An Evaluation of Poverty in the SIPP-EHC

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Abstract

In an effort to reduce costs and improve data quality in the Survey of Income and Program Participation (SIPP), the Census Bureau re-engineered the survey by implementing a longer retrospective reference period and adopting an Event History Calendar to facilitate respondent recall. This paper examines the impact of this new survey design, called SIPP-EHC, on measures of respondent's income, poverty status, and poverty transitions within the reference period. Specifically, this analysis uses a limited sample of unedited data from the SIPP-EHC field tests covering calendar years 2009 and 2010 and a matched sample of edited data from the 2008 SIPP Panel in order to compare 1) income receipt, 2) average monthly poverty rates, 3) the number and length of poverty spells, and 4) the probability of exiting a poverty spell across SIPP and SIPP-EHC survey instruments for calendar years 2009 and 2010. This analysis is designed to compare the performance of the SIPP-EHC survey instrument to production SIPP in order to isolate differences in poverty rates so that they may be attributed to survey instrument assignment as opposed to sample design or variable construction.

We find that average monthly poverty rates in the SIPP-EHC were higher than those reported in the SIPP Panel in both 2009 and 2010. Individuals interviewed through the 2009 and 2010 SIPP-EHC were also more likely than those in the SIPP to experience longer duration initial poverty spells. Results from Cox proportional hazards models suggest that individuals surveyed through the 2009 SIPP-EHC field test were .621 times as likely to exit an initial poverty spell than individuals in the SIPP Panel, although hazard rates for individuals interviewed in the 2010 SIPP-EHC field test were not statistically different than those interviewed in the SIPP Panel. The inclusion of time-varying covariates to flag for seam months in the SIPP Panel is significant in explaining differences in exit rates seen across the two survey instruments. Controlling for the significant impact of seam months in the SIPP survey, households in the 2009 and 2010 SIPP-EHC are more likely to exit an initial spell of poverty than households in the SIPP.

[1] This report is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed on methodological or operational issues are those of the author and are not necessarily those of the U.S. Census Bureau. Any error or omissions are the sole responsibility of the author. Email: ashley.edwards@census.gov
All data are subject to error arising from a variety of sources, including sampling error, non-sampling error, model error, and any other sources of error. For further information on SIPP statistical standards and accuracy, go to http://www.census.gov/sipp/source.html.
All comparative statements in this report have undergone statistical testing, and, unless otherwise noted, are statistically significant at the 90 percent confidence level.

I. Background

The Survey of Income and Program Participation (SIPP) is a nationally representative longitudinal household survey conducted by the U.S. Census Bureau. It is the only longitudinal survey conducted by the Census Bureau that captures monthly data on income, program eligibility and participation, and family composition, enabling researchers and government agencies to investigate various topics including the dynamics of intra-year poverty transitions. According to the National Research Council, poverty spells are often short in duration and difficult to assess in annual statistics, making the SIPP an uniquely valuable dataset for researchers in this area. (National Research Council 2009)

Currently, each SIPP Panel consists of multiple interviews, referred to as "waves," administered three times a year at four-month intervals. SIPP Panels typically cover two-and-a-half to four years of data collection. The current SIPP Panel (the 2008 Panel) is currently in the field and will cover calendar years 2008 to 2012. The SIPP core instrument contains survey content that is repeated in every survey wave, collecting information on household structure, labor force participation, income sources and amounts, educational attainment, and health insurance over the prior four-month period. Additional topical modules are fielded to collect detailed data on taxes, assets, liabilities, receipt of program benefits as well as marital, fertility, and employment histories.[2]

A. Designing the SIPP-EHC

In early 2006, the Census Bureau faced a projected budget shortfall of approximately $40 million dollars for fiscal year 2007. The agency's response was to absorb this shortfall by eliminating the SIPP program. Policy makers, data users, and other stakeholders protested strongly to Congress, emphasizing the unique value of the survey. Ultimately, Congress opted to continue the survey, providing funding sufficient to continue the 2008 SIPP Panel with a full sample while simultaneously reengineering the current SIPP instrument to reduce costs and improve data collection and processing for future panels. (National Research Council 2009)

In complying with this directive, the Census Bureau is reengineering the SIPP survey by implementing a longer retrospective reference period, moving from a three-times-per-year data collection schedule to a single annual interview covering the previous twelve month calendar year. This change in collection schedules is expected to reduce field costs and respondent burden, speed up data processing, and simplify the public use data structure.

The re-engineered SIPP survey adopts an Event History Calendar (EHC) to facilitate respondent recall over the longer twelve-month period. Several other surveys utilize EHCs in their survey design. [3] While there is evidence that the EHC methodology can aid in identifying intra-year changes in household composition and employment transitions, there is less understanding about the impact on reports of

[2] See http://www.census.gov/sipp/top_mod/topical.html for a full listing of topical modules.
[3] Other surveys using Event History Calendars include the Panel Study of Income Dynamics (PSID), the National Longitudinal Survey of Youth 1979 (NLSY79), the British Household Panel Survey (BHPS), and the Survey of Labor and Income Dynamics (SLID).

shorter poverty spells, monthly program participation, or earnings changes within an employment spell. (National Research Council 2009 & Pierret 2001) Being able to capture quality monthly data on poverty in the reengineered SIPP, hereon referred to as the SIPP-EHC, is of concern for researchers as poverty spells are often brief in duration and are related to changes in household composition, receipt of employment earnings, or income from cash transfer programs.

The development and evaluation of the SIPP-EHC has included a paper-and-pencil feasibility study conducted in 2008, an initial computer assisted interview (CAPI) field test in 2010, a revised CAPI instrument field test in early 2011, and the planned administration of a wave two instrument in 2012. The SIPP-EHC is currently scheduled to become a production instrument beginning in 2014.

II. Data

This paper uses data from the 2010 and 2011 SIPP-EHC field tests and 2008 SIPP Panel referencing calendar years 2009 and 2010. This paper will refer to the SIPP-EHC field tests by their referenced calendar year as the 2009 SIPP-EHC and 2010 SIPP-EHC.[4] We refer to the 2008 SIPP Panel as "production SIPP" as it is the instrument currently implemented in the field. Data from production SIPP provides coverage for both calendar year 2009 and 2010.

A. Controlling for Sample Selection

For the 2009 and 2010 SIPP-EHC field tests, sampling frames were derived from production SIPP sample designations to maintain the properties of a production SIPP sample but with several modifications. First, the 2009 and 2010 SIPP-EHC were geographically limited to select states.[5] Additionally, the SIPP-EHC field test only interviewed addresses included in high poverty strata within self-representing primary sample units (PSUs).[6] This modified survey design allowed the SIPP-EHC field tests to maintain the properties of a production SIPP Panel while containing field costs and ensuring that a sufficient number of respondents participating in means-tested government programs were included in the sample.

In order to accurately compare the 2009 and 2010 SIPP-EHC field-tests to production SIPP, production SIPP was subset to match the calendar year and sample characteristics of the respective SIPP-EHC field-test. The analytic sample from production SIPP was limited to the geographies covered by the respective SIPP-EHC field tests, and to households within self-representing PSUs in high poverty strata. Sample weights were generated for the 2009 SIPP-EHC by using raking models to match tallies of production SIPP weights. In 2010, state-specific adjustment factors were used to correct for differences in sampling rates across SIPP-EHC and production SIPP. In matching to the respective SIPP-EHC reference period,

[4] Both tests were wave one interviews. Respondents from the 2009 SIPP-EHC were not re-interviewed in the second test.

[5] In the 2009 test, the geographies were limited to California, Connecticut, Illinois, Louisiana, Massachusetts, Maryland, New York, Rhode Island, Texas, and Wisconsin. In 2010, the test was expanded to include Arizona, California, Connecticut, Florida, Georgia, Illinois, Indiana, Louisiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, and Virginia.

[6] The low-income rate cutoff and the oversampling rate are determined by minimizing the variance of the estimate of the low income population and protecting the design effect for persons aged 55 and over.

waves two to five from production SIPP refer to calendar year 2009 and waves five to eight of production SIPP refer to calendar year 2010. [7]

Because production SIPP has been subset to "match" the respective SIPP-EHC field-tests for this evaluation, the data presented in this paper are not intended to be nationally representative. [8] Additionally, the 2009 and 2010 SIPP-EHC surveys have not been designed to align in their sampling design or survey population. Therefore, all comparisons in this paper are explicitly comparing the 2009 SIPP-EHC to a matched population in production SIPP or the 2010 SIPP-EHC to a matched population in production SIPP. This paper is does not compare the 2009 SIPP-EHC to the 2010 SIPP-EHC.

B. Variables and Variable Construction

Data collected in production SIPP are edited each wave to maintain consistency across conflicting reports and to impute missing responses. However, the data collected in both the 2009 and 2010 SIPP-EHC field-tests are still being processed and not all variables, including the family/subfamily, employment, and program participation variables necessary to calculate poverty rates, have been made available for analysis. In order to compare the unedited data from the 2009 and 2010 SIPP-EHC surveys to the edited data in production SIPP, we constructed the variables needed for establishing poverty status for the SIPP-EHC samples based on the edit specifications that will be used in production SIPP-EHC.

Given these data limitations in the SIPP-EHC, we make a number of assumptions about family composition and demographic characteristics over the reference period. As described below, these limitations narrow the types of families for whom poverty status can be determined and preclude the calculation of a complete measure of available income resources.

a. Assigning Monthly Family Poverty Thresholds

In production SIPP, poverty thresholds are calculated on a monthly basis for families and subfamilies based on family composition in a given month. Currently, neither the 2009 nor 2010 SIPP-EHC has edited monthly data on household composition or relationship pointers. For this reason, the household composition and relationships reported in the interview month are assumed to remain constant across the entire retrospective period. In production SIPP, we apply a similar restriction by assuming the household composition and relationships reported in the wave one interview remain constant across the calendar period of interest.[9] Variables such as age, marital status, race, and national origin are also based on

[7] See "The 2010 Survey of Income and Program Participation Event History Calendar Field Test: Study Design and Initial Results." For additional details on sample harmonization across SIPP-EHC and production SIPP.

[8] The proportions and other statistics in the text, figures, and tables of this report describe the samples considered here for the purpose of evaluating differences between the two surveys. The weighting and design effects necessary to interpret the reported statistics as estimates of underlying population parameters have not been incorporated into these results. All statistics reported here characterize the sample and are not nationally representative of households. Apparent differences may not be statistically significant, but all comparative statements in this report have undergone statistical testing and are significant at the 90% confidence level.

[9] Ongoing research on household composition finds relatively few changes in household composition over the period of one year.

respondent reports from the wave one interview. Since family composition and householder age are held constant in this analysis, poverty thresholds only vary based on monthly changes in the Consumer Price Index.

Additionally data limitations in the SIPP-EHC make it difficult to establish family and subfamily groups or to determine how children are covered by various income sources. As a result, this analysis examines only families or subfamilies composed of an unrelated individual over the age of fifteen and married-couple families with no children in the household.[10, 11] For married-couple families to remain in sample in a given month, survey data must have been available for both spouses. As shown in Table 1, the number of person-months where family composition and related poverty thresholds can be determined is less than 30 percent of the unweighted person-month cases in each of the SIPP-EHC and production SIPP samples.

b. Summing Total Monthly Family Income

After determining the analytic sample of families for whom poverty status could be established from production SIPP and SIPP-EHC datasets, we constructed a measure of monthly total income that would be consistent across datasets.

In production SIPP, total family income is calculated each month from over 70 income variables. Since edited income variables are not yet available in the SIPP-EHC field tests, a limited number of income sources were edited individually for this analysis. We then calculated a measure of total monthly earnings in production SIPP by summing individual income source variables consistent with those available in the SIPP-EHC. The income sources used in this analysis are: 1) employment earnings, 2) Social Security's Old-Age, Survivors, and Disability Insurance (OASDI), 3) Supplemental Security Income (SSI), 4) Temporary Assistance for Needy Families (TANF) benefits, 5) General Assistance (GA) benefits 5) Workers' Compensation, and 6) Unemployment Insurance (UI) benefits.

Using unedited data from the SIPP-EHC field tests presents a number of unique challenges for this analysis, particularly when calculating family income. First, we determine if an individual had valid employment earnings in a given month.[12] Individuals reporting employment in a given month were excluded from this analysis if they did not provide information on associated earnings. Respondents were also excluded if they reported a pay schedule and pay rate that would be considered outside acceptable ranges.[13] As shown in Table 2, of those reporting earnings in a given month, the number of out of range

[10] For the purpose of this analysis, unrelated individuals are considered to be families composed of a single individual. Traditionally, the Census Bureau considers unrelated individuals a non-family type.

[11] The title of unrelated individual includes any householder or household member identified as a/an 1) householder without relatives in the household, 2) unmarried partner, 3) foster child, 4) housemate/roommate, 5) roomer/boarder, or 6) other non relative over the age of 15. Additionally, unrelated individuals must be older than 15 years of age as income questions are not asked of individuals ages 15 years or younger.

[12] Employment earnings are considered valid if they are not missing, and if they are reported within acceptable ranges. Both members of married-couple, no children, households had to have valid earnings in a given month.

[13] There were no soft-checks in the 2009 SIPP-EHC field test to prevent the reporting of such values, The 2010 SIPP-EHC field test implemented a number of soft-checks to ensure consistency in the reporting of pay schedules and pay amounts. The acceptable ranges used in this analysis are derived from the 2012 SIPP-EHC.

responses was significantly higher in the 2009 SIPP-EHC field tests than in production SIPP. Even after the implementation of soft-checks in the 2010 SIPP-EHC, we continued to see differences in out of range employment responses across instruments. [14]

In order to create a comparable income measure in production SIPP, we apply the same soft-check rules used in the EHC instrument and exclude imputed employment earnings. Of the person-months for which poverty status can be determined, the distribution of unweighted employment earning responses are shown in Table 1.The analysis that follows excludes person-months with allocated, missing, or out of range earnings responses. See Table 1 and Table 3 for further details on how this sample was generated as well as demographic characteristics across surveys.

If a family has valid, non-imputed employment earnings in a given month, additional income sources are added to create a measure of total monthly income. For production SIPP, we include income from additional sources in our measure of total monthly income only if the values from these sources were not imputed. There are no soft checks for the other income variables included in this analysis.

III. Methods

This analysis is designed to compare the performance of the SIPP-EHC survey instrument to production SIPP in order to isolate differences in poverty rates so that they may be attributed to survey instrument assignment as opposed to sample design or variable construction. We use descriptive and statistical analysis to compare 1) income receipt, 2) average monthly poverty rates, 3) the number and length of poverty spells, and 4) the probability of exiting a poverty spell across production SIPP and SIPP-EHC survey instruments for calendar years 2009 and 2010.

The descriptive analysis presented in this report is primarily focused on reporting the differences between production SIPP and SIPP-EHC. For this reason, results presented in the appendix report descriptive statistics as the output of regression results from the following model using person month data.
Let $SIPPEHC_i$ equal 1 when respondent *i* is assigned to SIPP-EHC and $SIPPEHC_i$ = 0 otherwise.

$$\gamma_i = \beta_0 + \beta_1 \times SIPPEHC_i + \varepsilon_i$$

Under this specification, we estimate reports of income, program participation, or poverty status for respondent *i* where β_0 provides us with an estimate of the mean if $SIPPEHC_i$ is equal to 0 (i.e., interviewed through production SIPP), and β_1 provides us with an estimate of the average effect if $SIPPEHC_i$ is equal to 1 (i.e., interviewed through the SIPP-EHC). Descriptive models for each topic were estimated using weighted least squares (weighting by the state-specific adjustment factors) with standard errors clustered at the household level.

[14] Soft-checks alert the interviewer when a respondent provides highly improbable responses. If respondents report the following earnings, the CAPI instrument will prompt the interviewer to conform the respondent's initial response – 1) an annual salary less than $2,000 or greater than $1,000,000, 2) a monthly salary less than $200 or greater than $40,000, 3) a biweekly or bimonthly salary less than $100 or greater than $20,000, 4) a weekly salary of less than $50 or greater than $10,000, or 5) an hourly salary of less than $5 or greater than $250.

A. Establishing Poverty Status

Poverty status in a given month is calculated by comparing a family's monthly poverty threshold to its total monthly income. If total monthly family income is less than their threshold in a given month, all members of that family are determined to be in poverty. In this analysis, poverty rates are compared at the person-month level.

B. Defining Poverty Spells

In this analysis, we define entry into a poverty spell in month (*t*) when an individual's income has been below their poverty threshold for two months (*t and t+1*) given that their income was above their poverty threshold in the previous two months (*t-1 and t-2*). A family exits poverty in month (*t*) when their income is above their poverty threshold for two months (*t and t+1*) given that they were in poverty the previous two months (*t-1 and t-2*). Defining poverty spells based on a two month criteria for entry and exit removes spurious transitions due to alternate work or pay schedules.[15]

Our analysis of poverty spells includes all individuals in the SIPP-EHC and production SIPP who were in universe all twelve months. (See Table 11) This requirement has differing effects across survey instruments. The SIPP-EHC field tests were wave one instruments, limiting individuals opportunity to exit (attrit) out of the longitudinal sample. For production SIPP, households had to remain in sample through waves two to five for the 2009 calendar year, and to remain in sample in waves five to eight for the 2010 calendar year. The opportunity for attrition between waves in production SIPP means it is more likely that the households in sample all twelve months are more stable in terms of geographic mobility and labor force attachment (Vaughn & Scheuren, 2002 and Zabel, 1998).

C. Censoring

Most longitudinal datasets, including production SIPP, do not attempt to establish complete life histories for individuals not born into the sample. Therefore, we cannot determine when individuals first entered a poverty spell if they are found to be in poverty in the first month of the reference period. This limitation in the observation schedule creates challenges for determining the length of poverty spells.

Spells are left-censored when a poverty spell begins before we observe a family in survey (i.e., they are in poverty in month one or two of our reference period). Spells are right-censored when their spell continues past the reference period of the survey (i.e., they are in poverty in month 11 or 12 of the reference period). Given that both the 2009 and 2010 SIPP-EHC field tests were wave one interviews (i.e., our reference

[15] Research on poverty using longitudinal data sets such as the SIPP or Panel Study of Income Dynamics (PSID) have demonstrated that there is extensive turnover within the poverty population driven by changes in household composition and income receipt. These instances of turnover in poverty status are used to define poverty spells. (Bane & Ellwood, 1985) Researchers have used several criteria to establish the properties of poverty spells. (Bane & Ellwood, 1985; Stevens 1994)

period only includes twelve months of data), and the fact that our sample population are composed of households drawn from high poverty sampling strata, concerns associated with left-censoring will be particularly pronounced in this analysis. As shown in Table 11, of households in universe all twelve months with at least one spell of poverty, 91.5 percent of households in the 2009 SIPP-EHC were left-censored in their initial poverty spell. In the 2010 SIPP-EHC, 94.1 percent of households had a left-censored initial poverty spell.

Most research on the dynamics of poverty spells deals with this problem by discarding left-censored observations; however, there is no single generally accepted way of dealing with left-censoring. (Iceland 1997).

We include left censored spells in this analysis. Since the focus of our analysis is comparison across production SIPP and SIPP-EHC survey instruments, we do not make any attempt to measure or correct for the magnitude or direction of selectivity bias introduced through left-censoring. We assume that given our efforts to match survey populations across instruments, whatever bias is introduced through including left-censored spells is consistent across both production SIPP and SIPP-EHC instruments.

D. Hazards Analysis

Survival analysis can be used to examine the relationship between the probability of exiting a poverty spell, and the length of time an individual has been in a given poverty spell. Survival analysis, based on life table methods, estimates probability distributions across time periods leading up to a specific failure event. For this analysis, a failure event is defined as exiting an initial spell of poverty and exposure time is measured in months since entering an initial poverty spell. Individuals in poverty in months one or two of the reference period are considered to have entered an initial spell at that time.

We estimate a Cox proportional hazards regression model (Cox 1972), which specifies the hazard rate for a given subject as

$$h\ t\ = h_o\ t\ \exp\ \beta_1 x_1 + \ldots + \beta_k x_k$$

and provides estimates for the regression coefficients β_{1-k}. In the equation above, the expression $h_o(t)$ represents the baseline hazard for poverty exit for an individual, which is not estimated in the model but assumed as constant across SIPP-EHC and production SIPP instruments. The variable coefficients are interpreted as the percent of the baseline hazard faced by an individual with characteristics equal to the covariate(s) specified. (Cleves *et al.* 2004) The variables modeled in in this analysis include binary variables indicating the type of survey instrument used, individuals aged 65 and greater, individuals reporting a race other than "White alone," marital status, and the presence of a seam month.

Seam months indicator variables correspond to the first month of a reference period covered by a production SIPP wave. In the SIPP-EHC this would correspond with reference month one, although given that families can not exit a poverty spell in month one, seam months flags are only recorded for households interviewed in production SIPP.

The presence and impact of production SIPP seam effects are well known to researchers, and the fact that a disproportionate number of status transitions take place in the these months has been well documented. (Moore 2008; Moore *et al* 2009; Nielson & Gottschalck 2009; Chenevert & Ellis 2011). Seeing as the SIPP-EHC distributes seams every twelve months, as opposed to every four months in production SIPP, including a variable to capture seam effects in production SIPP may allow us to identify the impact this difference in the data collection schedule will have across survey instruments.

In addition to the sample restrictions outlined in previous sections, our analysis of hazard rates was further limited to those households who reported receiving some form of income in the twelve-month reference period, regardless of length of receipt.[16]

IV. Income

Table 4 and Table 5 report the percent of individuals receiving a given income source across all months by family type and survey instrument.[17] Families in the 2009 SIPP-EHC were less likely than families in production SIPP to report employment earnings in a given month. There were no statistical differences in reported receipt of employment earnings between the 2010 SIPP-EHC and production SIPP.

Recipiency rates for Social Security and SSI income also differed significantly across production SIPP and SIPP-EHC instruments for unrelated individuals and married-couple family types in 2009 and 2010. In both 2009 and 2010, individuals in the SIPP-EHC were less likely than respondents in production SIPP to report Social Security income and more likely to report Supplemental Security Income. Given that the 2009 and 2010 SIPP-EHC data are unedited; these differences may reflect misreporting across commonly confused income sources.

We also find significant differences between the 2009 SIPP-EHC and production SIPP in recipiency rates for Unemployment Insurance and General Assistance.[18] However, there were no significant differences in recipiency rates for these programs in the 2010 SIPP-EHC compared to production SIPP. Individuals in both the 2009 and 2010 SIPP-EHC were less likely than those in production SIPP to report monthly receipt of one or more of the income sources included in this analysis. (See Table 4 and Table 5)

As shown in Table 6 and Table 7, among families reporting income in a given month, both unrelated individuals and married-couples surveyed through the 2009 SIPP-EHC reported higher total monthly income amounts than those interviewed through production SIPP. We see a similar trend for unrelated individuals interviewed through the 2010 SIPP-EHC, although total monthly income amounts reported by married-couples are not statistically different across survey instruments in 2010.

[16] This restriction was imposed because exploratory analysis revealed that hazard rates for households that reported receiving income during the reference period were not proportional (parallel) to those households that reported no income at any point in the reference year.

[17] In this analysis, participation rates represent the percent of individuals who reported a valid income amount for a given income source. If an individual reported receiving an income source but did not specify a valid amount, that individual is not considered to be receiving that income source in a given month.

[18] Differences in General Assistance are only significant for unrelated individuals.

In 2009, differences in total monthly income are driven by higher reported SSI amounts as well as higher reported employment earnings for individuals surveyed through the 2009 SIPP-EHC. In 2010, differences in total monthly income are driven by higher SSI amounts reported through the 2010 SIPP-EHC.

V. Poverty Rates

As shown in Table 8, poverty rates in the 2009 SIPP-EHC field test averaged 12.0 percentage points higher than the 38.7 percent poverty rate reported in production SIPP across all months in the 2009 calendar year. Poverty rates for unrelated individuals were 13.1 percentage points higher in the 2009 SIPP-EHC than in production SIPP, and poverty rates for individuals in married-couple households were 10.9 percentage points higher in the 2009 SIPP-EHC than in production SIPP.

Poverty rates in the 2010 SIPP-EHC field test averaged 7.4 percentage points higher than the 39.0 percent poverty rate reported in production SIPP. Poverty rates for unrelated individuals were 8.5 percentage points higher in the SIPP-EHC than in production SIPP. The poverty rate for individuals in married-couple families was 26.2 percent in production SIPP for calendar year 2010, and there was no significant difference in poverty rates for individuals interviewed through the 2010 SIPP-EHC.

Table 8 reports average poverty rates by demographic characteristics across surveys. Poverty rates for individuals aged 15 to 64 as well as individuals aged 65 and over were higher in the 2009 and 2010 SIPP-EHC than in production SIPP. Higher poverty rates for Hispanics and non-Hispanics were reported in the 2009 SIPP-EHC field tests compared to production SIPP. In 2010, poverty rates for Non-Hispanics were higher in the 2010 SIPP-EHC than in production SIPP, although there was no significant difference in poverty rates for Hispanics across survey types. Although the 2009 SIPP-EHC reported higher poverty rates than production SIPP across all race categories, poverty rates for Asian alone, or other race groups did not differ significantly between the 2010 SIPP-EHC and production SIPP.[19]

Figure 1 reports average poverty rates in 2009 by month and family type.[20] When looking at unrelated individuals, the 2009 SIPP-EHC reported higher poverty rates than production SIPP in every reference month. For married-couples, poverty rates in the 2009 SIPP-EHC are higher than production SIPP in every month except August, where there is no statistical difference in poverty rates across surveys. (See Table 9)

[19] Federal surveys now give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). The Census Bureau uses a variety of approaches. The categories used here do not imply that is the preferred method of presenting or analyzing data.

[20] For the purpose of this analysis, unrelated individuals are considered to be families composed of a single individual. Traditionally, the Census Bureau considers unrelated individuals a non-family type.

Figure 1. Poverty Rates by Month, 2009 [21]

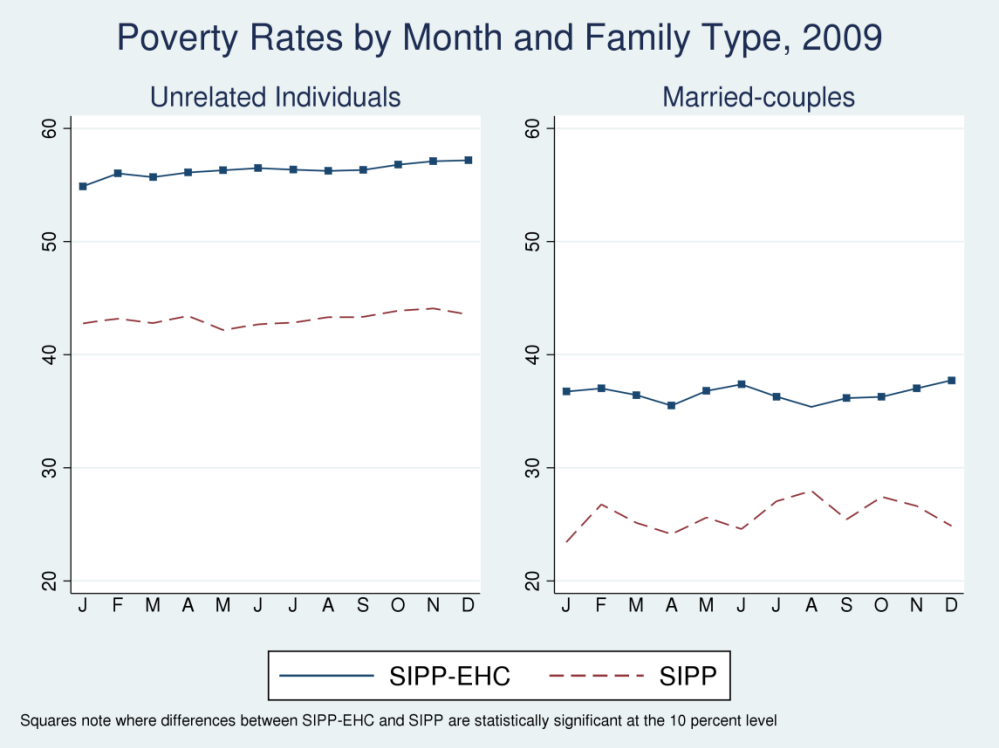
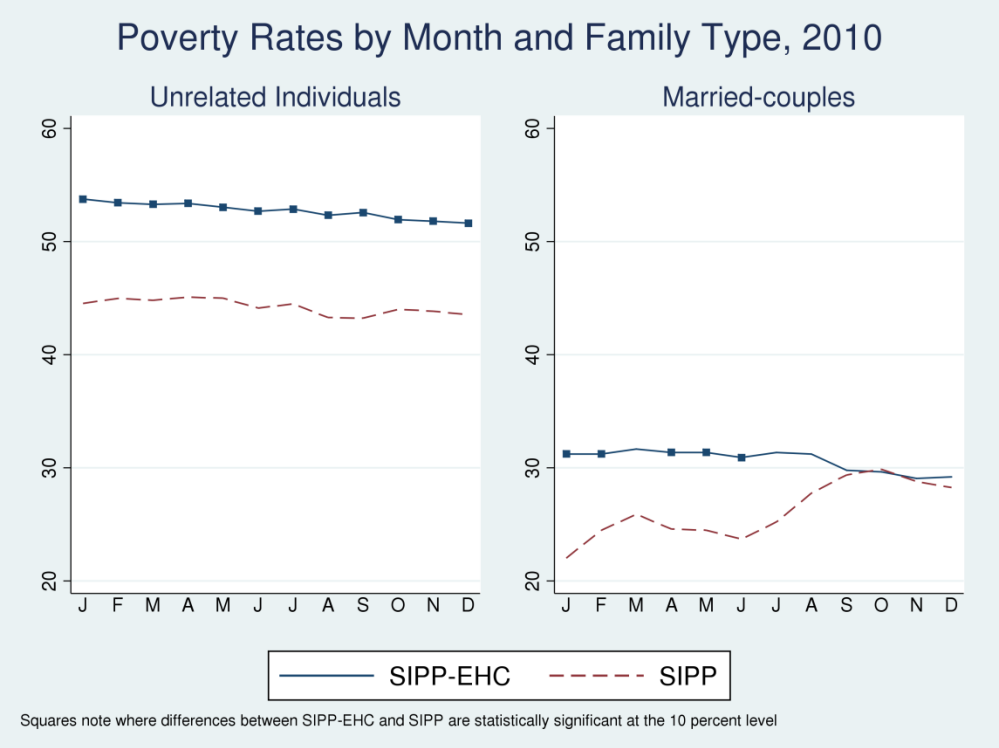


Figure 2 below reports poverty rates in 2010 by month and family type.[20] For unrelated individuals, the 2010 SIPP-EHC reported higher poverty rates than production SIPP in every reference month. However, we see a different trend for married-couples. Poverty rates in the 2010 SIPP-EHC are higher than production SIPP in early calendar months, but from July to December of 2010 there is no statistical difference in the poverty rate of married-couples across survey instruments.[22] (See Table 10)

[21] For detailed tables see Table 9.
[22] There is also no statistical difference across survey instruments for married-couples in March, 2011.

Figure 2. Poverty Rates by Month, 2010 [23]



As suggested by the SIPP-EHC Data Evaluation Workgroup (2011), with the extended recall period in the SIPP-EHC (twelve months compared to four in production SIPP) respondents may have difficulty remembering events that happened early in the calendar year. The potential for respondent "memory decay" suggests that poverty rates are more likely to differ from production SIPP rates in earlier calendar months but would converge with production SIPP rates in months closer to the interview month. As seen in Figure 1 and Figure 2, although there was no apparent convergence in rates between the surveys in the 2009 calendar year, there may be evidence of convergence for married-couple families in 2010. (See Table 9 and Table 10)

The SIPP-EHC poverty rates calculated in this analysis may be biased upward due to the disproportionate exclusion of individuals and families with invalid or out of range employment earnings compared to the SIPP Panel. Therefore, an analysis of poverty spell characteristics may help to evaluate differences across the SIPP-EHC and production SIPP.

VI. Number and Length of Poverty Spells

Of individuals in sample all twelve months, no respondent reported more than two poverty spells within a twelve-month reference period across SIPP-EHC or production SIPP instruments in calendar years 2009 and 2010. When comparing the average number of spells experienced in a twelve month reference period,

[23] For detailed tables see Table 10.

both the 2009 and 2010 SIPP-EHC were more likely to capture poverty spells among unrelated individuals than production SIPP. Among married-couples, there were no statistical differences in the number of poverty spells captured across production SIPP and SIPP-EHC surveys for either calendar year 2009 or 2010. (See Table 12)

Examining characteristics of initial poverty spells, we find that households interviewed in the 2009 SIPP-EHC were more likely to report longer initial spells of poverty than those interviewed in production SIPP regardless of family type or income receipt. In 2010, unrelated individuals and married-couples interviewed in the 2010 SIPP-EHC reported longer poverty spells than those interviewed in production SIPP. However, unrelated individuals who reported income in the reference year had no significant differences in initial spell length across surveys. (See Table 12and Table 13) These findings are consistent with the higher monthly poverty rates observed in the 2009 and 2010 SIPP-EHC.

VII. Exiting a Poverty Spell

In evaluating the conditional probability of exiting an initial spell of poverty across SIPP-EHC and production SIPP instruments, we used Cox proportional hazards models to run a series of nested models. This included: 1) a baseline model which includes a single coefficient for survey instrument, 2) a model that includes indicator variables for demographic characteristics including age, race, and marital status, 3) a model that that incorporates a time-varying indicator variable on seam months, 4) a model that includes seam, and selected demographic and interaction effects, and 5) a preferred model that includes selected demographic variables and seam effects.

Table 14 and Table 15 report variable coefficients of β_{1-k} across various model specifications for the 2009 and 2010 calendar years. The variable coefficients in the models presented here are interpreted as the ratio of the of the baseline hazard faced by an individual with characteristics equal to the covariate(s) specified.[24] If the coefficient on a variable is less than 1, individuals with characteristics corresponding to that variable are less likely to exit poverty than individuals not matching that characteristic.

As shown in Table 14 which reports output for calendar year 2009, taking into account the survey instrument alone (model 1), we find that households surveyed in the 2009 SIPP-EHC were .621 times as likely to exit an initial spell of poverty compared to households interviewed in production SIPP. [25] Similarly, the hazard rate for respondents in the 2009 SIPP-EHC remains less than one after including measures of demographic characteristics in model 2. However, incorporating a time-varying indicator variable representing seam months had a large impact on the estimates of our survey instrument coefficient (models 3-5). In model 3 through 5, after adjusting for the increased likelihood of households to exit poverty in production SIPP seam months, 2009 SIPP-EHC respondents were more likely to exit a poverty spell than those interviewed in production SIPP.

In terms of demographic characteristics, our results for calendar year 2009 suggest that families where the reference person is aged 65 or older are less likely to exit an initial spell of poverty compared to those

[24] All covariates in this analysis are binary.
[25] Conditional on the duration of poverty spell

headed by someone age 15 to 64. Interactions in model 4 indicate that this result may be due to the decreased likelihood of elderly-headed households in the 2009 SIPP-EHC to exit poverty compared to elderly-headed households in production SIPP. We also find that married-couple families are more likely than unrelated individuals to exit an initial spell of poverty. A dummy variable for families where the householder reported a race other than "White Alone" was not significant in any of the models reported for calendar year 2009.[26] Additionally, interactions between survey instrument and marital status, as well as minority status, were not significant and are not reported in Table 14.

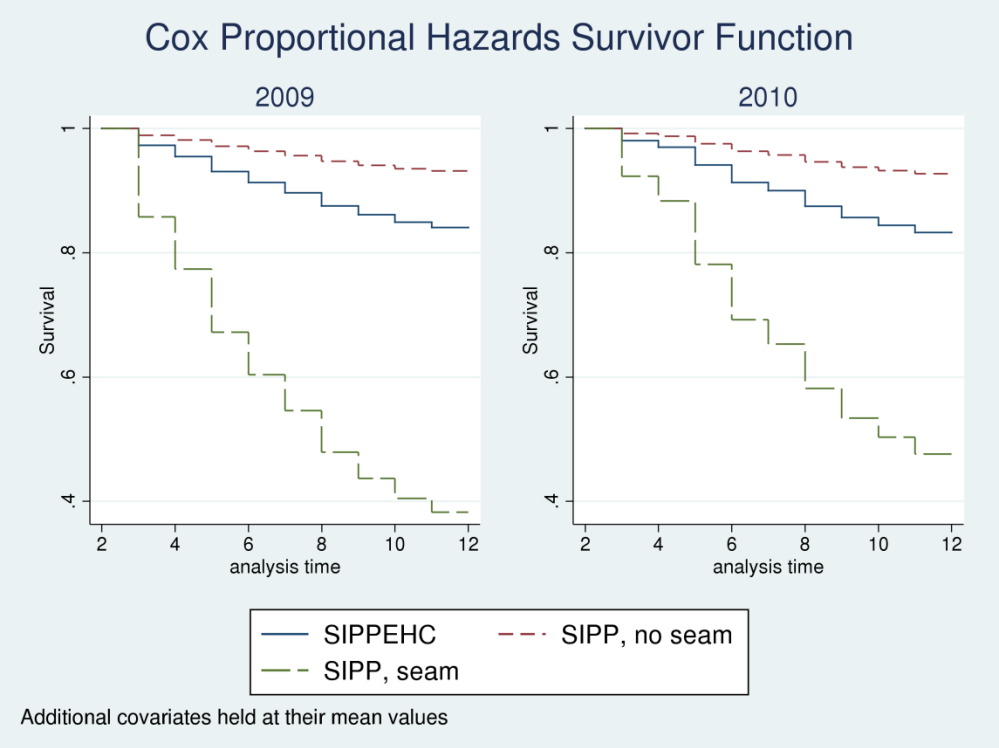
Table 15 reports output for calendar year 2010. As shown in model 1, when accounting for differences in survey instrument alone, the hazard rate between the 2010 SIPP-EHC and production SIPP are not statistically different. After including demographic characteristics (model 2) families in the 2010 SIPP-EHC are shown to be .757 times as likely to exit an initial spell of poverty as families interviewed in production SIPP. As in the models for calendar year 2009, including a time-varying indicator variable for seam months has a large impact on the estimates of our survey instrument coefficient. As shown in models 3 through 5, after adjusting for the increased likelihood of households to exit poverty on production SIPP seam months, 2010 SIPP-EHC respondents were more likely than those interviewed in production SIPP to exit a poverty spell.

Similarly to 2009, individuals in families with householders aged 65 or older were less likely to exit an initial spell of poverty in 2010 compared to those in households headed by someone aged 15 to 64. Also similarly to 2009, interactions in model 4 indicate this result may be due to the decreased likelihood of elderly-headed households in the 2010 SIPP-EHC to exit poverty compared to elderly-headed households in production SIPP. Married-couple families were also more likely than unrelated individuals to exit an initial spell of poverty and interactions of marital status and survey instrument were not significant. A dummy variable for families where the householder reported a race other than "White Alone" remained insignificant in each of the models reported for calendar year 2010.[26] Additionally, interactions between survey instrument and marital status, as well as minority status, were not significant and are not reported in Table 15.

Survivor rates are estimated from the preferred proportional hazards regression model shown in column 5 from Table 14 and Table 15. In this analysis, survivorship is defined as individuals remaining in an initial poverty spell from one month to the next. In Figure 3 we see that $S\ t$ is equal to 1 from month 1 to 3. This is because given our two month exit criteria for defining a poverty spell, no one in our sample is exposed to the risk of exiting a poverty spell until month three. Additionally, the survivor function flat-lines from month 11 to 12, since, given our defined exit criteria, the last time a household is exposed to the risk of exiting a poverty spell is in month 11.

[26] Federal surveys now give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). The Census Bureau uses a variety of approaches. The categories used here do not imply that is the preferred method of presenting or analyzing data.

Figure 3. Survival rates modeled across survey instruments



As shown in Table 14 and Table 15 and illustrated in Figure 3 above, when holding demographic indicator variables at their mean values, the inclusion of the indicator variable for production SIPP seam months significantly impacts the comparison of survival functions across the 2009 and 2010 SIPP-EHC and SIPP instruments over time. [27] Controlling for the significant impact of seam months in the SIPP survey (long dash in green), households in the 2009 and 2010 SIPP-EHC (solid in blue) are more likely to exit an initial spell of poverty than households in the SIPP (short dash in red).

VIII. Discussion

This analysis compared poverty rates and exits from poverty spells across calendar years 2009 and 2010 from SIPP-EHC and production SIPP survey instruments in order to isolate differences in poverty rates and poverty spells attributable to survey instrument assignment as opposed to sample design or variable construction. Comparisons across SIPP-EHC and production SIPP instruments are critical for better understanding the potential impact of the SIPP redesign and identifying sources of data discrepancies across instruments, however, there is no single "best" value that is purported to be captured by either survey.

Additionally, although we have strived to maintain consistency across survey instruments in terms of sample design and variable construction, there are potential differences between the SIPP and SIPP-EHC

[27] Demographic covariates include a dummy variable for 65+, Non-white, and Married as shown in column 8 of Tables 1 and 2.

population that may not be accounted for in this analysis. Differences in samples' composition as well as the opportunity for attrition in production SIPP Panel may introduce selection bias into our analysis. Poverty rates in the 2009 and 2010 SIPP-EHC are also likely affected by methodological complications unique to this analysis, including the exclusion of individuals with invalid earnings or out of range employment responses from the analytic sample.

We expect that poverty rates in both the SIPP-EHC and production SIPP will reflect our sample design which draws exclusively from the high poverty strata. Further, because our measure of monthly family income is based on a subset of the income source variables available in the SIPP, we expect poverty rates in this analysis to be upwardly biased. Given these limitations, the poverty rates presented here are not intended to be representative of the national population. In addition, we expect that differences in the prevalence of excluded out of range employment responses between the SIPP-EHC and production SIPP surveys may also distort the calculation of poverty rates in the SIPP-EHC.[28]

In comparing monthly poverty rates and number of poverty spells across surveys in 2009 and 2010, the higher monthly poverty rates and greater number of spells observed in the SIPP-EHC for both years could be due to a number of factors. As previously discussed, the 2009 SIPP-EHC was less likely than production SIPP to capture monthly employment earnings, Social Security income, and Unemployment Insurance while the 2010 SIPP-EHC was less likely than production SIPP to capture monthly Social Security income. Additionally, both the 2009 and 2010 SIPP-EHC field tests indicate interaction effects between householder age and survey instrument, suggesting that families with a householder aged 65 or older were less likely to exit a spell of poverty in the SIPP-EHC than similar families in production SIPP.

Differences in reported hazard ratios for the 2009 SIPP-EHC further indicate that households interviewed through the SIPP-EHC were less likely to exit an initial poverty spell than families interviewed through production SIPP. We find that including a variable for seam month is highly significant in these models and indicates that household's likelihood to exit a poverty spell is greatly increased in months identified as seams. Spreading out these seams to occur every twelve months in the SIPP-EHC as opposed to every four months in production SIPP reduced reported transitions in poverty status for calendar year 2009, as SIPP-EHC respondents were only .621 times as likely to report an exit from poverty than those respondents interviewed in production SIPP.[29] However, findings from the 2010 SIPP-EHC field test suggest that while the presence of seam months continues to play a large role in explaining exit probabilities, there was no significant difference in the hazard rates faces by families in the SIPP-EHC compared to production SIPP.

IX. Future Research

In the absence of administrative records, this analysis does not attempt to evaluate whether the SIPP-EHC provides better or worse estimates than production SIPP. This analysis is only intended to provide a

[28] For the purpose of this analysis, unrelated individuals are considered to be families composed of a single individual. Traditionally, the Census Bureau considers unrelated individuals a non-family type.

[29] Conditional on the duration of poverty spell

preliminary understanding of where differences across surveys may arise, and to what extent poverty rates and spell characteristics diverge across instruments. We are currently in the process of using administrative records available through the IRS-Form-W2 to compare the number of jobs held as well as the value of annual employment earnings across survey instruments for the calendar years included in this study. Utilizing administrative records will allow us to begin addressing these issues of data quality as it relates to the reporting of employment earnings across survey instruments. Researchers at the Census Bureau are continuing to procure administrative records for this purpose, and a discussion of that research has been presented at the 2012 Federal Committee on Statistical Methodology (FCSM) meetings in Washington, D.C.[30]

These measures of data quality, available through administrative records matching, is particularly valuable in distinguishing between legitimate and spurious seam transitions in production SIPP when comparing to transitions in SIPP-EHC. Currently, we are unable to quantify the impact seams will have in the SIPP-EHC since both the 2009 and 2010 SIPP-EHC were wave one instruments. The Census Bureau is currently preparing to conduct a wave two SIPP-EHC field test, which will allow us to further model interaction effects between survey instrument and seam months and in relation to poverty transitions.

In addition to the research outline above, we also plan to continue to add additional income sources and family types to our analysis of poverty in the 2009 and 2010 SIPP-EHC.

[30] See Gathright G, Skog J, and Stinson S. "Evaluating Job Data in the Redesigned SIPP Using Administrative Records."

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Appendix

Table 1. Sample composition across surveys in family months, 2009 and 2010

	2009				2010			
	SIPP		SIPP-EHC		SIPP		SIPP-EHC	
	%	#	%	#	%	#	%	#
Family status								
Undetermined	79.1%	61,354	77.2%	134,678	78.5%	96,848	74.1%	61,556
Unrelated individual 15+	15.5%	12,039	16.4%	28,704	15.3%	18,860	18.2%	15,156
Married-couple[1]	5.4%	4,212	6.4%	11,136	6.2%	7,690	7.7%	6,384
Family months		16,251		39,840		26,550		21,540
Employment earnings								
Out of range earnings	0.6%	105	7.3%	2,919	0.5%	128	4.4%	947
Missing or allocated	3.7%	601	10.7%	4,243	3.6%	963	8.5%	1,840
Reported earnings	41.1%	6,685	30.2%	12,037	40.9%	10,847	35.4%	7,630
No earnings	54.5%	8,860	51.8%	20,641	55.0%	14,612	51.6%	11,123
Family months with valid employment earnings		15,545		32,678		25,459		18,753

Unweighted

Percents are calculated at the person-month level

[1] To remain in sample, couples must have data for both spouses in a given month.

Table 2. Regression results of survey type on percent of out of range employment responses, 2009 and 2010

	2009			2010		
	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)
Out of range	21,742	0.0123	0.183***	19,150	0.0123	0.0544***
		(0.00340)	(0.0134)		(0.00307)	(0.0123)

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 3. Demographic composition of sample across survey instruments, 2009 and 2010

	2009				2010			
	SIPP		SIPP-EHC		SIPP		SIPP-EHC	
	%	#	%	#	%	#	%	#
Family Type								
Unrelated Individual	74.7%	11,619	71.2%	23,282	71.5%	18,199	71.5%	13,417
Married-couple	25.3%	3,926	28.8%	9,396	28.5%	7,260	28.5%	5,336
Race								
White alone[1]	49.9%	7,751	52.1%	17,033	52.1%	13,262	54.8%	10,274
Black alone[2]	24.6%	3,827	21.6%	7,059	27.5%	7,012	25.3%	4,746
Asian alone[3]	5.6%	870	8.1%	2,662	4.5%	1,141	6.2%	1,164
Other alone or combination[4]	19.9%	3,097	17.7%	5,798	15.9%	4,040	13.4%	2,521
Missing	-	-	0.4%	126	0.0%	4	0.3%	48
Hispanic origin								
Hispanic	27.8%	4,315	30.2%	9,876	22.2%	5,652	25.9%	4,860
Non-Hispanic	72.2%	11,230	69.5%	22,718	77.8%	19,803	74.0%	13,881
Missing	-	-	0.3%	84	0.0%	4	0.1%	12
Age								
15-64	67.9%	10,550	70.0%	22,879	65.8%	16,757	72.2%	13,546
65+	32.1%	4,995	30.0%	9,799	34.2%	8,702	27.8%	5,207

Unweighted
Percents are calculated at the person-month level
[1] White Alone refers to people who reported White and did not report any other race.
[2] Black Alone refers to people who reported Black and did not report any other race.
[3] Asian Alone refers to people who reported Asian and did not report any other race.
[4] Federal surveys now give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). The Census Bureau uses a variety of approaches. The categories used here do not imply that is the preferred method of presenting or analyzing data.

Table 4. Regression results of survey type on percentage of individuals receiving income sources by family type across survey instruments, 2009

	2009			
	Unrelated Individuals		Married-couples	
	SIPP (B_0)	SIPP-EHC[1] (B_1)	SIPP (B_0)	SIPP-EHC[1] (B_1)
Any Income Source	0.792	-0.157***	0.89	-0.130***
	(0.0128)	(0.0173)	(0.0225)	(0.0309)
Employment	0.423	-0.0845***	0.566	-0.101**
	(0.0178)	(0.0206)	(0.0389)	(0.0461)
OASDI	0.316	-0.101***	0.378	-0.0732*
	(0.0169)	(0.0189)	(0.0368)	(0.0433)
SSI	0.0549	0.0769***	0.0515	0.0919***
	(0.00561)	(0.00957)	(0.0130)	(0.0219)
Unemployment Insurance	0.0278	-0.0134**	0.0465	-0.0350**
	(0.00494)	(0.00546)	(0.0134)	(0.0141)
TANF	0.00833	-0.00367	0.00785	-0.00437
	(0.00326)	(0.00360)	(0.00567)	(0.00620)
GA	0.00357	0.00639**	0	0.00658
	(0.00149)	(0.00269)	(0)	(0)
Worker's Compensation	0.00324	-0.000637	0.000546	-0.000546
	(0.00154)	(0.00190)	(0.000545)	(0.000545)

Number of observations are constant across income sources
n=34,901 for Unrelated Individuals, *n*=13,322 for Married-couples
Percents are calculated at the person-month level
Standard errors in parentheses
*** p<0.01, ** p <0.05, * p<0.1
[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 5. Regression results of survey type on percentage of individuals receiving income sources by family type across survey instruments, 2010

	2010			
	Unrelated Individuals		Married-couples	
	SIPP (B_0)	SIPP-EHC[1] (B_1)	SIPP (B_0)	SIPP-EHC[1] (B_1)
Any Income Source	0.782	-0.120***	0.875	-0.0623**
	(0.00956)	(0.0174)	(0.0153)	(0.0295)
Employment	0.392	-0.0179	0.512	-0.0227
	(0.0123)	(0.0189)	(0.0277)	(0.0427)
OASDI	0.354	-0.135***	0.444	-0.121***
	(0.0128)	(0.0181)	(0.0268)	(0.0409)
SSI	0.0324	0.0662***	0.0191	0.0963***
	(0.00322)	(0.00974)	(0.00521)	(0.0218)
Unemployment Insurance	0.0256	0.00374	0.0475	0.00794
	(0.00326)	(0.00555)	(0.0108)	(0.0176)
TANF	0.00737	-0.00193	0.00507	-0.00507
	(0.00196)	(0.00293)	(0.00436)	(0.00436)
GA	0.00387	0.000157	0	0
	(0.00141)	(0.00256)	(0)	(0)
Worker's Compensation	0.0039	-0.00263	0.00453	-0.00153
	(0.00136)	(0.00165)	(0.00265)	(0.00335)

Number of observations are constant across income sources
n = 31,616 for Unrelated Individuals
n = 12,596 for Married-couples
Percent's are calculated at the person-month level
Standard errors in parentheses
*** p<0.01, ** p <0.05, * p<0.1
[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 6. Regression results of survey type on mean monthly income amounts by source across survey instruments, 2009

	2009					
	Unrelated Individuals			Married-couples		
	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)
Total Income	24,108	1,935	552.4***	10,620	3,031	994.1***
		(68.40)	(118.7)		(200.5)	(319.5)
Employment	12,414	2,765	983.1***	6,308	3,655	1,654***
		(105.2)	(196.0)		(275.3)	(450.6)
OASDI	9,121	948.8	-43.19	4,606	1,449	-53.94
		(22.42)	(29.43)		(79.79)	(104.2)
SSI	3,870	562.3	166.5***	1,582	503.4	551.4***
		(32.63)	(40.22)		(83.52)	(115.8)
Unemployment Insurance	623	932.5	57.58	286	1,101	-369.2
		(91.98)	(123.4)		(211.3)	(254.8)
TANF	202	255	208.6	68	120.8	320.6
		(49.75)	(134.1)		(49.73)	(301.1)
GA	270	281.6	-55.17	54	299.7	-
		(59.95)	(71.80)		(263.3)	-
Worker's Compensation	105	881.6	-240.4	2	2,960	-
		(249.0)	(291.9)		(0)	-

Amounts are reported of individuals who received the income source in a given month
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 7. Regression results of survey type on mean monthly income amounts by source across survey instruments, 2010

	2010					
	Unrelated Individuals			Married-couples		
	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)
Total Income	23,107	1,932 (50.28)	216.7** (103.2)	10,704	3,351 (213.7)	80.37 (307.4)
Employment	12,169	2,865 (79.49)	54.66 (151.0)	6,308	4,217 (327.6)	81.85 (453.7)
OASDI	9,417	959 (16.87)	91.82 (121.6)	5,046	1,556 (63.76)	6.827 (102.9)
SSI	1,905	555.9 (26.98)	157.1*** (41.66)	754	584.6 (113.5)	437.9** (168.2)
Unemployment Insurance	846	927 (78.40)	-17.18 (116.4)	642	1,061 (123.3)	-89.68 (172.7)
TANF	211	208.3 (29.37)	12.58 (58.63)	32	77.17 (3.101)	- -
GA	117	157.2 (26.53)	23.69 (41.86)	-	-	-
Worker's Compensation	97	1,119 (190.6)	-533.6 (428.4)	56	4,140 (3,965)	-1,856 (3,982)

Amounts are reported of individuals who received the income source in a given month
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 8. Regression results of survey type on average monthly poverty rates by demographic characteristics, 2009 and 2010

	Observations	2009 SIPP (B_0)	SIPP-EHC[1] (B_1)	Observations	2010 SIPP (B_0)	SIPP-EHC[1] (B_1)
All People	48,223	0.387	0.120***	44,212	0.39	0.0740***
		(0.0150)	(0.0184)		(0.0111)	(0.0181)
Unrelated Individual	34,901	0.432	0.131***	31,616	0.443	0.0846***
		(0.0164)	(0.0198)		(0.0121)	(0.0193)
Married-couple	13,322	0.257	0.109***	12,596	0.262	0.0449
		(0.0320)	(0.0395)		(0.0227)	(0.0377)
Ages 15-64	33,429	0.386	0.113***	30,303	0.383	0.0773***
		(0.0182)	(0.0222)		(0.0133)	(0.0212)
Ages 65+	14,794	0.39	0.136***	13,909	0.404	0.0703**
		(0.0260)	(0.0331)		(0.0197)	(0.0340)
Non-Hispanic	33,948	0.39	0.119***	33,684	0.386	0.0813***
		(0.0166)	(0.0211)		(0.0125)	(0.0206)
Hispanic	14,191	0.382	0.116***	10,512	0.403	0.0532
		(0.0289)	(0.0350)		(0.0236)	(0.0367)
White Alone[2]	24,784	0.336	0.132***	23,536	0.346	0.0678***
		(0.0196)	(0.0251)		(0.0144)	(0.0241)
Black Alone[3]	10,886	0.447	0.0889**	11,758	0.432	0.106***
		(0.0286)	(0.0356)		(0.0213)	(0.0341)
Asian Alone[4]	3,532	0.401	0.196**	2,305	0.469	0.0728
		(0.0683)	(0.0796)		(0.0587)	(0.0856)
Other Races Alone or in Combination[5]	8,895	0.436	0.0913**	6,561	0.434	0.0590
		(0.0363)	(0.0439)		(0.0292)	(0.0480)

Standard errors in parentheses

*** p<0.01, ** p <0.05, * p<0.1

[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

[2] White Alone refers to people who reported White and did not report any other race.

[3] Black Alone refers to people who reported Black and did not report any other race.

[4] Asian Alone refers to people who reported Asian and did not report any other race.

[5] Federal surveys now give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). The Census Bureau uses a variety of approaches. The categories used here do not imply that is the preferred method of presenting or analyzing data.

Table 9. Regression results of survey type on poverty rates by month and family type, 2009

	2009					
	Unrelated Individuals			Married-couples		
	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)
January	2,970	0.428	0.121***	1,150	0.234	0.133***
		(0.0173)	(0.0207)		(0.0336)	(0.0410)
February	2,962	0.432	0.128***	1,152	0.268	0.103**
		(0.0180)	(0.0212)		(0.0356)	(0.0427)
March	2,944	0.428	0.129***	1,138	0.252	0.113***
		(0.0181)	(0.0214)		(0.0352)	(0.0424)
April	2,918	0.434	0.127***	1,128	0.241	0.114***
		(0.0183)	(0.0215)		(0.0353)	(0.0426)
May	2,932	0.422	0.141***	1,122	0.256	0.112**
		(0.0183)	(0.0216)		(0.0367)	(0.0439)
June	2,917	0.427	0.138***	1,110	0.246	0.128***
		(0.0182)	(0.0217)		(0.0367)	(0.0440)
July	2,899	0.428	0.135***	1,100	0.27	0.0925**
		(0.0185)	(0.0220)		(0.0389)	(0.0460)
August	2,867	0.433	0.129***	1,092	0.28	0.0743
		(0.0186)	(0.0221)		(0.0396)	(0.0465)
September	2,868	0.433	0.130***	1,074	0.254	0.107**
		(0.0186)	(0.0221)		(0.0391)	(0.0460)
October	2,865	0.439	0.129***	1,078	0.274	0.0883*
		(0.0189)	(0.0223)		(0.0405)	(0.0473)
November	2,877	0.441	0.130***	1,088	0.266	0.104**
		(0.0187)	(0.0223)		(0.0397)	(0.0466)
December	2,882	0.435	0.137***	1,090	0.249	0.129***
		(0.0190)	(0.0225)		(0.0389)	(0.0460)

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 10. Regression results of survey type on poverty rates by month and family type, 2010

	2010					
	Unrelated Individuals			Married-couples		
	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)
January	2,747	0.445	0.0920***	1,086	0.22	0.0919**
		(0.0132)	(0.0206)		(0.0240)	(0.0394)
February	2,725	0.45	0.0846***	1,078	0.245	0.0673*
		(0.0132)	(0.0206)		(0.0253)	(0.0401)
March	2,695	0.448	0.0849***	1,070	0.259	0.0577
		(0.0133)	(0.0206)		(0.0259)	(0.0406)
April	2,676	0.451	0.0830***	1,044	0.246	0.0676*
		(0.0133)	(0.0206)		(0.0259)	(0.0405)
May	2,663	0.45	0.0803***	1,050	0.245	0.0687*
		(0.0135)	(0.0207)		(0.0259)	(0.0406)
June	2,643	0.441	0.0856***	1,032	0.237	0.0720*
		(0.0135)	(0.0207)		(0.0260)	(0.0405)
July	2,618	0.445	0.0838***	1,034	0.252	0.0614
		(0.0135)	(0.0208)		(0.0263)	(0.0409)
August	2,593	0.433	0.0903***	1,040	0.278	0.0346
		(0.0137)	(0.0209)		(0.0271)	(0.0413)
September	2,587	0.432	0.0932***	1,042	0.294	0.00394
		(0.0138)	(0.0209)		(0.0279)	(0.0414)
October	2,552	0.44	0.0792***	1,050	0.299	-0.00233
		(0.0140)	(0.0210)		(0.0279)	(0.0412)
November	2,557	0.438	0.0796***	1,042	0.288	0.00278
		(0.0138)	(0.0209)		(0.0278)	(0.0410)
December	2,560	0.435	0.0808***	1,028	0.283	0.00949
		(0.0138)	(0.0208)		(0.0279)	(0.0411)

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 11. Distribution of poverty spells across survey instruments, 2009 and 2010

	2009				2010			
	SIPP		SIPP-EHC		SIPP		SIPP-EHC	
	%	#	%	#	%	#	%	#
Number of individuals		1,558		2,807		2,522		1,598
In survey all 12 months	61.9%	965	93.4%	2,622	65.2%	1,645	95.2%	1,522
No spells	52.0%	502	45.6%	1,195	55.6%	915	50.3%	765
One spell	45.2%	436	53.6%	1,406	43.0%	708	48.7%	41
Two spells	2.8%	27	0.8%	21	1.3%	22	1.05%	16
First spell								
In poverty all 12 months	64.1%	297	84.2%	1,202	71.1%	519	85.7%	649
Left censored	15.8%	73	7.3%	104	14.2%	104	8.3%	63
Right censored	13.2%	61	7.1%	102	10.3%	75	4.1%	31
Not censored	6.9%	32	1.3%	19	4.4%	32	1.8%	14
Had income in reference year	79.5%	368	49.1%	700	76.8%	561	50.1%	379

Unweighted

Table 12. Regression results of survey type on mean number and length of poverty spells across survey instruments, 2009

	2009					
	Unrelated Individuals			Married-couples		
	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)
Average number of spells	2609	0.523	0.0883***	978	0.408	0.00658
		(0.0236)	(0.0267)		(0.0571)	(0.0631)
Length of first spell (months)	1,490	9.921	1.090***	400	7.976	2.733***
		(0.203)	(0.217)		(0.694)	(0.733)
Length of first spell where income reported in reference year (months)	840	9.278	0.694**	228	7.294	1.978**
		(0.251)	(0.290)		(0.734)	(0.854)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 13. Regression results of survey type on mean number and length of poverty spells across survey instruments, 2010

	2010					
	Unrelated Individuals			Married-couples		
	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)	Observations	SIPP (B_0)	SIPP-EHC[1] (B_1)
Average number of spells	2269	0.503	0.0756***	898	0.357	-0.0252
		(0.0163)	(0.0233)		(0.0358)	(0.0484)
Length of first spell (months)	1,191	10.35	0.677***	296	8.510	2.771***
		(0.135)	(0.168)		(0.470)	(0.528)
Length of first spell where income reported in reference year (months)	736	9.807	0.239	204	7.918	2.704***
		(0.171)	(0.250)		(0.514)	(0.673)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
[1] Coefficients on B_1 are interpreted as the impact of SIPP-EHC=1 on the mean values reported in production SIPP (B_0)

Table 14. Proportional Hazard Models (2009)

	2009				
VARIABLES	(1)	(2)	(3)	(4)	(5)
SIPP-EHC	0.621***	0.600***	2.524***	3.292***	2.442***
	(0.000463)	(0.000112)	(0.00470)	(0.000678)	(0.00578)
Seam			13.40***	13.51***	13.50***
			(0)	(0)	(0)
Age 65+		0.601***		0.873	0.605***
		(0.00156)		(0.493)	(0.00173)
Non-white[1]		0.876			0.877
		(0.348)			(0.350)
Married		1.494**		1.534**	1.543**
		(0.0212)		(0.0193)	(0.0168)
SIPP-EHC*Age				0.224***	
				(0.000655)	
Wald Chi-square	12.26***	30.93***	146.94***	152.00***	189.85***
df	1	4	2	5	5
Observations	11,748	11,737	11,748	11,748	11,737

Note: Values in parentheses report robust pvalues.
*** p<0.01, ** p<0.05, * p<0.1
[1] Reported some other race than White alone.

Table 15. Proportional Hazard Models (2010)

	2010				
VARIABLES	(1)	(2)	(3)	(4)	(5)
SIPP-EHC	0.822	0.757**	2.619***	2.895***	2.412***
	(0.168)	(0.0427)	(2.01e-05)	(1.47e-05)	(0.000103)
Seam			9.759***	9.775***	9.766***
			(0)	(0)	(0)
Age 65+		0.461***		0.551***	0.460***
		(9.35e-06)		(0.00209)	(7.77e-06)
Non-white[1]		0.822			0.825
		(0.164)			(0.174)
Married		1.513**		1.574***	1.514**
		(0.0182)		(0.00937)	(0.0185)
SIPP-EHC*Age				0.316*	
				(0.0517)	
Wald Chi-square	1.91	35.69***	122.50***	171.72***	203.93***
df	1	4	2	5	5
Observations	10,340	10,340	10,340	10,340	10,340

Note: Values in parentheses report robust pvalues.
*** p<0.01, ** p<0.05, * p<0.1
[1] Reported some other race than White alone.