Posey et al., 2003).

While the purpose of the ACS is to replace the Long Form, the two differ in ways that could significantly affect income and poverty estimates. The Committee on National Statistics' states: "Although research will be needed to evaluate income measurements across surveys, it is likely that the ACS will prove to be a relatively crude instrument for measuring income and poverty in comparison with the March CPS and SIPP. One reason, is that the ACS questionnaire, like the long form, contains a small number of questions on income. Also, the "rolling" nature of the ACS may create measurement problems. Thus, the questionnaire will ask about income in the past 12 months and not the more natural reference period of the past calendar year" (Citro and Kalton, 2000, p. 37).

ACS Features for Analysis

This paper focuses on the impact on poverty estimates of three differences among the ACS, CPS and Long Form: (1) the rolling sample; (2) the rolling reference period for income calculation, family composition and weighting; and (3) the Consumer Price Index (CPI) adjustments applied to ACS rolling sample income data to approximate fixed sampling and reference periods. In addition, adjustments are made accounting for differences in the detail, specificity, and recall of income questions on these surveys and for the differential treatment of family structure. Other differences, such as those in universe definition, contact and followup method, and the treatment of item non-response also affect income and poverty estimates, but are not discussed in this paper. Attachment A[7] provides an overview of the Long Form, CPS, and ACS surveys, and more information on methodological differences can be found in *Guidance on Survey Differences in Income and Poverty Estimates*, available on the Census Bureau web site. As can be seen in Attachment A, the largest differences are those between the CPS and the other surveys.

Rolling sample: Although the ACS contains the same income questions as the Long Form (seven questions by type of income[8], an "other" and a total question), the information is not collected at the same point in time for all respondents, as it is for the Long Form or CPS. The ACS is in the field continuously, and therefore spreads or "rolls" its annual income measurement evenly across the twelve months of the year, and a separate sample is drawn for each month.

Rolling reference period: The reference period for income questions in the ACS is not a

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[7] The description of the ACS in Attachment A reflect the 2000-2004 ACS design and not the proposed design at full implementation. Full implementation uses a different sampling strategy, however, the features we are examining do not change.

[8] (1) Wages and salaries, (2) self-employment income, (3) interest, dividend and net royalty income, (4) Social Security, (5) Supplemental Security Income, (6) public assistance or welfare, and (7) retirement, survivor or disability income.

calendar year, as it is for the Long Form or CPS. Rather, it is the "past twelve months", that is, the twelve months prior to the date the questionnaire is completed. Survey instructions define the "past 12 months" as the period from today's date one year ago up through today. For analysis, Census treats income as having been gathered in the last calendar month (Posey et.al.).

CPI adjustments: The ACS adjusts the 12 month rolling income estimates upward so that they are measured in December price levels**.** As presented in Posey (Posey et.al. 2003) income is adjusted to the calendar year equivalent price level using monthly CPI factors to calculate the ratio of the average annual calendar year CPI to the twelve-month average seasonally adjusted CPI for each of the monthly samples. Thus incomes are adjusted to a fixed **calendar year** equivalent. Attachment B shows how this is done schematically.

Weights: None of the surveys use the same baseline date to weight sample information e.g. construct a universe estimate from the survey data. The CPS uses March of the year subsequent to the calendar year reference period for income data, that is, March 2000 population and demographics are used for calendar year 1999 income data. The Long Form uses April of the year subsequent to the calendar year reference period for income data, that is, April 2000 population and demographics were used for calendar year 1999 income data. The ACS uses July of the calendar year during which income data is collected. As a result of these weighting differences, the three surveys use family composition from different points in time to estimate poverty for the same year. Since official poverty thresholds vary depending on family size, number of children, and the age of the householder, the same income information may yield slightly different poverty estimates in different surveys, as family compositions shift during the year.

Income questions: The income questions in the Long Form and ACS are much less detailed than the income questions in the CPS, combining many more types of income into one question. Survey experience at the Census Bureau and elsewhere has demonstrated that detailed income questions help respondents recall income from each source identified, thus capturing more income and providing higher but more accurate totals. The Census Bureau has measured the historical difference between poverty rates from the Long Form and the CPS attributable to the smaller number of income questions, and reports that in 2000 the difference was 0.5 percentage points[9].

Family relationship measures: The definition of family used in SIPP and the CPS differs from that used in the Long form and ACS. The first two surveys contain questions that detect the presence of unrelated subfamilies while the latter ones do not. The Census and ACS record the relationship of every person in the household to the householder. A person is either a member of the householder's family or an unrelated person. The CPS records the relationship of every person to every other person in the household and can detect the presence of persons related to each other but not to the householder. The Census Bureau has measured the historical difference between poverty rates from the Long Form and the CPS attributable to the difference in family

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[9]Clarke et al., 2003

relationship measures, and reports that in 2000 the difference was 0.1 percentage points[10].

1998 Baselines

To better understand how closely the calendar year ACS income and poverty estimates will approximate the more familiar statistics and estimates from the CPS and Long Form, 1998 baselines for all three surveys were computed using data from the 1996 SIPP Panel. The methods of each of the three surveys were replicated as faithfully as possible.

The panel design of SIPP, with interviews every four months, a monthly income reference period and monthly weights, permits construction of alternative baselines from a single data base. This ensures that differences in results reflect differences in methodology rather than differences in income data. However, the SIPP differs in so many ways from the other surveys, that these results will differ significantly from those that would have been obtained using the CPS or Long-form. In particular, SIPP collects far richer income data than is available from these surveys.

The construction of the baseline estimates of income and poverty began with pooling all SIPP households with nonzero weights for July 1998, since the ACS uses July weights. The other two baselines are therefore restricted to the pool of SIPP respondents used for the ACS baseline. This approach has some drawbacks associated with attrition, discussed below, but ensures comparability of income data.

There are three baselines to represent the three surveys:

ACS baseline: 12 random samples were drawn without replacement[11] representing the 12 monthly samples of the ACS, and income for the previous 12 months was aggregated for each of the 12 samples[12]. Each 12-month aggregate was further adjusted by the average change in the CPI between the 12 months actually covered by the income data, and the calendar year. Attachment B lays out this process. As seen, the months included in these samples range from January 1997 through November 1998. The CPI adjustment applied to each of the 12 samples varies from January 1998 though December 1998. The January 1998 CPI was used to adjust annual income for the period from January 1997 through December 1997, the February CPI was used to adjust income for the period from February 1997 through January 1998 and so forth. July 1998 weights were used.

CPS baseline: This baseline uses the same pool of SIPP households with positive weights in July. However, it uses calendar year 1998 income and March 1999 weights.

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[10]Ibid.

[11] Random samples were drawn without replacement. Random numbers were assigned to each household and then 1/12th were assigned to the first month. Then a new random number was assigned and the process was repeated 12 times.

[12] Income was pro-rated for persons with less than 12 months of data applying the average monthly value in the reference period to the missing months.

Long Form baseline: The same pool of SIPP households with positive weights in July was used with April 1999 weights.

We used a fixed set of households with positive weights in July**.** A small amount of attrition or loss from the SIPP Panel occurs between July 1998 and later months, and affects the baselines in several ways. Loss of sample results in smaller universe estimates of total persons and total income. Attrition also slightly lowers the estimated poverty rate for those remaining in-panel, since attriters or leavers are slightly more likely to be poor than stayers. This reduces the universe estimate of total poor, raises average income, and reduces the baseline poverty rate.

We computed adjustments to offset the impact of attrition on poverty rates[13]. The computed attrition adjustment to the CPS poverty rate (March 1999 weights) is 0.53 percentage points, and to the Long Form poverty rate (April 1999 weights), 0.59 percentage points. However, this computed attrition adjustment may be overstated. The baselines use an essentially static population, whereas in reality family composition is dynamic and new persons join existing households and new households are formed on a continuing basis, which may partially offset the effects of sample attrition. In later time periods new persons also enter the household that have not been taken into accounted . While December and March weights do increase the size of the total population as compared to July weights; the increase in weights does not fully make up for the new cases that have been excluded from the estimates**.** Results are presented with and without the attrition adjustment. Adjustments are not made for new persons.

Table 1. Three 1998 Baselines
(persons in millions and poverty rates in percent)

Baseline	Total Persons	Average Income	Total Poor	Poverty Rate		Adjusted SE for Unadjusted Poverty Rate
				Unadjusted Baseline	Adjusted for Attrition Bias	
ACS	269.7	$17,447	33.9	12.55		0.18%
CPS	257.4	18,050	30.0	11.66	12.19	0.19
Long Form	256.8	18,057	30.0	11.67	12.26	0.19

*no adjustments for income differences or for treatment of unrelated subfamilies.

Table 1 presents total persons and total poor, average income and poverty rates based on 1998

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[13] Adjustment factors were estimated by comparing poverty for the entire July panel with poverty for those who stay in each of the months considered (December, March and April).   The difference in these estimates measures the effect on poverty of those who leave. This difference is added to poverty rates in December, March and April.

Poverty Thresholds, and standard errors[14] for the three baselines. As the table shows, average income in the ACS baseline is lower than the CPS and Long Form, and poverty is higher. The difference (increase) in estimated poverty in the unadjusted ACS baseline poverty rate compared to the CPS is statistically significant. Meaningful standard errors cannot be estimated for the attrition-adjusted estimates.

ACS Stepwise Variations
Additional calculations tested for single components of the ACS methodology to identify the major factors in the overstatement of poverty in the ACS baseline:

No CPI adjustment: This variant is the same as the ACS baseline except that it does not adjust income using the CPI in order to see how the CPI adjustment to a calendar year equivalent affects income and poverty estimates.

December weights: This variant is the same as the ACS baseline except that it uses December weights in order to see how the choice of weights affects income and poverty estimates. This estimate incorporates the standard attrition adjustment to account for people leaving. In this case, the adjustment is 0.38 percentage points.

Calendar year income: This variant replaces the rolling income with calendar year income, and eliminates the need for a CPI adjustment in order to see what income and poverty would have been if actual calendar year income had been available. It retains the July weights.

Calendar year income with December weights: This variant replaces the rolling income with calendar year income and uses December weights. It measures actual calendar year income and poverty. It provides a measure of how well the ACS is able to capture what actually occurs. The computed attrition adjustment is 0.31 percentage points.

Table 2. 1998 ACS Baseline and Stepwise Variations in ACS Methodology
(persons in millions and poverty rates in percent)

Variation	Total Persons	Average Income	Total Poor	Poverty Rate		Adjusted SE for Unadjusted Poverty Rate
				Unadjusted Baseline	Adjusted for Attrition Bias	
ACS Baseline	269.7	$17,447	33.9	12.55		0.18%
No CPI Adjustment	269.7	17,304	34.3	12.71		0.18

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[14] Due to the complicated SIPP sampling frame, Census Bureau provides generalized variance parameters and formulas for calculating standard errors, in this case: SQRT ((GPV/sample n) * (100-percent)) , where SQRT=Square Root, GPV=generalized parameter variable and the percent in the calculation is the poverty rate. A further adjustment of 1.07 accounts for losses due to sampling.

December Weights	258.8	17,541	32.4	12.52	12.90	0.19
Calendar Yr Income	269.7	17,945	31.2	11.55		0.18
Calendar Yr Inc & Dec Wts	258.8	18,501	30.0	11.59	11.90	0.19

Table 2 presents total persons and total poor, average income, poverty rates, and standard errors for the ACS baseline and the four variants. Removing the CPI adjustment or using December weights has little or no impact. However, when the rolling sample and reference period that form the basis for the ACS are replaced with calendar year income, the poverty estimate drops to the range of the CPS baseline. The difference (decrease) in estimated poverty from the unadjusted ACS baseline is statistically significant. Meaningful standard errors cannot be estimated for the attrition-adjusted estimates. These computations suggest that the rolling sample and reference period, despite CPI adjustments, will overestimate poverty.

The finding of higher estimates of poverty from the ACS rolling sample compared to the fixed sample and reference periods of the CPS and Long Form holds even with offsetting adjustments for inflation and for SIPP panel attrition. Since the ACS rolling sample is lagged compared to true calendar year income, this result could reflect understatement in the ACS of increases in real income over 1998.

Final Adjusted Estimates

The CPS is the official source of income and poverty statistics, and its measures are long familiar to the public. To more accurately portray the estimates public users of the ACS will face, adjustments were made to the CPS, ACS and Long Form baselines. These adjustments are intended to create the relationships among poverty estimates from these different surveys that would be seen when actually comparing them.

For the CPS, the estimated poverty rate adjusted for attrition of 12.19 percent was replaced by the actual official poverty rate obtained from the CPS in 1998 of 12.7 percent. As noted above, the Census Bureau has measured the historical difference between poverty estimates based on the very summary income questions in the Long Form (and ACS) and the detailed CPS income questions and reports that in 2000 the Census adjustment was 0.5 percentage points[15]. Since the ACS uses the Long Form questions, poverty estimates from the ACS will always include this differential. Additionally, there is a 0.1 percentage point difference between CPS poverty estimates and those from the ACS and Long Form due to the differences in how family relationships are measured.

In total, three adjustment factors are applied to the ACS and Long-Form estimates (in addition to the attrition adjustment). The first adjustment of 0.5 percentage points accounts for the observed difference between the official 1998 CPS poverty rate and the SIPP estimate adjusted

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[15]Clarke et al., 2003

for attrition bias; the second adjustment of 0.5 percentage points accounts for differences between CPS and long form estimates; and the final adjustment of 0.1 percentage points accounts for differences in how family relationship are measures on the ACS and Long Form as compared to the CPS. Thus, the total adjustment applied to the ACS and Long Form is 1.1 percentage points.

Table 3 presents poverty rates **in 1998**, including the Census adjustment to the ACS, its variants, and the Long Form. It then compares these rates to the two CPS baselines.

Table 3: 1998 Poverty Rates With All Adjustments-
(poverty rates in percent)

	Calculated Poverty Rate Including All Adjustments	Percentage Point Difference Adjusted CPS Baseline
ACS Baseline	13.7	+1.0
CPS Baseline	12.7	
Long Form Baseline	13.4	+.7
ACS Variations		
No CPI Adjustment	13.8	+1.1
December Weights	14.0	+1.3
Calendar Yr Income	12.7	+0.0
Calendar Yr Inc & Dec Wts	13.0	+0.3

The more realistic poverty estimates shown in Table 3 suggest that the ACS may overstate poverty as compared to official poverty statistics. Moreover, these differences are statistically significant as seen in Table 2. This is especially problematic if, for example, small area estimates from the ACS are compared to national poverty statistics from the CPS as an argument for special funding needs.

Two Year Averages

The time periods covered by the ACS and the CPS are very different. The ACS reference periods begin in January of the previous year and conclude with November of the current year. As such, the time period covered by an annual ACS is only one month off from two years of the CPS (excluding December of the current year).

Because of this, the Census has begun comparing two year average CPS estimates to annual ACS estimates. For many policy purposes, two year averages of the CPS are already used, as when deriving state level estimates of small sub-groups such as the uninsured. As noted earlier, the Census found that a two year average of CPS poverty rates was very close to the 2003 ACS result.

For comparison purposes, a two year average was developed. This required calculation of the 1997 CPS poverty rate using the same methodology as for the 1998 CPS baseline. The estimate obtained for 1997 is 12.28 (after attrition between March and July was accounted for). Thus, a two year CPS average is calculated as 12.24. This is closer to our ACS estimate of 12.55 in Table 2, and begins to approach the point where observed differences are minimal[16]. Similarly, a two year average of the actual 1997-1998 CPS poverty estimates in 13.0%. The average reduces the gap between the annual 1998 CPS poverty estimates and the adjusted ACS baseline to .7 from the 1 percentage point reported in Table 3.

Sensitivity to Economic Change

The time period during which the ACS design was developed and tested has been characterized by low inflation and continued growth in real incomes. The economy has not yet presented an opportunity to examine fluctuations between the ACS and other surveys over the business cycle nor to look at what happens during periods of rapid economic change.

The inherent time lag of the rolling sample in the ACS will result in differences from other survey estimates for a given calendar year. In times of falling poverty, ACS calendar year estimates are likely to be higher than CPS estimates and in times of rising poverty the reverse is likely to be true. Using a two-year average will dampen this variation as compared to calendar year estimates. The rolling sample and reference period, like all moving averages, will tend to "smooth" results. In this case ACS estimates will tend not to fully capture peaks and troughs in incomes and poverty rates.

What will happen during periods of rapid economic growth is not entirely clear. The ACS relies on the CPI applied to lagged data to accurately reflect all changes that have occurred in the economy. As a rough test of how well this process works when rapid economic change is occurring, calculations were made using the high rate of inflation from 1980-1981 with income in nominal dollars unchanged. Poverty Thresholds were also adjusted by the higher inflation rate. The resulting ACS poverty estimate was significantly lower than that for an equivalent CPS. The CPS poverty rate was 2.1 percentage points higher. Although crude and unrealistic, this calculation suggests that the ACS methodology with its lagged income sample and price adjustments may not be sensitive to rapid changes in economic conditions. Further methodological work exploring the dynamic response of the ACS to economic change seems desirable. In particular, it is important to explore where the magnitude of the change, as well as the direction, will vary.

While two year averages helped minimize the observed differences in the situation considered in this paper, the desire to measure official poverty in calendar year periods and to observe fluctuations in poverty means that annual estimates will continue to be needed. It is possible

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[16] The magnitude of the differences was slightly greater before adjustment for attrition, about .6 of a percent.

that, under some conditions, ACS estimates will not reflect real changes in economic well-being in a timely manner, but only with a substantial time lag

Overall, the ACS promises to provide a wealth of very timely data for small geographic areas. This addition to our current knowledge should strengthen small area estimates, and allow for better measurement of ongoing trends. However, it is important to be aware of the methodological differences in the ACS when interpreting income and poverty statistics.

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Attachment A

Methodological Comparison of Three Income Surveys

	2000 Decennial Long Form	CPS Annual Demographic Supplement	ACS
Frequency	Once per decade	Annual	Annual
Small Area or Census Tract Estimates	Yes	States and larger MSAs (those over 500,000) annually	States and areas of 65,000 or more annually. All small areas at least every 5 years
Universe	Resident population (including institutionalized and military) of the US and Territories plus military and embassy staff abroad	Resident civilian noninstitutionalized population of the US plus military living in civilian households	Resident population of the US and Puerto Rico (ACS does not as yet contain group quarters)
Income Data Universe	All persons	Household member 15 years of age or older	All persons
Sample Size	Approximately 19 million households	50,000 households in 2000 99,000 households after 2001	3 million households if full Congressional funding provided
Sample Design	Single-stage systematic sample targeted at about I in 6 households	Independent State-based samples (two sub-State samples in NY and CA) consisting of two-stage geographic cluster samples limiting the variance of State estimates	Multi-stage sampling design at the county level, with over-sample of small governmental units.
Sampling Unit	Housing unit, usually described as household	Housing unit, usually described as household	Housing unit, usually described as household
Data Collection Timing	April 1 each decade	February through April after 2001; bulk of data collection in March	Continuously during year
Contact Method	Mail with personal interview followup	Personal interview or phone with personal interview followup	Mail with phone followup, then personal interview followup with subsample
Contact Person	One person per household responds for entire household; proxy respondents allowed	One person per household responds for entire household; proxy respondents allowed	One person per household responds for entire household; proxy respondents allowed
Reference Period	Prior calendar year	Prior calendar year	12 months prior to day questionnaire is filled out
Maximum Recall Required	15 months	15 ½ months	12 months

	2000 Decennial Long Form	**CPS Annual Demographic Supplement**	**ACS**
Income Questions	Seven questions by type of income, an "other" and a total question	Multiple detailed questions by type of income	Identical to Long Form
Weights	April 1 after reference year	Mid-March after reference year, all data collection months	Mid-July of survey year, all data collection months
Price Adjustments	None	None	For each monthly sample, ratio of the average CPI for the calendar year to the average CPI for the 12 months of the monthly sample.

Note: Income information other than earnings, interest and dividends is collected in the CPS for persons of all ages, but for persons under 15 is assigned to the representative payee or guardian. For persons age 15 or over it is reported as their income even if they are minors and the actual payment continues to be made to an adult.

Attachment B

Income Collection And CPI Adjustments For ACS Baseline

							Jan 1998		1.0141														
							Feb 1998			1.0129													
							Mar 1998				1.0117												
							Apr 1998					1.0105											
							May 1998						1.0091										
							Jun 1998							1.0078									
							Jul 1998								1.0063								
							Aug 1998									1.005							
							Sep 1998										1.0038						
							Oct 1998											1.0026					
							Nov 1998												1.0013				
							Dec 1998													1			

jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
					1977												1998						

Jan 1998   Sample Month

[gray bar]   Gray Indicates Months of Income Tallied

1.0141   CPI Income Adjustment Factor

Table adapted from Posey et al., 2003

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