

Using W2 Administrative Records to Compare Performance Across the SIPP and SIPP-EHC:
An Analysis of Income and Poverty

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Abstract

In order to reduce costs and improve data quality in the Survey of Income and Program Participation (SIPP), the Census Bureau has reengineered the survey by implementing a longer retrospective reference period (one year instead of four months) and has adopted an event history calendar (EHC) to facilitate respondent recall over the longer reference period.

This analysis compares the performance of 2010 and 2011 SIPP-EHC field tests to the 2008 SIPP panel (referred to as “production SIPP”), using administrative IRS-Form-W2 records as controls for the referenced calendar years (CY) 2009 and 2010. Specifically, this paper evaluates differences between W2 records and survey responses of the number of jobs held and annual employment earnings across survey instruments. The paper also compares differences across survey instruments in annual poverty rates when W2 earnings records are substituted for reported earnings.

We find that in both CY2009 and CY2010 the SIPP-EHC captured fewer jobs relative to W2 reports than the 2008 SIPP panel, but captured more employment income relative to W2 reports than the 2008 SIPP panel. However, there are concerns that the CY2009 SIPP-EHC may have over estimated income when compared to W2 records.

In calculating annual poverty rates for CY2009, higher income amounts reported in the SIPP-EHC compensated for the reduced capture of jobs, resulting in poverty rates that were lower than those calculated using W2 earnings data. In CY2010, poverty rates in the SIPP-EHC were higher than poverty rates calculated when W2 data was substituted for earnings. However, the differences between estimates of poverty rates using survey reported earnings versus W2 earnings were statistically equivalent when comparing CY2010 production SIPP to the SIPP-EHC.

Based on this initial research, additional instrument or interview changes to the SIPP-EHC to probe for jobs spells should be explored; with this need to improve job capture in the SIPP-EHC particularly pronounced among individuals aged 15 to 24, Black and Other Race individuals, and individuals of Hispanic origin.

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.

Background

The Survey of Income and Program Participation (SIPP) is a nationally representative longitudinal household survey conducted by the U.S. Census Bureau. The SIPP interviews sampled households at four-month intervals, collecting monthly data on household income, program participation, and family composition – allowing researchers to evaluate monthly demographic, social, and economic changes over the course of a SIPP reference period, typically two to four years.

Recently, in an effort to reduce costs and improve data quality as mandated by a 2006 Congressional directive, the Census Bureau has reengineered the SIPP survey by implementing a longer retrospective reference period (one year instead of four months) and has adopted instrument changes such as an event history calendar (EHC) to facilitate respondent recall over the longer twelve month period. This redesigned survey, currently in development, is referred to as the SIPP-EHC. (National Research Council, 2009)

Several ongoing surveys utilize EHCs in their survey design, and while there is evidence that the EHC methodology can aid in identifying intra-household demographic changes within a reference period, there is less certainty about the ability of the EHC to aid in capturing changes to program participation or income over an extended reference period. (National Research Council, 2009. p100.)

The latest production SIPP panel (the 2008 panel) is currently in the field and will collect monthly data on sampled households spanning calendar years 2008 to 2013. The development and evaluation of the SIPP-EHC overlaps this data collection period, and 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 administration of a wave two instrument in 2012. The SIPP-EHC is currently scheduled to become a production instrument beginning in 2014. In reviewing data from these 2010 and 2011 CAPI field tests, referencing calendar year (CY) 2009 and 2010 respectively, this paper seeks to evaluate differences in data quality across the SIPP-EHC field tests and the 2008 SIPP panel when compared to matched data from individual's IRS-Form-W2 earnings records.

Previous research has compared monthly income, program participation, and poverty rates across the 2008 SIPP panel and SIPP-EHC field tests, and administrative matching has been used to evaluate monthly rates of program participation across survey designs.² This paper aims to build upon previous research by investigating differences across survey designs when comparing survey responses to W2 records of annual earnings and employment, particularly as they relate to the calculation of annual poverty rates. This analysis will compare the performance of the 2010 and 2011 SIPP-EHC field tests to the 2008 SIPP panel, using administrative W2 records as controls for calendar years (CY) 2009 and 2010. Specifically, this paper will compare (1) the number of jobs captured, (2) reported annual employment earnings, and (3) the impact of substituting W2 records for survey data when calculating annual poverty rates across surveys.

² See:

John M. Abowd and Martha Stinson. "Estimating Measurement Error in SIPP Annual Job Earnings: A Comparison of Census Bureau and SSA Administrative Data." Forthcoming *Review of Economics and Statistics*.

2010 SIPP-EHC Data Evaluation Workgroup. "An Initial Evaluation of the 2010 Field Test of the Re-Engineered SIPP." Technical Report, U.S. Census Bureau, 2011.

Graton Gathright, Matha Stinson, and Lori Reeder. "An Evaluation of Field Test Data From Re-Engineered SIPP Using Administrative Records and 2008 SIPP." Technical Report, U.S. Census Bureau, 2011

Martha Stinson, Graton Gathright, and Jeremy Skog. "Comparing Job Characteristics from the 2010 SIPP-EHC Field Test to the Census Bureau Business Register." Technical Report, U.S. Census Bureau, 2012.

Rebecca Chenevert and Renee Ellis. "'I Don't Remember': Effects of Recall Period on Reported Job and Program Participation Duration." Technical Report, U.S. Census Bureau, 2012.

Ashley Edwards. "An Initial Evaluation of Poverty in the SIPP-EHC." Technical Report. U.S. Census Bureau, 2012.

Data & Sample Design

This research uses survey data from the 2010 and 2011 SIPP-EHC field tests, referencing CY2009 and CY2010 respectively, and waves two through eight of the 2008 SIPP panel covering the same two-year period. We may refer to the SIPP-EHC surveys by their referenced calendar years (CY) and reference the 2008 SIPP panel as “production SIPP” as it is the instrument currently implemented in the field, and serves as our baseline in comparing the impact of the SIPP-EHC redesign.

For the CY2009 and CY2010 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 CY2009 and CY2010 SIPP-EHC were geographically limited to select states. Additionally, the SIPP-EHC field tests only interviewed addresses included in the high poverty strata within self-representing primary sample units (PSUs). 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. Additionally, although data collected in production SIPP are edited each wave to maintain consistency across conflicting responses and to impute missing responses, data collected in both the CY2009 and CY2010 SIPP-EHC field tests are unedited, and missing data have not been imputed.

In order to accurately compare the SIPP-EHC field tests to production SIPP, the production SIPP data was subset to match the calendar year and sample characteristics of the respective SIPP-EHC field tests. Sample weights were generated for the SIPP-EHC by using raking models to match tallies of production SIPP weights. Given that the 2008 SIPP data have been subset to “match” the sampling characteristics of the SIPP-EHC field tests for this evaluation, the data presented in this research are not intended to be nationally representative. Additionally, in order to compare the unedited data from the SIPP-EHC to the edited data in production SIPP, we constructed the variables needed for establishing employment status, earnings, and poverty status for the SIPP-EHC samples based on the edit specifications that will be used in the production SIPP-EHC survey. Since missing data have not been imputed for the SIPP-EHC field tests, allocated or imputed data were dropped from the production SIPP samples for consistency. We apply a number of additional restrictions to the analytic sample, as outlined below, in order to further facilitate comparisons across SIPP-EHC and SIPP samples as well as to match the reporting schedule of individual’s W2s.

As shown in Table 1, after matching production SIPP to the calendar years, geographies, and sampling design corresponding with the CY2009 and CY2010 SIPP-EHC, we further subset the analytic sample based on a number of criteria corresponding to the nature of our research question.

- Given our interest in matching survey data to W2 records, which report earnings and employment on an annual basis, the samples from the SIPP-EHC and production SIPP surveys were restricted to only those individuals who were age 15 or older and who provided survey responses for each month of the 2009 or 2010 calendar year.³ As shown in Table 1, this criterion is disproportionately constraining on production SIPP respondents, since the production SIPP schedule of conducting interviews every four months allows much greater opportunity for attrition within the calendar year compared to the SIPP-EHC field tests which conducts a single interview covering the entire calendar year.
- In addition, using unedited data from the CY2009 and CY2010 SIPP-EHC field tests presents a number of unique challenges for this analysis, particularly when calculating annual employment income. Individuals reporting employment in a given month were excluded from this analysis if they did not provide information on associated earnings. Respondents were further excluded if they reported a pay schedule and pay rate that would be considered outside acceptable reporting ranges.⁴ Table 1 shows that this criterion disproportionately affects the CY2009 SIPP-EHC sample, as the field test for this instrument

³ To be in universe for survey questions related to employment and employment income, respondents must be age 15 or older.

⁴ Similarly for the 2008 SIPP panel, respondents were not included if their employment earnings were imputed or outside the acceptable range of earnings applied to the SIPP-EHC field test at any point in the calendar year.

did not contain soft checks⁵ for monthly income amounts, and there were a number of instances where the reporting of pay schedules and pay amounts led to exaggerated monthly earnings reports. Soft checks on monthly employment earnings were subsequently added to the CY2010 SIPP-EHC field test and largely reduce observations of these extreme out-of-range values. (Edwards 2012)

- In order to match survey responses and IRS-Form-W2 records across individuals, this analysis was further limited to only those survey respondents in the SIPP-EHC field tests and production SIPP who could be uniquely identified through a Census Bureau Protected Identity Key (PIK). PIKs are assigned at the person level when an individual is verified as having a valid Social Security Number (SSN). After the SSN is verified, the SSN is replaced with a PIK as a way of anonymizing the record while still allowing for data integration across various survey and administrative datasets. Given that individuals in the dataset have varying probabilities of being matched to a SSN, we estimate a model of successful PIK assignment as a function of demographic survey variables and re-weight our data by the inverse probability of PIK assignment (See Gathright, Stinson, and Reeder, 2012). As shown in Table 1, a greater proportion of individuals in production SIPP were assigned a PIK than in the CY2009 or CY2010 SIPP-EHC, which supports the assumption that individuals who remained in sample all twelve months in production SIPP may be more geographically or socially tethered than those in the EHC, given the greater opportunity for attrition in production SIPP.

Our analysis of jobs and employment earnings is based on these individuals across the SIPP-EHC and production SIPP surveys who met the criteria of being in universe for the entire calendar year, reporting valid employment earnings, and having a valid PIK identification. In subsequent analysis of poverty rates, the analytic sample is further subset. Because edited monthly indicators of family composition are not available, the analysis of poverty rates is limited to unrelated individuals or married-couples with no children present. See Table 1 in the Appendix for details on sample selection.

This methodology creates sample populations that, while not intended to be nationally representative, should provide for consistency when comparing SIPP-EHC and production SIPP estimates. The purpose of this research is not to provide representative estimates of income or poverty rates, but to isolate differences in the measurement of income and poverty across survey instruments in a way that is attributable to survey design, as opposed to variations in sampling characteristics. Additionally, since the CY2009 and CY2010 SIPP-EHC surveys were not designed to align in their sampling design or survey population, all comparisons in this paper explicitly compare the CY2009 SIPP-EHC to a matched population in production SIPP or the CY2010 SIPP-EHC to a matched population in production SIPP. This paper is unable to make direct comparisons across the CY2009 SIPP-EHC and CY2010 SIPP-EHC.

Methods

After limiting the analytic sample as outlined above, we collapsed the monthly survey data reported through the SIPP-EHC and production SIPP into an annual person level file, which was then merged via the PIK identifier to append data from individual's W2 records to their survey responses.

Variables retained from the W2 records include (1) the number of jobs an individual reported in a given calendar year, calculated as the number of W2 records with unique employee identification numbers, as well as (2) the sum of annual employment earnings — calculated for self-employed individuals as the sum of Medicare self-employment income and for wage/salaried workers as the sum of deferred wages plus the amount reported in box one of the W2 form which collects “wages, tips, or other compensation.” In instances where FICA taxable wages were greater than the sum of individuals' deferred wages and box one earnings, the employment earnings reported

⁵ Soft-checks alert the interviewer when a respondent provides highly improbable responses. If respondents report the following earnings, the survey instrument will prompt the interviewer to confirm 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.

in an individual's W2 were replaced with their FICA taxable wages. In both the survey data and W2 administrative records, annual earnings are calculated as gross, pre-tax, earnings. It's important to note that in the production SIPP and SIPP-EHC survey data, individuals may report multiple jobs where they are listed as self-employed, while in the W2 records, all self-employed income is reported as a single employment record. In instances where survey respondents reported more than one self-employed job, our results may be impacted by this discrepancy in the reporting of self-employed jobs across survey and administrative data sources, leading us to report larger job counts in the survey data than administrative data for the self-employed population.⁶

In merging employment and earnings data onto an individual survey record, we are able to calculate the differences across individual's survey responses and W2 records. In these instances, we treat the W2 records as a benchmark measure and evaluate two related research questions. The first being whether there a statistical difference in the number of jobs captured, amount of earnings reported, or poverty status across survey and W2 data. The second question, more critical to our interest in evaluating the impact of the redesigned SIPP-EHC survey, is whether these differences across survey and W2 reports, if they are found to exist, vary across production SIPP and the SIPP-EHC instruments. In evaluating the pattern of individual-level differences between W2 and survey reports by survey design, we test these differences as a function of survey design to evaluate whether the redesigned SIPP-EHC survey brings us closer to our benchmark measure as reported in the W2 records, or exacerbates discrepancies across survey and W2 records.

The basic specification used in this analysis calculates differences as shown in Equation 1, whereby W2 reported values are subtracted from survey reported values for job counts and employment earnings. We also compare the poverty status calculated using survey reported earnings to the poverty status calculated when survey reported earnings are replaced with W2 earnings records.

$$diff_i = survey_i - W2_i \quad (1)$$

We then test whether these differences are attributed to survey design by performing a series of regressions as specified in Equation 2 and 3 below. In Equation 2, we estimate models using weighted least squares (weighted to match tallies of production SIPP weights and account for inverse PIK probabilities) with standard errors clustered at the person level, using a single binary variable, $SIPPEHC_i$, to estimate the average effect of an individual's survey assignment on their calculated differences across survey and W2 reports.⁷ In this specification, the coefficient β_0 reports the average difference when a respondent is interviewed though production SIPP, while β_1 reports the difference in the average effect of being interviewed through the SIPP-EHC instrument. The total effect for respondents in the SIPP-EHC can be calculated by summing the coefficients on β_0 and β_1 .

$$diff_i = \beta_0 + \beta_1 SIPPEHC_i + \varepsilon_i \quad (2)$$

We also anticipate that differences between survey responses and W2 records may vary by individual demographic characteristics. Equation 3 models these differences using a variety of iterations to include binary and categorical demographic variables capturing the average effect (β_2) of individual's age, race, or origin, as well as interaction effects (β_3) across survey instrument and individual characteristics.

$$diff_i = \beta_0 + \beta_1 SIPPEHC_i + \beta_2 Demographic_i + \beta_3 SIPPEHC_i Demographic_i + \varepsilon_i \quad (3)$$

When interpreting the output from these models, negative coefficients on the constant of β_0 indicate that the number of jobs, amount of income, or poverty rate reported in production SIPP was lower than reported in the W2s. Conversely, a positive coefficient on the constant indicates instances where production SIPP captured a higher number of jobs, income, or poverty rate than recorded in W2s. The coefficient on the SIPP-EHC variable indicates how this average difference changes for individuals when interviewed through the SIPP-EHC. In

⁶ Less than one percent of individuals in the production SIPP or SIPP-EHC samples reported employment in more than one self-employed job.

⁷ $SIPPEHC=1$ if interviewed through the CY2009 or CY2010 SIPP-EHC and 0 otherwise.

instances where the coefficient on SIPP-EHC moves the average difference closer to zero, the SIPP-EHC is doing a better job, on average, at matching W2 records than the production SIPP instrument. In instances where the coefficient on SIPP-EHC moves the average farther from 0, the SIPP-EHC has larger discrepancies from the W2 records than production SIPP.

Job Capture

The 2008 SIPP panel, as well as both SIPP-EHC field tests, show high degrees of correlation across the number of jobs reported through survey instruments and W2 records (See Table 2 and Table 3 in Appendix). However, both production SIPP and SIPP-EHC instruments are capturing fewer jobs than reported through W2 records, and these deficits are greater for individuals interviewed through the SIPP-EHC than for individuals interviewed in production SIPP for both the 2009 and 2010 calendar years (See Table 4 and Table 5 in Appendix.).

Cross tabulations shown in Table 2 for calendar year 2009 indicate that 75.0 percent of individuals in the CY2009 SIPP-EHC survey reported the same number of jobs across their survey and W2 records.⁸

- However, 14.1 percent of respondents reported no job through the CY2009 SIPP-EHC survey instrument, but had a record of having one or more jobs through their W2s.
- In total, 21.3 percent of respondents in the CY2009 SIPP-EHC had more jobs recorded through their W2s than reported through the SIPP-EHC survey.
- Only 3.8 percent of respondents reported more jobs through the CY2009 SIPP-EHC survey than were recorded in their W2 records.

When looking at production SIPP data matched to the same calendar year, we see similar, although less pronounced trends of underreporting of the number of jobs in the survey data relative to W2 records. Although both surveys undercounted jobs, this undercount was smaller in the SIPP, with 15.5 percent of respondents reporting more jobs in the W2 records than survey data compared to 21.3 percent in the CY2009 SIPP-EHC.

Results shown in Table 3 for calendar year 2010 show that 74.0 percent of individuals interviewed through the CY2010 SIPP-EHC reported the same number of jobs across survey and W2 records.⁸

- However, again we find similar results to the CY2009 data, whereby 15.7 percent of respondents reported no job through the CY2010 SIPP-EHC survey instrument, but had a record of having one or more jobs through their W2s.
- In total, 22.7 percent of respondents in the CY2010 SIPP-EHC had more jobs recorded through their W2s than reported through the SIPP-EHC survey,
- Only 3.3 percent of respondents reported more jobs through the CY2010 SIPP-EHC survey than were recorded in their W2 records.

Again, we see similar, although less pronounced trends in the production SIPP survey data. While both SIPP and SIPP-EHC surveys undercounted jobs, this undercount was smaller in the SIPP, with 17.1 percent of respondents reporting more jobs in the W2 records than survey data compared to 22.7 percent in the CY2010 SIPP-EHC.

Table 4 shows job capture regression results for CY2009. In the first specification of the regression, production SIPP captured an average of 0.13 fewer jobs than recorded in the W2 records. We then see that the CY2009 SIPP-EHC had a larger average deficit than the production SIPP, reporting an average of 0.13 jobs fewer than production SIPP over the same period, or a total of 0.26 fewer jobs than reported in the W2.

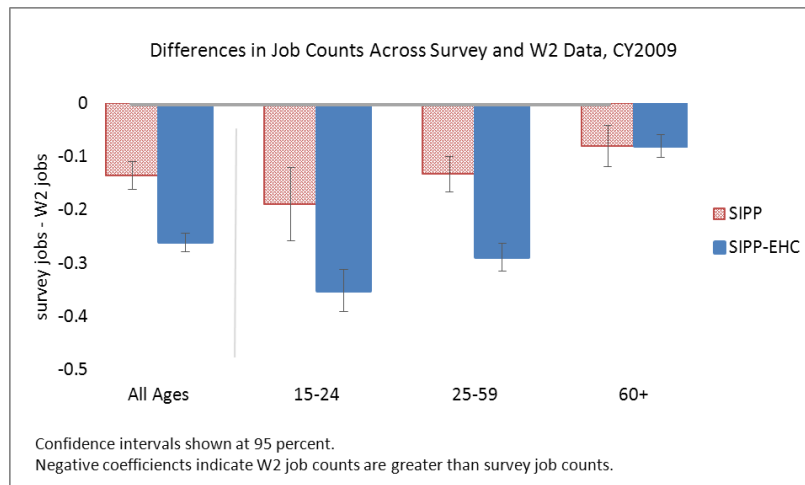
We find that this trend persists when subsetting our model by whether or not individuals reported jobs in both the survey and the W2 or reported a job in only the survey or only the W2. For individuals who reported having a job in the survey data but not in the W2 data, we find that, on average, the W2 records are missing 1.3 jobs that were reported in the production SIPP data, with that gap declining by 0.18 jobs when comparing the W2 records to the

⁸ When using categories to group individuals with two or more jobs.

CY2009 SIPP-EHC. Therefore for these cases, the SIPP-EHC was more consistent with the W2 records. This may be a concern if we think that production SIPP is accurately reporting valid employment spells that were not captured in the W2 record.

The second, third and fourth regression specifications enable us to investigate the impact of demographic characteristics, and survey interaction effects, on job discrepancies across survey and W2 reports in CY2009. We find that individuals age 60 and older have smaller differences across their survey responses and W2 records than younger individuals. We also find significant interaction effects for individuals aged 60 and older in the SIPP-EHC, whereby the impact of being age 60 and older in the SIPP-EHC is larger than the effect of being age 60 and older in production SIPP. Figure 1 below graphs the coefficients presented in Table 4, further illustrating these discrepancies in job capture across age groups and survey instruments. (See Table 4 in Appendix and Figure 1 below.)

Figure 1. Differences in Job Capture Across Survey and W2 Data, CY2009



We also find some significant interaction effects in CY2009 for subpopulations of our sample as reported in Table 4. Namely that when controlling for race or Hispanic origin, there are no statistical differences in job capture differences across survey design when individuals only reported a job through the survey or only reported a job in their W2s.

Similarly to the CY2009 data, when looking at CY2010 in Table 5 we find that production SIPP captured an average of 0.17 fewer jobs than recorded in individuals W2s, while the CY2010 SIPP-EHC again reported a larger job capture deficit than the SIPP, by an average of 0.12 fewer jobs, with an average of 0.29 fewer jobs than reported in the W2 records. We find that this trend persists when subsetting our model to include only those individuals who reported a job across both survey and administrative sources.

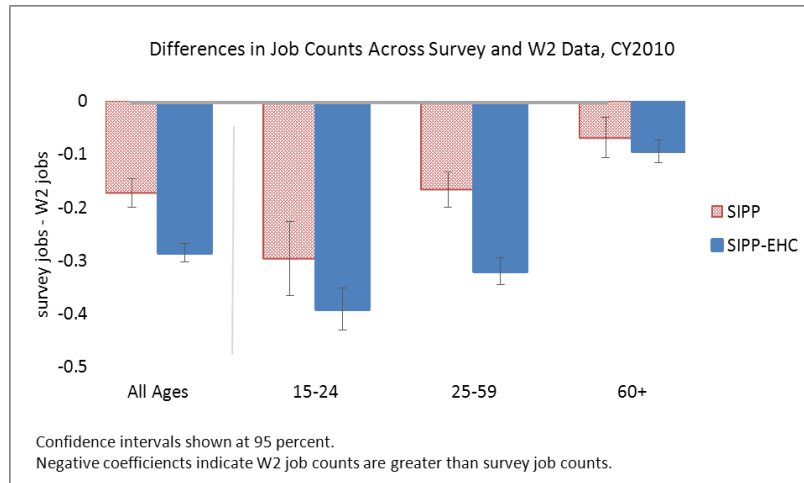
When looking at individuals who reported only having a job in the survey data, we find that the W2 records are missing an average of 1.1 jobs when compared to production SIPP reports, and that differences across survey design are not statistically significant. For individuals who only indicate employment through W2 records, the production SIPP data is missing an average of 1.3 jobs, and again, differences across survey design are not statistically different.

Looking at the impact of demographic characteristics on job discrepancies in CY2010, we find that individuals aged 15 to 24 have greater discrepancies across survey and W2 job reports, while individuals aged 60 and older have smaller differences. (See Table 5 in Appendix and Figure 2 below.) We also find that Black and Other Race individuals⁹ have larger job capture deficits than White individuals, although there are no significant interactions

⁹ Individuals in this group may report their race as Other Alone, or in combination.

by survey type. When reviewing interactions by survey type, we find that the effect of being aged 60 and older is larger in the CY2010 SIPP-EHC than in the SIPP, and that Hispanics in the SIPP-EHC report larger job capture deficits than Hispanics in production SIPP. (See Table 5 in Appendix.)

Figure 2. Differences in Job Capture Across Survey and W2 Data, CY2010



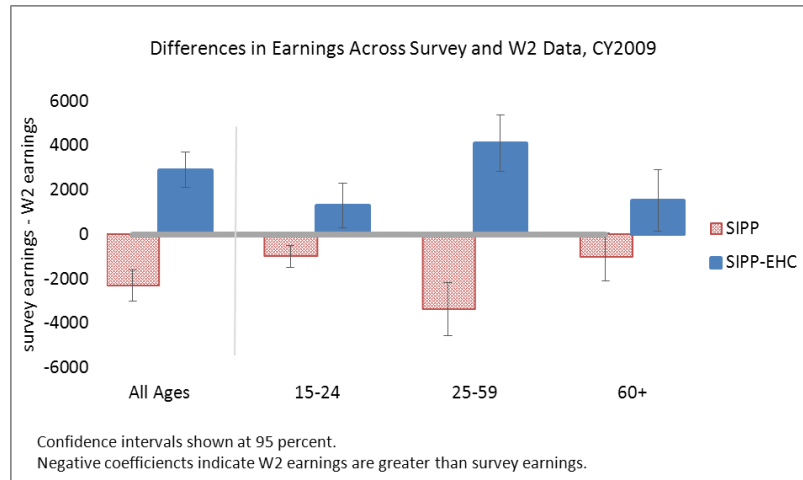
Employment Earnings

We find that production SIPP underreports individual employment earnings relative to the amounts reported in W2 records in both the 2009 and 2010 calendar years. However, we find positive evidence that the SIPP-EHC is capturing higher earnings amounts in both calendar years, reducing, and in some instances eliminating differences between W2 earnings records and survey responses.

As shown in Table 6, we find that although production SIPP captures fewer earnings than reported through W2 records in CY2009, with an average a deficit of \$2,344, average earnings reported in the CY2009 SIPP-EHC are actually higher than reported in the W2 records. Discrepancies were particularly dramatic among individuals who reported earnings in both their survey and W2 data, with individuals interviewed through the CY2009 SIPP-EHC reporting survey earnings on average \$10,537 above what was recorded in their W2 records.

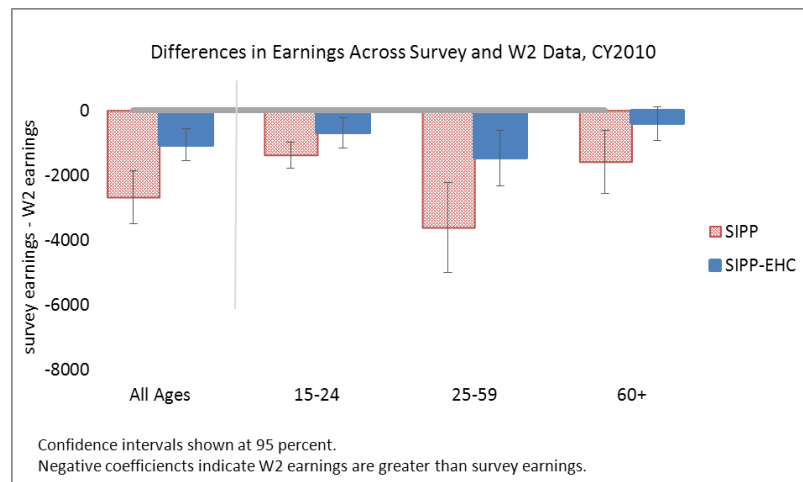
When looking at demographic characteristics, as illustrated in Table 6 and Figure 3 below, we find that individuals aged 15 to 24 and those aged 60 and older have smaller earnings deficits in production SIPP than individuals aged 25 to 59. Similarly, individuals in those age groups in the CY2009 SIPP-EHC have more consistent earnings reports across their survey and W2 data than individuals aged 25 to 59, indicating that variation between survey and W2 reports is greater for individuals aged 25 to 59 in both the production SIPP and CY2009 SIPP-EHC instruments. We also find that Black individuals have more consistent reports across survey and W2 records than White individuals in production SIPP, although there were no significant differences by race for respondents in the CY2009 SIPP-EHC.

Figure 3. Differences in Earnings Reports Across Survey and W2 Data, CY2009



When looking at data for calendar year 2010, as shown in Table 7, we find that once again, production SIPP captures fewer earnings income than reported in W2 records, with an average survey reporting deficit of \$2,673. Respondents in the CY2010 SIPP-EHC have a smaller earnings deficit than those in production SIPP, with earnings in the CY2010 SIPP-EHC averaging \$1,062 lower than reported in W2 records. We find that this trend of improved reporting consistency in the CY2010 SIPP-EHC is driven by improvements among individuals aged 15 to 24 and 25 to 59. Differences across survey design for individuals aged 60 plus were not statistically significant. (See Figure 4 below)

Figure 4. Differences in Earnings Reports Across Survey and W2 Data, CY2010



In looking at subpopulations of our sample, we find that when looking only at individuals who reported having earnings in both data sources, production SIPP continues to underestimate earnings on average by \$3,306, while average earnings reported for this population in the CY2010 SIPP-EHC are \$1,411 higher than reported in the W2 records. For individuals who report having earnings only in the survey or only in the W2 data, earnings differences are not statistically different across survey designs. (See Table 7 in Appendix.)

Poverty Status

One of the critical questions of this analysis is to evaluate what impact these discrepancies between survey and W2 reports have on calculations of annual poverty. To evaluate this question we calculate an alternate measure of

annual poverty rates by replacing survey reported employment earnings with W2 reported employment earnings to evaluate how poverty estimates vary across measures.

It's important to note that the unedited SIPP-EHC data do not enable us to calculate a measure of family income across all income sources. In this analysis, annual family income when calculating poverty rates across both the SIPP-EHC and production SIPP is limited to the sum of variables: 1) employment earnings from survey or W2 data, 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 6) Workers' Compensation, and 7) Unemployment Insurance (UI) benefits. Since data in the SIPP-EHC field tests were not imputed or allocated, income from these sources is only included in production SIPP when not allocated. (See Edwards 2012)

As shown in Table 8 and Table 9, the relationship between poverty rates calculated in both the SIPP-EHC and production SIPP surveys are highly correlated with the poverty rates calculated using W2 data.

In CY2009, 89.8 percent of individuals interviewed in the SIPP-EHC did not change poverty status after substituting W2 earnings for survey reported earnings, while 94.1 percent of individuals interviewed through production SIPP were unchanged in their poverty status.

- In the CY2009 SIPP-EHC, 6.0 percent of individuals entered poverty after substituting W2 earnings, while 4.2 percent of individuals exited poverty.
- In production SIPP, 2.6 percent of individuals entered poverty, which was not statistically different from the percent who exited. (See Table 8 in Appendix.)

In the 2010 calendar year, 90.7 percent of individuals interviewed in the CY2010 SIPP-EHC did not change poverty status after substituting W2 earnings for survey reported earnings compared to 93.7 percent of individuals interviewed through production SIPP.

- In the CY2010 SIPP-EHC, 3.5 percent of individuals entered poverty after substituting W2 earnings, while 5.9 percent of individuals exited poverty.
- In production SIPP, 2.4 percent of individuals entered poverty while 4.0 percent exited. (See Table 9 in Appendix.)

Table 10, reports regression results for poverty changes over CY2009, here we represent individuals change in poverty status by subtracting their poverty status as calculated using W2 records from their poverty status as calculated using survey data. Since poverty status is a binary variable, there are three available outcomes, whereby change can be represented as -1, 0, or 1 if an individual moves into poverty, has no change in poverty status, or moves out of poverty, respectively.

We see that poverty rates calculated using survey data are not statistically different than those calculated using W2 data for individuals interviewed through production SIPP. However, for individuals interviewed through the CY2009 SIPP-EHC, poverty rates are 1.8 percentage point lower when using survey earnings versus W2 earnings. We find that Other race category and Hispanic individuals are more likely to have lower poverty rates when calculating poverty status using W2 earnings, with significant interaction effects by survey design and Hispanic origin. (See Table 10 in Appendix.)

As shown in Figure 5 below and Table 10 in the Appendix, we find significant interaction effects by employment status and survey design indicating that individuals who report having a job in the CY2009 SIPP-EHC are more likely to have lower poverty rates using survey data than when substituting W2 data compared to similar individuals interviewed in production SIPP. This indicates that the differences in earnings between the survey and W2 records for respondents in the CY2009 SIPP-EHC, play a critical role affecting the calculation of poverty rates for individuals interviewed through this instrument. (See Table 10 in Appendix and Figure 5 below.)

Figure 5. Differences in Poverty Rates across Survey and W2 Data, CY2009

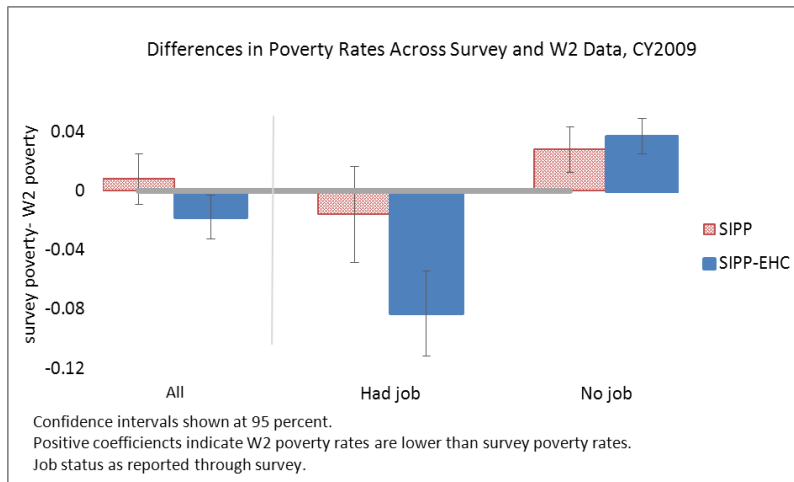


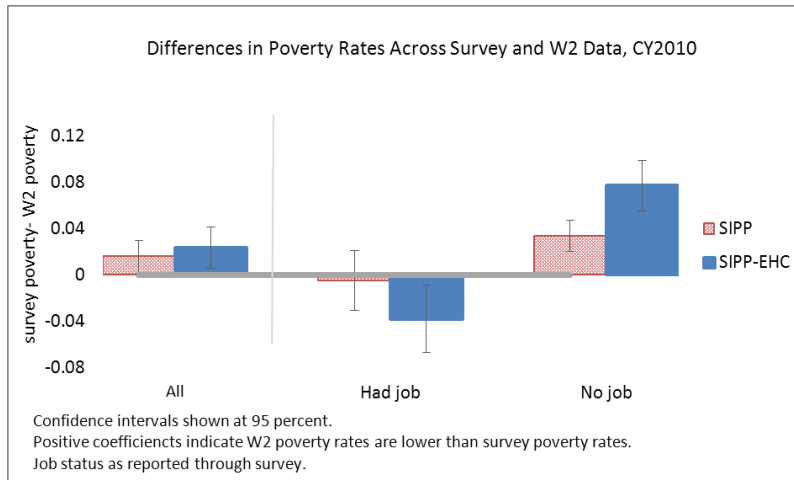
Table 11 reports regression results for poverty changes over CY2010, and we find that poverty rates calculated using survey data are higher than those calculated using W2 data for individuals interviewed through production SIPP by an average of 1.6 percentage points. However, this difference is not statistically different across production SIPP and EHC survey instruments. After controlling for age, we find that there are no significant interaction effects by survey design, but do find that individuals aged 25-59 in production SIPP have higher survey compared to W2 poverty rates than other age groups.

We find that Black and Other Race individuals are more likely to have higher poverty rates in the overall survey data than when using W2 records. Although, we find significant interaction effects between survey design and race, whereby Black individuals interviewed in production SIPP had significant differences across survey and W2 reports, while Blacks interviewed through the CY2010 SIPP-EHC did not report significant differences across survey and W2 reports.¹⁰ We also find that Hispanic individuals are more likely to have higher survey poverty rates than when using W2 records, although there is no interaction by survey design. (See Table 11 in Appendix.)

Shown in Figure 6 below and Table 11 in the Appendix, we find significant employment status and survey design interaction effects indicating that individuals who report having a job in the CY2010 SIPP-EHC are more likely to have lower poverty rates using survey data than with W2 data compared to similar individuals interviewed in production SIPP. For individuals who report having a job in the CY2010 SIPP-EHC, poverty rates using the survey data are 3.8 percentage points lower than when calculated using the W2 data, while employed individuals in production SIPP have no significant difference in poverty rates calculated across survey data or W2 records. This indicates that discrepancies in earnings reported across survey and W2 records for respondents in the CY2010 SIPP-EHC play a critical role affecting the calculation of poverty rates for individuals interviewed through this instrument.

¹⁰ Although differences in poverty rates for Blacks across survey and W2 reports were significant in CY2010 production SIPP and not significant in CY2010 SIPP-EHC, differences for Blacks in production SIPP and differences for blacks in SIPP-EHC are not statistically different from each other.

Figure 6. Differences in Poverty Rates across Survey and W2 data, CY2010



Given that reporting a job through the survey instrument has significant interaction effects by survey design for both the 2009 and 2010 calendar year, we investigate job capture and earnings differentials by individual's poverty transition across the survey and W2 data. Here, we are interested to see why individuals move into or out of poverty, particularly whether these transitions may be attributable to differences in job capture, reported earnings, or some combination of the two.

As shown in Table 12 and Table 13 in the Appendix, we calculate the differences in the number of jobs and earnings reported across survey and W2 records across different subpopulations of our sample, drawn based on individual's poverty status after substituting their survey-based poverty rate with their W2 based poverty rate. As shown in Table 13, the only populations for which we capture a greater number of jobs in the survey data than we do in the W2 data, are for individuals in CY2010 who were not in poverty when calculated using survey data, but were in poverty when calculated using their W2 data. This is because on average, their W2 data recorded .35 fewer jobs than their production SIPP and CY2010 SIPP-EHC survey records; there was no significant difference across survey designs.

There are no instances where the SIPP-EHC surveys are capturing a greater number of jobs than the production SIPP instrument for any of these survey subpopulations; consistent with our previous analysis of the jobs data. We do however find a number of instances where the job deficit is greater in the SIPP-EHC surveys than the production SIPP instrument, most notably for individuals in CY2010, where the deficit between jobs reported in the survey data and jobs reported in the W2 records are driving transitions of people from "in" poverty to "not in" poverty following the use of their W2 data which report an average of 1.1 more jobs than captured in the CY2010 SIPP-EHC compared to 0.7 more jobs than captured in production SIPP. (See Table 12 and Table 13 in Appendix.)

In Table 12 we see that production SIPP individuals in CY2009 who transitioned from being in poverty using their survey reported earnings to out of poverty when using their W2 reported earnings, had an average income differential across sources of negative \$19,217, meaning their W2 data reported an average of \$19,217 more dollars than reported in their survey records. However, this differential was greater for respondents in the CY2009 SIPP-EHC than for those interviewed through production SIPP by an additional negative \$15,780, resulting in a total differential of negative \$34,996 for respondents in the CY2009 SIPP-EHC. This is somewhat surprising given that as a whole, income reporting was higher for CY2009 SIPP-EHC respondents in their survey reports than in their W2 records, and that this same population has no significant differences across survey design in the capture of jobs across survey and W2 records.

We see in Table 12 that the over reporting of employment earnings in the CY2009 SIPP-EHC did cause some individuals to be reclassified from "not poor" to "poor" when substituting W2 records for survey data, and that for

these individuals, W2 earnings averaged \$32,962 lower than reported through the CY2009 SIPP-EHC, significantly different from the average differential of \$19,061 reported in production SIPP. We find no differences for this subpopulation in the capture of jobs across survey and W2 records, and no differences in job capture across survey designs.

In looking at earnings for CY2010, we find that in the single instance where the SIPP-EHC differed significantly from production SIPP, that difference was due to the SIPP-EHC having smaller earnings discrepancies with the W2 records than production SIPP. For individuals who were not poor in both the survey and W2 based poverty calculations, production SIPP reported \$4,683 less in earnings than reported in the W2 record, while earnings in the CY2010 SIPP-EHC for this population were not statistically different from those reported in the W2 records. (See Table 13 in Appendix.)

Conclusions, Limitations & Next Steps

In evaluating whether the SIPP-EHC survey design performs as well as, or better than, the current 2008 SIPP panel in terms of capturing employment and earnings data, we have used administrative W2 records as an objective data source in evaluating performance across survey designs. In doing so, we have defined optimal performance in terms of consistency across the administrative W2 and survey records.

Using this evaluation criteria, we find that both the both the CY2009 and CY2010 SIPP-EHC capture fewer jobs than the 2008 SIPP panel, but both SIPP-EHC surveys capture more employment income than the 2008 SIPP panel.

In many instances, the CY2009 SIPP-EHC survey reported average earnings that were higher than recorded in the W2 data. However, after reviewing the CY2009 SIPP-EHC earnings data, we are concerned that, even after excluding a large number of individuals who reported earnings outside an acceptable range, we may be continuing to capture biased earnings estimates data due to the omission of soft checks in the initial field instrument. Although the CY2009 SIPP-EHC eliminated earnings deficits when compared to the W2 records, we lack confidence that this reflects a true improvement in reporting across sources, as opposed to a systematic bias that trends in the direction of the W2 reports.

We expect that earnings data available from the CY2010 SIPP-EHC are more relevant in this analysis, since the 2011 instrument included earnings soft checks within the instrument. Data collected through the CY2010 SIPP-EHC instrument show positive evidence that the SIPP-EHC design is doing a better job matching W2 earnings data than production SIPP, although deficits in the capture of reported earnings persist when making comparisons to W2 records.

In looking at annual poverty rates for CY2009, income amounts reported in the SIPP-EHC compensated for a reduced capture of jobs, as the CY2009 SIPP-EHC was the only dataset to report lower poverty rates than those calculated using W2 earnings data. In CY2010, we see a more expected trend, whereby poverty rates are higher using survey versus W2 data, however, there are not significant differences in these discrepancies across the SIPP and SIPP-EHC survey designs.

Again, it is important to emphasize that this research is very narrowly targeted to inform our evaluation of survey design changes across two alternate instruments. Population selection across the 2008 SIPP panel and SIPP-EHC surveys has been designed to create samples that are as demographically and geographically consistent as possible, and we recognize that our various selection criteria disproportionately exclude individuals based on their survey assignment. The sample used in this analysis is not intended to be nationally representative, and isn't even representative of all of the individuals interviewed through the SIPP or SIPP-EHC surveys. However, we expect that individuals included in our analysis are as alike as possible based on our selection observables, and should allow us to evaluate the impact of the survey redesign on this relatively narrow subpopulation of interviewed individuals with confidence that variations from W2 records are attributable to survey instrument as opposed to sampling characteristics. We also recognize that there are potential weaknesses in relying on W2 records to

capture a full report of individual's work and earnings history, but we expect that whatever limitations or bias may be present in the W2 records is consistent for individuals who were randomly assigned to be interviewed through the production SIPP or SIPP-EHC survey instruments. It is also important to note that this analysis evaluates employment and earnings at an annual level, so we are unable to comment on the accuracy of reporting within the reference period, i.e., this analysis is unable to determine if employment or earnings were correctly recorded on a monthly basis within the reference period.

Based on this initial research, efforts should be made to encourage additional instrument or interview changes to the SIPP-EHC instrument in order to promote probing for jobs spells. This need to improve job capture in the SIPP-EHC is particularly pronounced for individuals aged 15 to 24, Black and Other Race individuals, as well as individuals of Hispanic origin. It will also be of interest to further investigate where earning differences across the survey and W2 records are concentrated within the income distribution, and to explore whether differences between survey and W2 records are associated with whether an individual is self-employed or salaried.

The Census Bureau has recently collected CY2011 SIPP-EHC field test data, which resampled a quarter of the individuals from the CY2010 SIPP-EHC field test to provide our first opportunity to evaluate seam effects¹¹ in the new instrument. Analysts at the Census Bureau are currently in the process of reviewing data from this most recent field test, and the availability of CY2011 data from the 2008 SIPP panel allows further opportunity to evaluate differences across survey designs by comparing the quality of data collection across instruments.

¹¹ The term "seam effect" refers to the tendency of longitudinal surveys to capture changes in respondent data between longitudinal interviews as opposed to within an interview reference period. The period between the end of one interview reference period and the beginning of the subsequent interview period is referred to as the seam. In production SIPP, seams occur every four months between wavelly interviews. In the SIPP-EHC surveys, seams generally occur every twelve to thirteen months between annual interviews.

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Appendix

Table 1. Sample composition for income and poverty analysis

	SIPP-EHC, CY2009		SIPP, CY2009		SIPP-EHC, CY2010		SIPP, CY2010	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Initial Sample Size	14,648	100.0%	8,026	100.0%	6,981	100.0%	12,535	100.0%
In Universe	11,053	75.5%	3,812	47.5%	5,305	76.0%	6,214	49.6%
Valid Earnings	8,673	59.2%	3,335	41.6%	4,580	65.6%	5,241	41.8%
Valid PIK	6,462	44.1%	2,811	35.0%	3,560	51.0%	4,536	36.2%
Poverty Analysis Sample	1,930	13.2%	875	10.9%	1,139	16.3%	1,497	11.9%

Unweighted

Table 2. Comparison of jobs captured across SIPP and SIPP-EHC, CY2009

		SIPP-EHC, CY2009				SIPP, CY2009			
		Count of W2 jobs				Count of W2 jobs			
		0	1	2+*	Total	0	1	2+*	Total
Count of Survey jobs	0	46,572 44.8%	10,768 10.4%	3,925 3.8%	61,265 58.9%	28,646 41%	4,640 7%	1,094 2%	34,380 49%
	1	2,451 2.4%	27,761 26.7%	7,462 7.2%	37,675 36.2%	1,638 2.4%	22,765 32.8%	5,069 7.3%	29,472 42.4%
	2+	213 0.2%	1,233 1.2%	3,612 3.5%	5,059 4.9%	461 0.7%	1,943 2.8%	3,236 4.7%	5,641 8.1%
	Total	49,225 47.3%	39,762 38.2%	14,999 14.4%	103,998 100.0%	30,746 44.2%	29,347 42.2%	9,400 13.5%	69,493 100.0%
Chi-Square		60237.9 <.0001				49883.9 <.0001			

	CY2009			
	SIPP-EHC	SIPP	Diff.	Sig.
No Change	75.0%	78.6%	-3.7%	***
More jobs in W2	21.3%	15.5%	5.8%	***
More jobs in Survey	3.8%	5.8%	-2.1%	***

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

Note: Coefficients and standard errors have been calculated using survey weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

* Individuals with two or more jobs have been collapsed into a single category.

Shading applied to illustrate congruence across survey and W2 distributions.

Table 3. Comparison of jobs captured across SIPP and SIPP-EHC, CY2010

		SIPP-EHC, CY2010				SIPP, CY2010					
		Count of W2 jobs				Count of W2 jobs					
		0	1	2+*	Total	0	1	2+*	Total		
Count of Survey jobs	0	23,538 42.8%	6,231 11.3%	2,374 4.3%	32,142 58.5%	40,209 43.5%	7,528 8.2%	2,060 2.2%	49,798 53.9%		
	1	1,382 ^T 2.5%	14,681 26.7%	3,870 7.0%	22,812 ^T 41.5%	2,616 2.8%	27,259 29.5%	6,158 6.7%	36,034 39.0%		
	2+		455 0.8%	2,424 4.4%		219 0.2%	2,158 2.3%	4,147 4.5%	6,523 7.1%		
	Total	24,920 45.4%	21,367 38.9%	8,668 15.8%	54,954 100.0%	43,044 46.6%	36,946 40.0%	12,365 13.4%	92,355 100.0%		
Chi-Square						33044.7 <.0001					62091.5 <.0001

	CY2010			
	SIPP-EHC	SIPP	Diff.	Sig.
No Change	74.0%	77.6%	-3.6%	***
More jobs in W2	22.7%	17.1%	5.7%	***
More jobs in Survey	3.3%	5.4%	-2.1%	***

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

Note: Coefficients and standard errors have been calculated using survey weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

* Individuals with two or more jobs have been collapsed into a single category.

^T Cells have been merged to suppress small sample sizes

Shading applied to illustrate congruence across survey and W2 distributions.

Table 4. Job Difference Regression Results, CY2009

	CY2009: All				CY2009: Job in Survey & W2			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant	-0.1345 ***	-0.1332 ***	-0.1312 ***	-0.1426 ***	-0.1442 ***	-0.1264 ***	-0.1581 ***	-0.1502 ***
SIPPEHC	-0.1280 ***	-0.1555 ***	-0.1154 ***	-0.1145 ***	-0.1076 ***	-0.1119 ***	-0.0908 **	-0.1030 ***
Age								
15-24		-0.0559				-0.0850		
60+		0.0530 *				-0.0455		
SIPPEHC#Agecat								
15-24		-0.0071				-0.0495		
60+		0.1559 ***				0.1305		
Race								
Black (Alone)			-0.0284				-0.0076	
Other (A.O.I.C.)			0.0087				0.0469	
SIPPEHC#Race								
Black (Alone)			-0.0199				-0.0404	
Other (A.O.I.C.)			-0.025				-0.0348	
Origin								
Hispanic				0.0168				0.0118
SIPPEHC#Hispanic				-0.0282				-0.0089
N	9,273	9,273	9,258	9,273	3,759	3,759	3,754	3,759

	CY2009: Job in W2 Only				CY2009: Job in Survey Only			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant	-1.2630 ***	-1.2411 ***	-1.292 ***	-1.3475 ***	1.2645 ***	1.2710 ***	1.19265 ***	1.0922 ***
SIPPEHC	-0.1046 **	-0.1126 *	-0.0782	-0.0085	-0.1844 ***	-0.2014 ***	-0.0777	0.0092
Age								
15-24		0.0167				0.0771		
60+		-0.2277				-0.2710 ***		
SIPPEHC#Agecat								
15-24		-0.1098				-0.0382		
60+		0.4428 **				0.2870 ***		
Race								
Black (Alone)			-0.1656				-0.1083	
Other (A.O.I.C.)			0.1683 **				0.3423 *	
SIPPEHC#Race								
Black (Alone)			0.1278				0.05311	
Other (A.O.I.C.)			-0.1409				-0.3985 **	
Origin								
Hispanic				0.1723 **				0.3687 ***
SIPPEHC#Hispanic				-0.1954 **				-0.4072 ***
N	1,114	1,114	1,111	1,114	241	241	240	241

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

Note: Unweighted observation counts are listed. Coefficients and standard errors have been calculated using survey weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

Note: Model two includes an omitted factor variable for individuals aged 25 to 59.

Note: Model three includes an omitted factor variable for White (Alone) individuals.

Note: The 2008 SIPP Panel and 2010 SIPP-EHC asked respondents to choose one or more races. Black alone refers to people who reported Black and did not report any other race category. Other alone or in combination (A.O.I.C.) refers to people who reported a race other than White alone or Black alone. The use of these race populations do not imply any preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches.

Table 5. Job Difference Regression Results, CY2010

		CY2010: All				CY2010: Job in Survey & W2			
		(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant		-0.1689 ***	-0.1664 ***	-0.1222 ***	-0.1785 ***	-0.1582 ***	-0.1464 ***	-0.1071 ***	-0.1578 ***
SIPPEHC		-0.1246 ***	-0.1537 ***	-0.1319 ***	-0.0907 ***	-0.1137 ***	-0.1079 ***	-0.1416 ***	-0.0886 ***
Age									
15-24			-0.1297 ***				-0.1355 **		
60+			0.0974 ***				0.0908 **		
SIPPEHC#Agecat									
15-24			0.0587				-0.0008		
60+			0.1280 ***				-0.0022		
Race									
Black (Alone)				-0.0985 ***				-0.1211 ***	
Other (A.O.I.C.)				-0.0788 ***				-0.0804 *	
SIPPEHC#Race									
Black (alone)				0.02599				0.04418	
Other (A.O.I.C.)				0.00981				0.06003	
Origin									
Hispanic					0.0234				-0.0010
SIPPEHC#Hispanic					-0.0831 **				-0.0620
N		8,096	8,096	8,082	8,096	3,312	3,312	3,310	3,312

		CY2010: Job in W2 Only				CY2010: Job in Survey Only			
		(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant		-1.2931 ***	-1.2718 ***	-1.2372 ***	-1.2807 ***	1.0865 ***	1.1063 ***	1.03113 ***	1.1030 ***
SIPPEHC		-0.0703	-0.0951	-0.1003 *	-0.0871	-0.0540	-0.0755	0.02508	-0.0704
Age									
15-24			-0.0895				-0.1063 **		
60+			0.0699				0.0728		
SIPPEHC#Agecat									
15-24			0.0407				0.0755		
60+			0.1313				-0.0326		
Race									
Black (Alone)				-0.0604				0.0664	
Other (A.O.I.C.)				-0.1190				0.1286	
SIPPEHC#Race									
Black (alone)				0.06156				-0.0896	
Other (A.O.I.C.)				0.0171				-0.1848 **	
Origin									
Hispanic					-0.0318				-0.0292
SIPPEHC#Hispanic					0.0415				0.0289
N		1,006	1,006	1,000	1,006	218	218	218	218

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

Note: Unweighted observation counts are listed. Coefficients and standard errors have been calculated using survey weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

Note: Model two includes an omitted factor variable for individuals aged 25 to 59.

Note: Model three includes an omitted factor variable for White (Alone) individuals.

Note: The 2008 SIPP Panel and 2011 SIPP-EHC asked respondents to choose one or more races. Black alone refers to people who reported Black and did not report any other race category. Other alone or in combination (A.O.I.C.) refers to people who reported a race other than White alone or Black alone. The use of these race populations do not imply any preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches.

Table 6. Earnings Difference Regression Results, CY2009

	CY2009: All				CY2009: Earnings in Survey & W2			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant	-2344 ***	-3364 ***	-2810 ***	-2442 ***	-3345 ***	-3711 ***	-3686 ***	-3039 ***
SIPPEHC	5212 ***	7483 ***	5438 ***	5488 ***	13882 ***	14270 ***	13033 ***	14582 ***
Age								
15-24		2363 ***				1775 **		
60+		2349 ***				983		
SIPPEHC#Agecat								
15-24		-5189 ***				-2618		
60+		-4935 ***				333		
Race								
Black (Alone)			1589 *				1045	
Other (A.O.I.C.)			384				385	
SIPPEHC#Race								
Black (Alone)			-2073				-887	
Other (A.O.I.C.)			686				3066	
Origin								
Hispanic				206				-608
SIPPEHC#Hispanic				-575				-1472
N	9,273	9,273	9,258	9,273	3,736	3,736	3,731	3,736

	CY2009: Earnings in W2 Only				CY2009: Earnings in Survey Only			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant	-12307 ***	-17938 ***	-19083 **	-16313 ***	15330 ***	18493 ***	18104 ***	15084 ***
SIPPEHC	-1067	-375	4383	1789	12722 **	12192 *	9513	12411 **
Age								
15-24		14791 ***				-11249 ***		
60+		2325				-5566		
SIPPEHC#Agecat								
15-24		-2831				-1516		
60+		3834				-5772		
Race								
Black (Alone)			14168 *				2986	
Other (A.O.I.C.)			9764				-1154 ***	
SIPPEHC#Race								
Black (Alone)			-10362				-412	
Other (A.O.I.C.)			-8601				11620	
Origin								
Hispanic				8109				530
SIPPEHC#Hispanic				-5821				467
N	1,137	1,137	1,134	1,137	215	215	214	215

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

Note: Unweighted observation counts are listed. Coefficients and standard errors have been calculated using sample weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

Note: Coefficients have been rounded to the nearest whole number.

Note: Model two includes an omitted factor variable for individuals aged 25 to 59.

Note: Model three includes an omitted factor variable for White (Alone) individuals.

Note: The 2008 SIPP Panel and 2010 SIPP-EHC asked respondents to choose one or more races. Black alone refers to people who reported Black and did not report any other race category. Other alone or in combination (A.O.I.C.) refers to people who reported a race other than White alone or Black alone. The use of these race populations do not imply any preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches.

Table 7. Earnings Difference Regression Results, CY2010

	CY2010: All				CY2010: Earnings in Survey & W2			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant	-2673 ***	-3607 ***	-3280 ***	-2941 ***	-3306 ***	-3137 ***	-3434 ***	-2773 ***
SIPPEHC	1610 ***	2148 ***	2434 ***	1752 **	4718 ***	4529 ***	4729 ***	3726 ***
Age								
15-24		2236 ***				1058		
60+		2026 **				-3808 *		
SIPPEHC#Agecat								
15-24		-1464 *				-330		
60+		-962				2292		
Race								
Black (Alone)			1317				407	
Other (A.O.I.C.)			984				102	
SIPPEHC#Race								
Black (Alone)			-1767 *				-535	
Other (A.O.I.C.)			-1241				586	
Origin								
Hispanic				655				-1257 *
SIPPEHC#Hispanic				-344				2391 *
N	8,096	8,096	8,082	8,096	3,272	3,272	3,270	3,272

	CY2010: Earnings in W2 Only				CY2010: Earnings in Survey Only			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant	-14482 ***	-22112 ***	-22870 ***	-17441 ***	14682 ***	16391 ***	15433 ***	13093 ***
SIPPEHC	1509	4813	8742	3988	3641	3133	4703	3820
Age								
15-24		17464 ***				-10606 ***		
60+		10364				6293		
SIPPEHC#Agecat								
15-24		-6619				-739		
60+		-2392				-4524		
Race								
Black (Alone)			15499 *				-4482	
Other (A.O.I.C.)			12275				393	
SIPPEHC#Race								
Black (Alone)			-13156				639	
Other (A.O.I.C.)			-11171				-2585	
Origin								
Hispanic				7619				2711
SIPPEHC#Hispanic				-6546				962
N	1,046	1,046	1,040	1,046	181	181	181	181

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

Note: Unweighted observation counts are listed. Coefficients and standard errors have been calculated using sample weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

Note: Coefficients have been rounded to the nearest whole number.

Note: Model two includes an omitted factor variable for individuals aged 25 to 59.

Note: Model three includes an omitted factor variable for White (Alone) individuals.

Note: The 2008 SIPP Panel and 2011 SIPP-EHC asked respondents to choose one or more races. Black alone refers to people who reported Black and did not report any other race category. Other alone or in combination (A.O.I.C.) refers to people who reported a race other than White alone or Black alone. The use of these race populations do not imply any preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches.

Table 8. Comparison of poverty rates across SIPP and SIPP-EHC, CY2009

		SIPP-EHC, CY2009			SIPP, CY2009			
		W2 Poverty Status			W2 Poverty Status			
		Not in Poverty	In Poverty	Total	Not in Poverty	In Poverty	Total	
Survey Poverty Status	Not in Poverty	15,113 52.7%	1,714 6.0%	16,828 58.7%	11,505 57%	515 3%	12,020 59%	
	In Poverty	1,208 4.2%	10,648 37.1%	11,856 41.3%	677 3.4%	7,541 37.3%	8,219 40.6%	
	Total	16,321 56.9%	123,621 43.1%	28,683 100.0%	12,182 60.2%	8,056 39.8%	20,239 100.0%	
Chi-Square					17981.7 <.0001			15585.5 <.0001

CY2009					
	SIPP-EHC	SIPP	Diff.	Sig.	
No Change	89.8%	94.1%	-4.3%	***	
Exited Poverty using W2	4.2%	3.4%	0.9%		
Entered Poverty using W2	6.0%	2.6%	3.4%	***	

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

Note: Coefficients and standard errors have been calculated using survey weights and inverse PIK probability weights. Estimates are not intended to be nationally representative. Shading applied to illustrate congruence across survey and W2 distributions.

Table 9. Comparison of poverty rates across SIPP and SIPP-EHC, CY2010

		SIPP-EHC, CY2010			SIPP, CY2010		
		W2 Poverty Status			W2 Poverty Status		
		Not in Poverty	In Poverty	Total	Not in Poverty	In Poverty	Total
Survey Poverty Status	Not in Poverty	8,895 53.8%	575 3.5%	9,470 57.3%	16,655 59.2%	669 2.4%	17,323 61.6%
	In Poverty	967 5.9%	6,092 36.9%	7,060 42.7%	1,114 4.0%	9,687 34.4%	10,801 38.4%
	Total	9,862 59.7%	6,668 40.3%	16,530 100.0%	17,768 63.2%	10,356 36.8%	28,124 100.0%
Chi-Square				10815.6 <.0001	21068.0 <.0001		

CY2010					
	SIPP-EHC	SIPP	Diff.	Sig.	
No Change	90.7%	93.7%	-3.0%	***	
Exited Poverty using W2	5.9%	4.0%	1.9%	**	
Entered Poverty using W2	3.5%	2.4%	1.1%		

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

Note: Coefficients and standard errors have been calculated using survey weights and inverse PIK probability Estimates are not intended to be nationally representative.
Shading applied to illustrate congruence across survey and W2 distributions.

Table 10. Poverty Status Difference Regression Results, CY2009

		CY2009: All				
		(1)	(2)	(3)	(4)	(5)
	Constant	0.0080	0.0203	-0.0084	-0.0094	0.0280 ***
	SIPPEHC	-0.0257 **	-0.0476 **	-0.0154	-0.0119	0.0090
Age						
	15-24		-0.0567			
	60+		-0.0216			
SIPPEHC#Agecat						
	15-24		0.0722			
	60+		0.0403 *			
Race						
	Black (Alone)			0.0072		
	Other (A.O.I.C.)			0.0526 **		
SIPPEHC#Race						
	Black (Alone)			-0.0082		
	Other (A.O.I.C.)			-0.0278		
Origin						
	Hispanic				0.0607 ***	
	SIPPEHC#Hispanic				-0.0485 *	
Job Status						
	Job Flag					-0.0439 **
	SIPPEHC#Job Flag					-0.0759 ***
	N	2,805	2,804	2,801	2,805	2805

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

Note: Unweighted observation counts are listed. Coefficients and standard errors have been calculated using sample weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

Note: Model two includes an omitted factor variable for individuals aged 25 to 59.

Note: Model three includes an omitted factor variable for White (Alone) individuals.

Note: The 2008 SIPP Panel and 2010 SIPP-EHC asked respondents to choose one or more races. Black alone refers to people who reported Black and did not report any other race category. Other alone or in combination (A.O.I.C.) refers to people who reported a race other than White alone or Black alone. The use of these race populations do not imply any preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches.

Note: Model five includes job flag as reported through the 2008 SIPP or 2010 SIPP-EHC survey.

Table 11. Poverty Status Difference Regression Results, CY2010

		CY2010: All				
		(1)	(2)	(3)	(4)	(5)
	Constant	0.0158 **	0.0257 **	-0.0070	0.0074	0.0337 ***
	SIPPEHC	0.0079	0.0109	0.0398 ***	0.0054	0.0434 ***
Age						
	15-24		-0.0418			
	60+		-0.0182			
SIPPEHC#Agecat						
	15-24		0.0172			
	60+		-0.0086			
Race						
	Black (Alone)			0.0383 **		
	Other (A.O.I.C.)			0.0556 **		
SIPPEHC#Race						
	Black (Alone)			-0.0730 ***		
	Other (A.O.I.C.)			-0.0583		
Origin						
	Hispanic				0.0331 *	
	SIPPEHC#Hispanic				0.0089	
Job Status						
	Job Flag					-0.03857 **
	SIPPEHC#Job Flag					-0.0764 ***
	N	2,636	2,636	2,635	2,636	2,636

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

Note: Unweighted observation counts are listed. Coefficients and standard errors have been calculated using sample weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

Note: Model two includes an omitted factor variable for individuals aged 25 to 59.

Note: Model three includes an omitted factor variable for White (Alone) individuals.

Note: The 2008 SIPP Panel and 2011 SIPP-EHC asked respondents to choose one or more races. Black alone refers to people who reported Black and did not report any other race category. Other alone or in combination (A.O.I.C.) refers to people who reported a race other than White alone or Black alone. The use of these race populations do not imply any preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches.

Note: Model five includes job flag as reported through the 2008 SIPP or 2011 SIPP-EHC survey.

Table 12. Job and Earnings Difference Regression Results by Poverty Transition, CY2009

	CY2009			
	Jobs		Earnings	
	B _{SIPP}	B _{EHC}	B _{SIPP}	B _{EHC}
Poor in Both	-0.0708 ***	-0.0330	-69.53	30.43
Not Poor in Both	-0.1535 ***	-0.0611	-3847.74 ***	9739.69 ***
Poor in W2 Only	-0.0207	0.3187	19,061 ***	13,902 *
Poor in Survey Only	-0.7196 ***	-0.1920	-19216.7 ***	-15779.8 ***

* P <0.1, ** p<0.5, *** p<0.01

Note: Coefficients and standard errors have been calculated using sample weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.

Table 13. Job and Earnings Difference Regression Results by Poverty Transition, CY2010

	CY2010			
	Jobs		Earnings	
	B _{SIPP}	B _{EHC}	B _{SIPP}	B _{EHC}
Poor in Both	-0.0655 **	-0.1233 ***	-115	-232
Not Poor in Both	-0.1811 ***	-0.0703 **	-4683 ***	4599 ***
Poor in W2 Only	0.3470 ***	0.0077	22020 ***	572
Poor in Survey Only	-0.7270 ***	-0.3685 **	-22612 ***	4507

* P <0.1, ** p<0.5, *** p<0.01

Note: Coefficients and standard errors have been calculated using sample weights and inverse PIK probability weights. Estimates are not intended to be nationally representative.