

# **THE SURVEY OF INCOME AND PROGRAM PARTICIPATION**

## **Measuring the Cost of Employment: Work-Related Expenses in the Supplemental Poverty Measure**

Revised November 13, 2017

No. 279  
SEHSD No. 2017-43

Abinash Mohanty  
Ashley Edwards  
Liana Fox, PhD.  
U.S. Census Bureau

U.S. Department of Commerce U.S. CENSUS BUREAU

**Measuring the Cost of Employment:  
Work-Related Expenses in the Supplemental Poverty Measure**

Abinash Mohanty, Ashley Edwards, and Liana Fox, PhD.

U.S. Census Bureau<sup>1</sup>

Prepared for the November 2017 Meeting of the Southern Economic Association

**Abstract**

---

The Supplemental Poverty Measure (SPM) was designed to more fully account for the resources that individuals have to meet their basic needs. As such, unlike the official poverty measure, the SPM adds the value of in-kind benefits and deducts necessary expenses from total resources; these deductions include state and federal income taxes, child support paid, medical expenses, and work-related expenses such as commuting and child-care costs. Since the first estimates of the SPM were released for 2010 through 2015, deductions for work-related expenses (excluding childcare) were derived from data collected in the 2008 Panel of the Survey of Income and Program Participation (SIPP). In March 2017, the redesigned 2014 SIPP Panel was released and used to update the work-expense deduction when calculating the SPM for 2016.

This paper compares work-related expenses reported in the redesigned 2014 SIPP Panel to those from the previous 2008 Panel, and evaluates how SPM estimates for 2015 vary across demographic groups when calculating resource deductions based on the redesigned panel. This paper finds that 2015 median weekly work-related expenses increase from \$40.22, using wave 10 of the 2008 Panel, to \$47.17 using wave 1 of the 2014 Panel.<sup>2</sup> This increase in work expenses leads to a 0.3 percentage point increase in the SPM rate for 2015.

**Keywords:** Poverty, Supplemental Poverty, Work Expenses, Commuting, SIPP Redesign

**JEL Codes:** I320, J300

**Contact Information**

---

Abinash Mohanty  
U.S. Census Bureau  
301-763-6893

abinash.mohanty@census.gov

Ashley Edwards  
U.S. Census Bureau  
301-763-2458

ashley.edwards@census.gov

Liana Fox  
U.S. Census Bureau  
301-763-2676

liana.e.fox@census.gov

---

<sup>1</sup> 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 authors and are not necessarily those of the U.S. Census Bureau. Any error or omissions are the sole responsibility of the authors. 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 <[www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html](http://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html)>. Source and accuracy information for the CPS ASEC can be found at <[www2.census.gov/library/publications/2016/demo/p60-256sa.pdf](http://www2.census.gov/library/publications/2016/demo/p60-256sa.pdf)>.

<sup>2</sup> All costs in constant 2015 dollars.

## Overview

---

Beginning in 2011, the U.S. Census Bureau began publishing the Supplemental Poverty Measure (SPM), which expands the official poverty measure by taking account of government assistance programs not included in the official poverty measure, incorporating alternative thresholds, and modernizing the family level unit of analysis. The SPM was developed following decades of research on poverty measurement, including a 1995 report by a National Academy of Science (NAS) Research Council panel. In 2010, the Interagency Technical Working Group (ITWG) issued a series of suggestions to the Census Bureau and the Bureau of Labor Statistics on how to develop the SPM. These suggestions drew on the recommendations of the 1995 NAS report and subsequent extensive research on poverty measurement.

The ITWG, consistent with the recommendations of the 1995 NAS report, suggested that the new poverty measure should deduct reported work-related childcare expenses from family income and subtract a flat weekly deduction for other work-related expenses among those in the labor force. The 1995 NAS report noted:

*“Just as income used for taxes is not available for consumption, neither is the amount of earnings devoted to work expenses; hence, such expenses should not be counted as family resources.”*  
(p. 70 National Research Council, 1995)

The Census Bureau produces SPM estimates using data from the Current Population Survey Annual Social and Economic Supplement (CPS ASEC), which is also the data source for the official poverty measure. The poverty rate using the SPM in 2015 was 14.3 percent—higher than the 13.7 percent rate calculated using the official methodology (Renwick & Fox, 2016).

To account for work-related expenses (excluding child-care) in the SPM, a flat weekly deduction is applied to all individuals based on the number of weeks they reported working over the year in the CPS ASEC. Since the inception of the SPM, this deduction has been calculated from the 2008 Panel of the Survey of Income and Program Participation (SIPP). Data from the SIPP account for commuting expenses related to traveling to and from work as well as other miscellaneous work expenses such as union dues, uniforms, or tools. The number of weeks worked, reported in the CPS ASEC, is multiplied by 85 percent of median weekly work-related expenses, derived from the SIPP, for each worker aged 18 and older in order to arrive at annual work-related expenses.<sup>3</sup> Unlike the other additions and deductions to total resources that are applied when calculating the SPM, the work-related expense deduction is the only resource adjustment that is derived from a survey other than the CPS ASEC.<sup>4</sup>

This paper summarizes and evaluates changes in the reporting of work-related expenses across the 2008 and redesigned 2014 Panels of the SIPP. We then measure the isolated impact of replacing the weekly deduction derived from the 2008 Panel with calculations from the 2014 Panel in order to evaluate changes in 2015 SPM estimates among different population groups.

---

<sup>3</sup> This deduction is capped so as to not exceed total reported earnings of the lowest earning reference person or spouse/partner of the reference person in the family. See National Research Council (1995) p 256.

<sup>4</sup> Note that when we refer to the ‘work-related expense deduction’ in this paper, we refer only to the flat weekly deduction, separate from the childcare component, which is reported directly by respondents in the CPS ASEC based on actual incurred costs.

## The SIPP Redesign

---

The SIPP is a longitudinal survey conducted by the Census Bureau which consists of successive interviews referred to as “waves.” Prior to the recent 2014 redesign, SIPP panels conducted interviews every 4 months, with respondents answering a “core content” questionnaire on the prior 4-month period. Many waves also contained supplemental “topical module” questionnaires that focused on a variety of topics of interest. The 2008 SIPP Panel, covering the period from October 2008 to November 2013, conducted work-related expenses topical modules (TMs) in waves 4, 5, and 10, referencing the period of 2009, 2010, and 2011, respectively.

The work-related expense TMs in the 2008 SIPP Panel collected information from people aged 15 and older who had at least one employer or owned their own business during the previous 4-month reference period. Three types of work-related expenses were collected: 1) annual “other” work-related expenses, such as union dues, licenses, permits, special tools, or uniforms; 2) the number of miles driven to and from work in a typical week; and 3) costs associated with public transit or parking/toll fees (Edwards et al., 2014).

In comparison, the redesigned 2014 SIPP Panel conducts an annual interview referencing the previous calendar year and will cover the period from January 2013 to December 2016. The 2014 SIPP also no longer utilizes separate TMs, and questions regarding work-related expenses are asked in each annual interview. While TM respondents in the 2008 SIPP were asked to report expenses across all jobs for a typical week during the previous 4-month reference period, respondents in the 2014 Panel are asked to report work-related expenses individually for each of their employment spells listed over the course of the year, allowing expenses to vary monthly as employment situations change. The 2014 SIPP allows respondents to provide 7 individual employers or owned businesses and up to 2 distinct spells of employment per employer or owned business over the 12-month reference period (Edwards 2016).

Similar to the 2008 Panel, respondents continue to report “other” work-related expenses (such as uniforms), miles driven to work, public transit costs, and parking and toll fees. Unlike the 2008 Panel, commuting expenses are reported as daily rather than weekly expenses and “other” costs are reported per job spell as opposed to a single annual amount. For each employment spell over the course of the year respondents report how many days a week they worked, as well as any days worked from home. This allows commuting costs to be calculated based only on the days that the respondent traveled to and from work. For additional detail on survey instrument as well as data processing changes across the 2008 and 2014 Panels as they relate to the work-related expense content, see Edwards 2016.

### Calculating Median Work Expenses

---

Given that commuting expenses in the 2008 Panel were reported for an average week across all jobs held over the previous 4-month reference period, limited editing was necessary to calculate weekly costs related to driving, transit, parking, or toll fees. Driving expenses were calculated by multiplying the reported weekly mileage by the appropriate annual Internal Revenue Service (IRS) reimbursement rate,<sup>5</sup> while all other weekly costs were inflated as necessary using the Consumer Price Index for All Urban Consumers (CPI-U).<sup>6</sup> Annual “other” work-related

---

<sup>5</sup> See [www.irs.gov/tax-professionals/standard-mileage-rates](http://www.irs.gov/tax-professionals/standard-mileage-rates).

<sup>6</sup> See <https://www.bls.gov/cpi/tables/historical-cpi-u-201708.pdf>.

costs were converted to weekly expenses using a denominator of 52.2, the approximate number of weeks in a year. As the most recently available estimates from the 2008 Panel—up until March 2017 when the 2014 Panel data was released—were based on a calendar year 2011 reference period, SPM estimates for years 2012 through 2015 were limited to using data from the last available work-related expenses TM (wave 10) updated by CPI and IRS reimbursement rates. In 2015, data from the wave 10 topical module (calendar year 2011) were inflated to account for the 2015 IRS mileage deduction and increase in the CPI-U, resulting in a median weekly expense of \$40.25 in 2015 dollars.

Determining the appropriate weekly work-related expense deduction is more complex in the 2014 Panel given respondents' opportunity to provide commuting costs at the job-spell level in a way that may vary over the annual reference period. Further, workers in the 2014 Panel report commuting expenses as daily, meaning weekly expenses must be assigned based on a set multiplier or otherwise account for respondents' job schedules. Edwards (2016) presented a number of methods that could be used to assign weekly commuting expenses and preliminary results found while there were large differences when using a set multiplier compared to respondents reported work schedules, differences across computational strategies were not substantial, particularly when the decision was made to account for all jobs reported over the reference year.<sup>7</sup>

Calculating work-related expenses from the 2014 Panel required that we determine weekly expenses across all jobs for every month a respondent reported working in the reference year. Daily commuting expenses from driving, transit, parking, and tolls are multiplied by the number of days a respondent worked outside their home per week during that job spell. Other work-related expenses for that job spell are converted to weekly expenses by dividing total miscellaneous expenses for the job spell by the number of weeks worked for that job spell. These weekly costs are then summed across all jobs the respondent may have worked in a given month. To account for variation in weekly costs across the reference year, whether the respondent worked 1 month or all 12 months, a person level median is calculated based on the months the respondent worked over the period. These resulting person-level medians most closely approximate reporting from the 2008 Panel, that is, weekly work-related expenses across all jobs for a "typical" week over the reference period. From those person-level estimates, an overall median is then calculated across all individuals who worked at least 1 month over the course of the reference year, regardless of whether they incurred costs.

## Methods

---

Estimates are derived from the 2016 CPS ASEC (referencing calendar year 2015) and 2008 and 2014 SIPP Panels, all of which are nationally representative surveys.<sup>8</sup> Estimates presented in this paper utilize replicate weights to calculate standard errors based on their respective sampling design. Significant differences across estimates are tested using a 90 percent confidence threshold unless otherwise stated.

We evaluate commuting methods, associated costs, as well as weekly work-schedules across the 2008 and 2014 SIPP Panels. We then compare baseline SPM estimates from 2015, which subtract median weekly expenses as

---

<sup>7</sup> Edwards (2016) explored multiple ways that the redesigned 2014 SIPP could be used to calculate commuting expenses for the SPM. This paper extends that work, applying what was referred to in that paper as "method 3."

<sup>8</sup> Work expenses in this paper were calculated using version 1.0 of the 2014 SIPP wave 1 data. A rerelease of the data (version 1.1) was made available on 09/27/2017. The subsequent release of wave 1 version 1.1 included corrections that modify work-related expenses of some individuals. Additional information about changes across version 1.0 and version 1.1 of the 2014 SIPP wave 1 data is available at: < [www2.census.gov/programs-surveys/sipp/tech-documentation/2014/2014-wave1-releasenotes.pdf](http://www2.census.gov/programs-surveys/sipp/tech-documentation/2014/2014-wave1-releasenotes.pdf)>.

calculated in the 2008 SIPP wave 10 TM, to those calculated using the methods described above from wave 1 of the 2014 Panel. All SPM estimates are based on the 2015 reference year, and all cost estimates are calculated in 2015 dollars.

While the only component that changes when evaluating the SPM measures presented is the weekly work-related deduction based on the SIPP Panel being referenced, there is an additional change to the method of calculating medians that is unrelated to the SIPP redesign and impacts estimates from both the 2008 and 2014 Panels. Because of a change in the methodology to calculate medians, estimates presented here from the 2008 Panel are slightly, but not significantly, different than weekly work expenses used in the 2015 SPM report—\$40.22 vs \$40.25 (Renwick & Fox, 2016). In this paper, we calculate medians consistently across SIPP Panels, with comparisons to the value of \$40.22 as calculated using updated methods in wave 10 of the 2008 Panel.<sup>9</sup>

This research includes imputed values when calculating respondents total work-related expenses in both the 2008 and 2014 SIPP Panels. In the Appendix we evaluate if observed differences in commuting expenses across SIPP Panels are driven by changes in imputation rates or imputed values.

## Results

---

As shown in Table 1, median total weekly work-related expenses for all workers in wave 1 of the 2014 SIPP panel (\$47.17) were higher than median expenses from wave 10 of the 2008 SIPP Panel (\$40.22).<sup>10</sup> Among “typical workers” defined here as those with expenses between the 48<sup>th</sup> and 52<sup>nd</sup> percentiles, average weekly driving and transit expenses increased from wave 10 of the 2008 Panel to wave 1 of the 2014 Panel, while parking and other expenses were not statistically different.<sup>11</sup> On the other hand, the share of workers reporting driving expenses declined in the 2014 Panel, while the share reporting transit or “other” expenses increased.<sup>12</sup>

---

<sup>9</sup> Since 2010, the median work-related expense deduction used in the SPM has been derived from the 2008 Panel using the SAS® procedure `proc means` to calculate the weighted median across all workers. This method calculates the 50th percentile of weekly costs using a traditional empirical distribution function with averaging. While `proc means` will produce a standard error estimate for the mean, it will not produce standard errors of the median or account for replicate weights when calculating the variance of the median (Putter & Faber, 2012). Beginning with version 13.1, SAS® users have the option to use the `surveymeans` procedure to incorporate replicate weights to produce standard errors associated with the median using the balanced repeated replication (BRR) method—the recommended method to be used with the SIPP replicate weights. Prior to version 13.1 users could use the BRR method with replicate weights to calculate standard errors for the mean using the `surveymeans` procedure, but not the median. When incorporating replicate weights to calculate medians in SAS version 13.1 and later, the median is calculated based on the original cumulative distribution function, but as opposed to step functions with averaging, incorporates alternate interpolation methods to assign unique quartile values (Taylor, 2016). Beginning with SPM estimates for calendar year 2016, the Census Bureau plans to move from using the `proc means` to `surveymeans` procedure. There are no significant differences in median work-related expenses across methods for any wave of the 2008 Panel, although in wave 10 the weekly work-related expense is \$40.22 using the `surveymeans` method and \$40.25 using the earlier `proc means` method.

<sup>10</sup> Work expenses in this paper were calculated using version 1.0 of the 2014 SIPP wave 1 data. A rerelease of the data (version 1.1) was made available on 09/27/2017. The subsequent release of wave 1 version 1.1 included corrections that modify work-related expenses of some individuals. However, weekly median work-related expenses for all workers calculated using version 1.1 (\$46.00) was not significantly different from weekly median expenses calculated using version 1.0 (\$47.17). Additional information about changes across version 1.0 and version 1.1 of the 2014 SIPP wave 1 data is available at: [www2.census.gov/programs-surveys/sipp/tech-documentation/2014/2014-wave1-releasenotes.pdf](http://www2.census.gov/programs-surveys/sipp/tech-documentation/2014/2014-wave1-releasenotes.pdf).

<sup>11</sup> In wave 10 of the 2008 Panel, “typical” workers are defined as those with total weekly costs from \$34.49 to \$43.11, the 48<sup>th</sup> and 52<sup>nd</sup> percentile of the overall distribution. In the 2014 Panel, “typical” workers are similarly defined as those with total weekly costs from \$46.00 to \$51.75.

<sup>12</sup> The share of workers reporting parking expenses was not statistically different across the SIPP panels.

There are multiple factors that could be responsible for the higher reported work-related expenses in the 2014 Panel, such as number of jobs, work schedules, and commuting mode, all of which could have been impacted by the survey redesign, changes in commuting trends and work-expenses over time, or a combination of both. It could simply be that workers in 2013 are correctly reporting driving longer distances to and from work than over the period from 2009 to 2011. Effects related to the SIPP redesign could also play a contributing factor. The 2014 Panel allows individuals to report expenses individually for up to 7 jobs in a given month over the calendar year reference period, while in the 2008 Panel respondents reported aggregate costs across all jobs. Increases in driving costs due to the reporting of miles driven individually for each job could be responsible for the increase in reported mileage. Mean and median weekly driving related costs of workers who reported 1 or 2 jobs for an average month over the reference period were \$69.61 and \$40.07, significantly lower than the mean and median driving related costs (\$158.82 and \$99.90) of those reporting 3 or more jobs for an average month. Given that miles driven to and from work are reported for each job individually in the 2014 SIPP as opposed to a total across all jobs as in the 2008 Panel, there is some concern that respondents may be reporting increased mileage from double counting miles when reporting across multiple jobs. However, only 0.33 percent of respondents worked at 3 or more jobs on average over the course of the reference year.

Respondents work schedules may be an additional contributing factor leading to increased driving expenses among 2014 Panel respondents. While respondents in the 2008 Panel reported weekly costs, the daily reporting of costs in the 2014 Panel lends greater significance to the reporting of work schedules. Table 2 compares work schedules from wave 1 of the 2014 SIPP to schedules reported in the 2008 SIPP Panel waves 5 and 8 Work Schedule TMs.<sup>13</sup> Notably illustrated in Table 2 is the fact that in wave 1 of the 2014 Panel, over 10 percent of workers reported working all 7 days a week at both their primary and secondary jobs when accounting for telework. Comparatively, in both waves 5 and 8 of the 2008 Panel, less than 4 percent of workers reported working at an office all 7 days of the week. These longer work weeks among respondents in the 2014 SIPP could result in increased commuting costs, most notably in the form of driving expenses as 78.1 percent of workers in wave 1 travel to work by car only.

Table 3 attempts to eliminate the impact of these differential work schedules on work-related expenses across SIPP panels. For respondents who were interviewed in both the 2008 Panel schedule and work-expense TMs, weekly expenses as reported in the wave 4, 7, and 10 TMs are divided by the reported number of days worked in the wave 5 and 8 TMs. The reported number of days worked were modified to account for the number of days the respondent teleworked, as reported by the respondent in the wave 5 and 8 TMs, such that weekly commuting expenses were divided by days worked away from home.

As shown in Table 3, median daily work-related expenses in wave 1 of the 2014 SIPP remain higher than in wave 10 of the 2008 SIPP. Among “typical” workers, mean daily driving, transit, and parking expenses increased from wave 10 of the 2008 Panel.<sup>14</sup> Similar to the weekly expenses shown in Table 1, driving expenses appear to be the primary contributor to higher work-related expenses. Unlike weekly estimates, the percent of all workers reporting daily driving expenses in the 2014 Panel is higher than in wave 10 of the 2008 Panel.

---

<sup>13</sup> While respondents in waves 5 and 8 of the 2008 Panel may vary from those who responded to the wave 4, 7, and 10 Work-Related Expenses TMs, match rates across TMs are quite high, with 80.4 percent of respondents reporting both commuting costs and work schedules across waves 4 and 5, and 91.2 percent reporting both costs and schedules across waves 8 and 10.

<sup>14</sup> In wave 10 of the 2008 Panel, “typical” workers are defined as those with total daily costs from \$7.47 to \$8.63, the 48<sup>th</sup> and 52<sup>nd</sup> percentile of the overall distribution. In the 2014 Panel, “typical” workers are similarly defined as those with total daily costs from \$10.17 to \$11.50.

Given that driving expenses seem to contribute the largest share of cost increases in the 2014 Panel, Table 4 compares weekly expenses across panels by commute mode as reported for the respondent's primary job. Table 4 also illustrates the expansion of commuting mode choices in the 2014 SIPP, with respondents in the 2014 Panel able to report detailed transit modes, biking and walking as unique modes, and more detailed 'other' mode categories. Table 4 again shows a large difference between the mean and median indicating a high degree of skewness in the reporting of costs, which is fairly pronounced across all modes except for those who report exclusively working from home or use rail.<sup>15</sup> We find that while workers who reported driving their own vehicle did not experience the largest increases in median weekly costs across panels, they continue to report the highest median weekly expenses.

The expansion of commuting mode choices may have contributed to fewer individuals stating that they only drive or carpool to work, which may also explain increases in those reporting the use of multiple modes. The 2008 and 2014 SIPP have a consistent percentage of workers taking public transportation to work, however, the detail in the 2014 SIPP show that median total weekly expenses for rail riders was \$8.60 higher than median expenses for bus riders. Similarly, the percentage of individuals that report biking or walking to work are not statistically different across panels, however the additional specificity of the 2014 SIPP provides that walkers have median total weekly expenses of \$8.10 while bikers had \$0.00 in median weekly work-related expenses. The increase in the median weekly work-related expenses for walkers (\$8.10 per week) was among the largest increases in median weekly costs across all modes, although given the small proportion of workers who use this transit option, less impactful than changes in driving costs. This increase brings to attention the question of why walkers report median work-related expenses above \$0.00 when their commutes seem to be cost-free.<sup>16</sup> The 2014 SIPP has a higher percentage of workers who commute using modes categorized as "other" in the 2008 SIPP. In the 2014 SIPP the most utilized mode within this category was "work at home," which had median weekly expenses of \$0.00. The percent of individuals in the 2014 SIPP that reported a combination of modes was 0.8 percentage points higher than wave 10 of the 2008 Panel, and median weekly costs increased \$7.80 among this group.

Table 5 provides 2015 SPM rates produced using alternate work expenses deductions from the 2008 and 2014 SIPP Panels. Replacing the 2008 Panel wave 10 deduction (\$40.22) with the median from wave 1 of the 2014 Panel (\$47.17) results in a SPM poverty rate of 14.5 percent, 0.3 percentage points higher than estimates using the 2008 Panel deduction value.<sup>17</sup> For each of the demographic groups shown in Table 5, the use of the updated work-related expense deduction from the 2014 SIPP resulted in a significant increase in the number and percent of individuals in poverty.

---

<sup>15</sup> Tested using a 95 percent confidence threshold.

<sup>16</sup> This analysis was conducted before the 9/27/2017 rerelease of version 1.1 of the 2014 SIPP wave 1 data. This rerelease appears to have fixed this imputation related issue. Mean and median work related expenses for walkers in the rereleased wave 1 version 1.1 data are \$4.24 and \$0.

<sup>17</sup> Work expenses in this paper were calculated using version 1.0 of the 2014 SIPP wave 1 data. A rerelease of the data (version 1.1) was made available on 09/27/2017. The subsequent release of wave 1 version 1.1 included corrections that modify work-related expenses of some individuals. However, weekly median work-related expenses for all workers calculated using version 1.1 (\$46.00) was not significantly different from weekly median expenses calculated using version 1.0 (\$47.17). A work-related expenses deduction of \$46.00 results in a SPM poverty rate of 14.5 percent, 0.3 percentage points higher than estimates using the 2008 Panel wave 10 deduction. The difference of 0.3 percentage points is not statistically different than what was produced using a work-related expenses deduction of \$47.17. Additional information about changes across version 1.0 and version 1.1 of the 2014 SIPP wave 1 data is available at: < [www2.census.gov/programs-surveys/sipp/tech-documentation/2014/2014-wave1-releasenotes.pdf](http://www2.census.gov/programs-surveys/sipp/tech-documentation/2014/2014-wave1-releasenotes.pdf)>.

As shown in Table 5, the increase in the work expenses deduction appears to have an uneven impact on poverty rates across demographics. When examining this, it is important to consider that work expenses are only incurred among the working, and resource deductions have a proportionally higher impact on individuals in units with resources (pre-deduction) close to their poverty threshold. One measure of this closeness is their poverty rate. Because of this, the impact of the new work expenses deduction on poverty rates appears to be influenced by two characteristics, a demographic group's work intensity and its income distribution. This potential relationship can be examined through Table 6, which categorizes SPM family units by demographic characteristics and work intensity (i.e., whether all working-age adults in the unit worked full-time, all adults worked at least part-time, at least one adult in the unit was not working, or all adults were not working). The percentage of units across work intensity classification as well as their respective poverty rate is provided across demographic groups. The poverty rate quantifies the prevalence of low income family units within each classification.<sup>18</sup>

Table 5 shows that the poverty rate for individuals living in family units headed by an unmarried female increased by 0.7 percentage points with the incorporation of the new work expenses deduction. Table 6 shows that this could be due to a combination of both high work intensity and high poverty rates among this population. Only 18.3 percent of family units headed by single females have no adult workers, which indicates that the work expenses deduction is being applied to the incomes of a substantial portion of workers living in these female reference person units. Female reference person units also have a high poverty rate of 25.4 percent. Indicating that this population is particularly vulnerable to resource deductions and increases in work expenses may disproportionately increase poverty rates.

Alternatively, Table 5 shows that the poverty rate for individuals living in married couple units only increased by 0.2 percentage points with the incorporation of the new work expenses deduction. Table 6 shows that this could be a reflection of the demographic group's relatively low poverty rate of 8.4 percent. Although married couple units do have high work intensity, with only 6.3 percent of units having no adult workers; low poverty rates among the four work intensity classifications with adult workers present makes it reasonable to assume that few individuals would be moved into poverty based on the 2014 Panel deduction.

Data from Table 6 appears to indicate that poverty rates changed minimally for disabled persons for the opposite reason, relatively high poverty rates coupled with lower work intensity. A plurality of these units, 39.5 percent, had no adults working, while 32.5 percent had at least one adult—but not all adults—working. While the overall poverty rate for units with at least one disabled adult was 26.3 percent, it appears that low work intensity among these units limits the higher work expense deduction from having a substantial impact on poverty rates.

## **Implications and Next Steps**

---

As the Supplemental Poverty Measure moves towards calculating a work-related expense deduction from the recently released and redesigned 2014 SIPP, understanding how this estimate is derived, and how the deduction—and the impact across demographic groups—varies from prior SPM estimates will continue to be a relevant issue for researchers and policy makers. As the 2014 SIPP releases subsequent waves of data, this deduction will be updated to reflect the most recent reference year available, and further allow for evaluation of how commuting trends and costs vary as respondents in the 2014 Panel are re-interviewed.

While this research has summarized differences across the 2008 and 2014 SIPP Panels in the reporting of work-related expenses, we are unable to disentangle differences that reflect true changes in commuting trends and costs

---

<sup>18</sup> Note that the SPM unit is the unit of analysis for Table 6, unlike Table 5, which looks at individuals.

between the periods of 2011 and 2013 as opposed to differences that may reflect changes in reporting behavior among respondents in the redesigned SIPP survey. Future work should seek external sources to provide evidence on time trends in commuting patterns.

The authors also acknowledge that the limitations present with assigning a uniform weekly work-related expense to all workers in the CPS ASEC persist when using the 2014 SIPP to produce this deduction. Previous research has shown that a fixed deduction is not well representative across workers. Taking into account geography and mode of transportation may improve the estimates of work-related expenses. Utilizing American Community Survey (ACS) data, Edwards et al. (2014), found substantial variation in costs across commuting modes and geographies. Due to the importance of driving costs confirmed in this analysis, future research should continue to examine how additional variables available in the ACS could be used to produce a more accurate and nuanced accounting for the costs workers face when participating in the labor force.

## References

---

- Edwards, A. (2016). "Measuring Work-Related Expenses in the Redesigned 2014 SIPP Panel: Methods and Implications." U.S. Census Bureau. SEHSD Working Paper 243.  
<[www.census.gov/content/dam/Census/library/working-papers/2015/demo/SIPP-WP-273.pdf](http://www.census.gov/content/dam/Census/library/working-papers/2015/demo/SIPP-WP-273.pdf)>.
- Edwards, A., McKenzie, B., Short, K. (2014). "Work-Related Expenses in the Supplemental Poverty Measure." Implications." U.S. Census Bureau.  
<[www.census.gov/content/dam/Census/library/working-papers/2014/demo/sgeworkexpense.pdf](http://www.census.gov/content/dam/Census/library/working-papers/2014/demo/sgeworkexpense.pdf) >.
- National Research Council. Panel on Poverty and Family Assistance. (1995). *Measuring Poverty: A New Approach*. Citro, C. F., & Michael R. T. (Eds.). Washington, DC: National Academy Press.
- Putter, J. & Faber, L. (2012). "Quartiles within SAS." Presented at the 2012 PhUSE Conference.  
<[www.lexjansen.com/phuse/2012/pp/PP16.pdf](http://www.lexjansen.com/phuse/2012/pp/PP16.pdf)>.
- Renwick, T. & Fox, L. (2016). *The Supplemental Poverty Measure: 2015 (P60-258 (RV))*. U.S. Census Bureau. Washington, DC.
- SAS Institute Inc. (2013) SAS/STAT® 13.1 User's Guide. Cary, NC: SAS Institute Inc.  
<<https://support.sas.com/documentation/onlinedoc/stat/131/surveymeans.pdf>>.
- Taylor, Lewis. 2016. "Complex Data Analysis with SAS." CRC Press. Borca Raton, FL.

**Table 1. Weekly Work-Related Expenses across SIPP Panels**

	2008 Panel						2014 Panel	
	Wave 4		Wave 7		Wave 10		Wave 1	
Reference Year	2009		2010		2011		2013	
All workers	Pct. with Weekly Expenses	Median Weekly Expenses	Pct. with Weekly Expenses	Median Weekly Expenses	Pct. with Weekly Expenses	Median Weekly Expenses	Percent with Weekly Expenses	Median Weekly Expenses
Total Work Expenses	88.7 (0.2)	34.5 (0.5)	88.5 (0.2)	34.5 (0.6)	88.5 (0.2)	40.2 (0.8)	86.4 (0.2)	47.2 (2.0)
Driving Expenses	80.1 (0.3)	28.6 (0.9)	80.2 (0.3)	28.6 (1.0)	80.0 (0.3)	33.4 (1.5)	76.2 (0.3)	40.1 (1.7)
Transit Expenses	7.8 (0.2)	0.0 (7.0)	7.5 (0.2)	0.0 (22.6)	7.6 (0.2)	0.0 (14.4)	8.8 (0.2)	0.0 (27.1)
Parking Expenses	5.5 (0.1)	0.0 (10.1)	5.3 (0.1)	0.0 (10.1)	5.1 (0.1)	0.0 (12.7)	5.3 (0.1)	0.0 (0.7)
'Other' Expenses	16.4 (0.3)	0.0 (0.4)	15.2 (0.2)	0.0 (2.6)	14.7 (0.3)	0.0 (0.5)	20.4 (0.3)	0.0 (0.3)
Number of Workers	150,827,003		148,729,694		149,173,888		157,619,696	
"Typical <sup>1</sup> Workers"	Average Weekly Expenses		Average Weekly Expenses		Average Weekly Expenses		Average Weekly Expenses	
Total Work Expenses	34.7 (0.0)		35.3 (0.0)		37.1 (0.1)		48.1 (0.1)	
Driving Expenses	26.9 (0.4)		31.4 (0.3)		31.5 (0.3)		40.8 (0.5)	
Transit Expenses	5.8 (0.4)		1.7 (0.2)		3.5 (0.3)		5.0 (0.5)	
Parking Expenses	0.5 (0.1)		0.5 (0.1)		0.4 (0.1)		0.6 (0.2)	
'Other' Expenses	1.5 (0.1)		1.6 (0.1)		1.7 (0.1)		1.7 (0.2)	
Number of Workers	6,370,597		5,911,701		8,966,074		7,274,159	

<sup>1</sup> In wave 4 of the 2008 Panel, "typical" workers are defined as those with total weekly costs from \$33.13 to \$37.66, the 48<sup>th</sup> and 52<sup>nd</sup> percentile of the overall distribution. In waves 7 and 10 of the 2008 Panel, "typical" workers are similarly defined as those with total weekly costs from 33.75 to 39.60 and \$34.49 to \$43.11, respectively. In the 2014 Panel, "typical" workers are those with total weekly costs from \$46.00 to \$51.75.

Notes:

All values calculated in 2015 dollars.

In the 2008 Panel, the universe includes all respondents who reported working over the four month reference period of the interview. In the 2014 Panel, the universe includes all workers who had a job for at least one month of the calendar year reference period.

While driving, transit, and parking expenses are reported weekly in the 2008 Panel, the 2014 Panel collects daily costs. Reported daily costs in the 2014 Panel are multiplied by the number of days a respondent reported working per week for a given job. Commuting expenses account for any days a respondent reported working at home in the 2014 Panel.

In the 2008 Panel "other" expenses are reported for the year and divided by 52.2 to calculate weekly expenses. In the 2014 Panel "other" expenses are reported for a job spell, and divided by the number of weeks in that employment spell.

Workers in the 2014 SIPP Panel report costs individually for up to 7 jobs and expenses may vary over the reference year. Estimates displayed in the table are based on all reported jobs and aggregate estimates are calculated at the person level, using the median costs reported for a given expense category over the reference year.

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 and 2014 Panels.

**Table 2.** Number of Days Worked and Impact of Telework Across Panels

Measure	2008 SIPP Panel								2014 Panel				
	Wave 5				Wave 8				Wave 1				
	Job 1		Job 2		Job 1		Job 2		Job 1		Job 2		
	Est	Std Err	Est	Std Err	Est	Std Err	Est	Std Err	Est	Std Err	Est	Std Err	
Not Accounting for Telework	1	2.8	0.1	24.9	0.9	2.6	0.1	22.2	0.9	1.3	0.1	7.0	0.4
	2	3.3	0.1	16.4	0.7	3.3	0.1	15.1	0.8	2.8	0.1	9.9	0.4
	3	5.8	0.1	12.5	0.7	5.6	0.1	12.8	0.7	4.5	0.1	7.6	0.4
	4	8.1	0.2	7.3	0.6	7.5	0.2	7.5	0.6	5.8	0.1	6.4	0.4
	5	70.8	0.3	28.1	0.9	72.2	0.3	32.7	1.1	64.9	0.3	46.2	0.7
	6	5.9	0.1	4.5	0.4	5.7	0.1	4.2	0.5	7.2	0.2	6.3	0.4
	7	3.4	0.1	6.4	0.5	3.0	0.1	5.4	0.5	13.6	0.2	16.5	0.6
Percent Teleworking	9.4	0.2	22.0	0.8	9.2	0.2	21.5	0.9	10.9	0.2	13.3	0.6	
Accounting for Telework	0	6.6	0.1	18.4	0.8	6.5	0.1	18.5	0.9	7.8	0.2	10.9	0.5
	1	2.8	0.1	20.7	0.8	2.5	0.1	18.0	0.8	1.3	0.1	6.0	0.4
	2	3.4	0.1	14.5	0.6	3.4	0.1	13.3	0.7	2.9	0.1	9.2	0.4
	3	5.9	0.1	11.1	0.7	5.8	0.1	11.0	0.6	4.7	0.1	7.2	0.4
	4	8.6	0.2	6.3	0.5	8.2	0.2	6.8	0.6	6.8	0.1	7.1	0.4
	5	65.5	0.3	22.7	0.9	66.8	0.3	25.9	1.0	59.2	0.3	42.1	0.8
	6	4.8	0.1	3.2	0.4	4.7	0.1	3.2	0.4	6.8	0.2	5.8	0.3
7	2.3	0.1	3.1	0.4	2.1	0.1	3.3	0.4	10.6	0.2	11.7	0.5	
N (had job weighted)	142,550,757		10,530,594		142,394,102		9,983,464		157,619,696		22,772,766		
n (had job unweighted)	41,193		3,049		37,983		2,671		34,887		4,994		

Notes:

Work schedules in the 2014 Panel may vary across a given job if the respondent reported multiple spells of work at the same employer. In these cases, the median number of days worked at a job is rounded to the nearest whole number.

Workers in the 2014 Panel could report up to 7 jobs over the year-long reference period. The above table is limited to jobs 1 and 2 as these were the only reporting options in the 2008 Panel.

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 and 2014 Panels.

**Table 3. Daily Work-Related Expenses across SIPP Panels**

	2008 Panel						2014 Panel	
	Wave 4		Wave 7		Wave 10		Wave 1	
Reference Year	2009		2010		2011		2013	
All workers	Pct. with Daily Expenses	Median Daily Expenses	Pct. with Daily Expenses	Median Daily Expenses	Pct. with Daily Expenses	Median Daily Expenses	Pct. with Daily Expenses	Median Daily Expenses
Total Work Expenses	85.6 (0.2)	7.2 (0.2)	85.4 (0.2)	7.5 (0.2)	85.7 (0.2)	8.4 (0.1)	88.8 (0.2)	11.5 (0.2)
Driving Expenses	77.3 (0.3)	5.7 (0.3)	77.2 (0.3)	5.8 (0.6)	77.5 (0.3)	6.9 (0.4)	78.6 (0.2)	8.9 (0.2)
Transit Expenses	7.0 (0.2)	0.0 (5.2)	6.8 (0.2)	0.0 (2.8)	6.7 (0.2)	0.0 (3.9)	9.2 (0.2)	0.0 (0.6)
Parking Expenses	5.2 (0.1)	0.0 (1.8)	5.0 (0.1)	0.0 (1.0)	4.9 (0.1)	0.0 (0.9)	5.7 (0.2)	0.0 (0.3)
'Other' Expenses	16.8 (0.3)	0.0 (0.5)	15.5 (0.3)	0.0 (0.3)	15.2 (0.3)	0.0 (0.3)	20.4 (0.3)	0.0 (0.1)
Number of Workers	125,259,232		124,469,198		123,632,811		157,619,696	
"Typical <sup>1</sup> Workers"	Average Daily Expenses							
Total Work Expenses	7.4 (0.0)		7.4 (0.0)		8.3 (0.0)		11.2 (0.0)	
Driving Expenses	6.4 (0.1)		6.5 (0.1)		7.2 (0.1)		10.0 (0.1)	
Transit Expenses	0.1 (0.0)		0.5 (0.0)		0.6 (0.1)		0.9 (0.1)	
Parking Expenses	0.5 (0.0)		0.1 (0.0)		0.1 (0.0)		0.2 (0.0)	
'Other' Expenses	0.4 (0.0)		0.3 (0.0)		0.4 (0.0)		0.2 (0.0)	
Number of Workers	5,937,470		6,052,346		4,964,158		12,867,522	

<sup>1</sup> In wave 4 of the 2008 Panel, "typical" workers are defined as those with total daily costs from \$6.90 to \$8.05, the 48<sup>th</sup> and 52<sup>nd</sup> percentile of the overall distribution. In waves 7 and 10 of the 2008 Panel, "typical" workers are similarly defined as those with total daily costs from \$6.90 to \$8.21 and \$7.66 to \$8.78, respectively. In the 2014 Panel, "typical" workers are those with total daily costs from \$10.17 to \$11.50.

Notes:

All values calculated in 2015 dollars. Standard errors shown in parentheses.

In the 2008 Panel, the universe includes all respondents who reported working over the four month reference period of the interview. In the 2014 Panel, the universe includes all workers who had a job for at least one month of the calendar year reference period.

Driving, transit, and parking expenses are reported weekly in the 2008 Panel, while the 2014 Panel collects daily costs. Reported weekly costs in the 2008 Panel are converted to daily costs by merging the Work-Related Expense Topical Module (collected in wave 4, 7, and 10 of the 2008 Panel) with the Work-Schedule Topical Module (conducted in waves 5 and 8 of the 2008 Panel). Weekly work-related expenses reported in the 2008 Panel are divided by the number of days worked per week at a respondents primary job. Weekly commuting costs (such as driving, transit, and parking) are converted to daily costs by dividing by the number of days a respondent worked in the office (i.e., commuted) at their primary job. Estimates are weighted using the person weight in the Work-Related Expenses Topical Module interview. Daily costs in the 2014 Panel do not take into account work schedules or teleworking arrangements.

In the 2008 Panel "other" expenses are reported for the year and divided by 52.2 to calculate weekly expenses, and subsequently divided by the number of days worked per week at a respondents primary job to derive daily estimates. In the 2014 Panel "other" expenses are reported for a job spell, and divided by the number of weeks and days worked per week in that employment spell.

Workers in the 2014 SIPP Panel report costs individually for up to 7 jobs and expenses may vary over the reference year. Estimates shown here are based on all reported jobs and aggregate estimates are calculated at the person level, using the median costs reported for a given expense category over the reference year.

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 and 2014 Panels.

**Table 4. Weekly Work-Related Expenses across SIPP Panels: By Commute Mode**

		2008 SIPP									2014 SIPP		
		Wave 4			Wave 7			Wave 10			Wave 1		
		Percent	Mean	Median	Percent	Mean	Median	Percent	Mean	Median	Percent	Mean	Median
Total		88.7 (0.2)	64.3 (0.6)	34.5 (0.5)	88.5 (0.2)	65.8 (0.6)	34.5 (0.6)	88.5 (0.2)	65.6 (0.6)	40.2 (0.8)	86.4 (0.2)	84.6 (1.8)	47.2 (2)
Only Drive		79.4 (0.3)	75.5 (0.7)	49.4 (1.2)	79.7 (0.3)	77.1 (0.7)	51.7 (1)	79.3 (0.3)	77.7 (0.7)	57.5 (1.4)	78.1 (0.3)	95.0 (1.2)	60.1 (1.1)
Carpool		5.5 (0.1)	15.9 (0.9)	0.0 (0.6)	5.3 (0.1)	15.6 (1)	0.0 (0.7)	5.3 (0.1)	17.4 (1.2)	0.0 (0.6)	4.3 (0.1)	66.2 (28.5)	2.7 (1.7)
Only Transit	Bus										2.3 (0.1)	43.1 (6.3)	20.3 (0.7)
	Rail	4.2 (0.1)	30.4 (1)	23.2 (4.1)	4.4 (0.1)	37.4 (2)	25.0 (0.5)	4.4 (0.1)	30.6 (1)	25.4 (0.6)	1.4 (0.1)	101.8 (43.5)	28.9 (1.3)
	Other Transit										0.6 (0)	129.1 (37.4)	25.0 (6.9)
Only Bike/Walk	Walk	3.7 (0.1)	4.4 (1.4)	0.0 (2.1)	3.5 (0.1)	2.8 (0.4)	0.0 (1.9)	3.5 (0.1)	3.9 (1.3)	0.0 (0.7)	2.8 (0.1)	29.2 (2.1)	8.1 (1.1)
	Bike										0.4 (0)	4.7 (1.5)	0.0 (1.7)
Other Mode	Company Car										2.3 (0.1)	8.2 (1.1)	0.0 (1.7)
	Work at Home	5.3 (0.1)	15.0 (2.4)	0.0 (1.4)	5.4 (0.1)	14.0 (2)	0.0 (1.7)	5.7 (0.1)	10.2 (0.9)	0.0 (0.5)	4.1 (0.1)	5.5 (1)	0.0 (10.9)
	Other										1.1 (0.1)	64.4 (17.9)	0.0 (2.4)
Combination of Modes		2.0 (0.1)	66.8 (3.9)	29.0 (2)	1.8 (0.1)	62.1 (4.3)	30.0 (3.2)	1.9 (0.1)	54.7 (3.1)	26.2 (2.8)	2.6 (0.1)	94.7 (12.6)	33.9 (2.9)
N (number of workers)		150,827,003			148,729,694			149,173,888			157,619,696		

All values calculated in 2015 dollars. Standard errors shown in parentheses.

Notes:

In the 2008 Panel, the universe includes all respondents who reported working over the four month reference period of the interview. In the 2014 Panel, the universe includes all workers who had a job for at least one month of the calendar year reference period.

In the 2014 Panel, commuting mode may vary across jobs as well as over the course of the reference period. Commute status for the 2014 Panel is based on the modal commuting method reported for job 1 over the reference year. In the 2008 SIPP, commuting mode does not vary over the reference period or across jobs.

While driving, transit, and parking expenses are reported weekly in the 2008 Panel, the 2014 Panel collects daily costs. Reported daily costs in the 2014 Panel are multiplied by the number of days a respondent reported working per week for a given job. Commuting expenses account for any days a respondent reported working at home in the 2014 Panel.

In the 2008 Panel "other" expenses are reported for the year and divided by 52.2 to calculate weekly expenses. In the 2014 Panel "other" expenses are reported for a job spell, and divided by the number of weeks in that employment spell.

Workers in the 2014 SIPP Panel report costs individually for up to 7 jobs and expenses may vary over the reference year. Estimates shown here are based on all reported jobs and aggregate estimates are calculated at the person level, using the median costs reported for a given expense category over the reference year.

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 and 2014 Panels.

**Table 5. Number and Percentage of People in Poverty using Alternate Work Expense Deductions: 2015**

Characteristic	Number (in thousands)	SPM (2008 SIPP Wave 10 Work Expenses: \$40.22)				SPM (2014 SIPP Wave 1 Work Expenses: \$47.17)				Difference	
		Number		Percent		Number		Percent		Number	Percent
		Estimate	Margin of error† (±)	Estimate	Margin of error† (±)	Estimate	Margin of error† (±)	Estimate	Margin of error† (±)		
<b>All People</b>	318,868	45,214	896	14.2	0.3	46,250	902	14.5	0.3	1,035 *	0.3 *
<b>Sex</b>											
Male	156,205	21,205	482	13.6	0.3	21,678	489	13.9	0.3	473 *	0.3 *
Female	162,664	24,010	510	14.8	0.3	24,572	514	15.1	0.3	562 *	0.3 *
<b>Age</b>											
Under 18 years	74,062	11,727	372	15.8	0.5	12,026	370	16.2	0.5	299 *	0.4 *
18 to 64 years	197,260	27,012	590	13.7	0.3	27,719	596	14.1	0.3	707 *	0.4 *
65 years and older	47,547	6,476	238	13.6	0.5	6,506	239	13.7	0.5	30 *	0.1 *
<b>Type of Unit</b>											
Married couple unit	190,893	16,958	609	8.9	0.3	17,341	620	9.1	0.3	383 *	0.2 *
Cohabiting partner unit	25,744	3,838	309	14.9	1.2	3,970	314	15.4	1.2	132 *	0.5 *
Female reference person unit	43,115	11,312	438	26.2	0.9	11,623	442	27.0	0.9	311 *	0.7 *
Male reference person unit	14,259	2,594	238	18.2	1.5	2,683	239	18.8	1.5	89 *	0.6 *
Unrelated individuals	44,857	10,512	388	23.4	0.7	10,632	390	23.7	0.7	120 *	0.3 *
<b>Race<sup>1</sup> and Hispanic Origin</b>											
White	245,805	30,698	713	12.5	0.3	31,493	735	12.8	0.3	795 *	0.3 *
White, not Hispanic	195,646	19,577	549	10.0	0.3	20,082	553	10.3	0.3	504 *	0.3 *
Black	41,703	9,378	418	22.5	1.0	9,527	423	22.8	1.0	149 *	0.4 *
Asian	18,249	2,904	222	15.9	1.2	2,929	221	16.1	1.2	26 *	0.1 *
Hispanic (any race)	56,873	12,546	479	22.1	0.8	12,862	487	22.6	0.9	316 *	0.6 *
<b>Nativity</b>											
Native born	275,798	35,984	735	13.0	0.3	36,789	734	13.3	0.3	805 *	0.3 *
Foreign born	43,070	9,231	380	21.4	0.7	9,461	387	22.0	0.8	230 *	0.5 *
Naturalized citizen	20,086	3,306	180	16.5	0.9	3,355	179	16.7	0.8	49 *	0.2 *
Not a citizen	22,984	5,925	304	25.8	1.1	6,106	311	26.6	1.1	181 *	0.8 *
<b>Educational Attainment</b>											
Total, aged 25 and older	215,015	27,394	555	12.7	0.3	27,951	554	13.0	0.3	557 *	0.3 *
No high school diploma	23,453	6,809	259	29.0	0.9	6,916	257	29.5	0.9	107 *	0.5 *
High school, no college	62,002	9,459	295	15.3	0.4	9,647	295	15.6	0.4	188 *	0.3 *
Some college, no degree	57,660	6,555	229	11.4	0.4	6,723	231	11.7	0.4	168 *	0.3 *
Bachelor's degree or higher	71,900	4,571	201	6.4	0.3	4,665	202	6.5	0.3	94 *	0.1 *
<b>Tenure</b>											
Owner	208,768	19,041	606	9.1	0.3	19,460	616	9.3	0.3	419 *	0.2 *
Owner/mortgage	134,299	10,035	465	7.5	0.3	10,323	481	7.7	0.4	287 *	0.2 *
Owner/no mortgage/rentfree	77,815	9,851	414	12.7	0.5	9,985	414	12.8	0.5	134 *	0.2 *
Renter	106,754	25,328	672	23.7	0.6	25,942	672	24.3	0.6	614 *	0.6 *
<b>Residence</b>											
Inside MSAs	274,392	39,411	918	14.4	0.3	40,298	934	14.7	0.3	888 *	0.3 *
Inside principal cities	103,740	18,247	699	17.6	0.6	18,714	715	18.0	0.6	467 *	0.4 *
Outside principal cities	170,652	21,164	731	12.4	0.4	21,585	746	12.6	0.4	421 *	0.2 *
Outside MSAs <sup>2</sup>	44,477	5,804	525	13.0	0.7	5,951	540	13.4	0.7	148 *	0.3 *

Table continued on next page.  
See footnotes at end of table.

**Table 5.** Number and Percentage of People in Poverty using Alternate Work Expense Deductions: 2015 – Continued

Characteristic	Number (in thousands)	SPM (2008 SIPP Wave 10 Work Expenses: \$40.22)				SPM (2014 SIPP Wave 1 Work Expenses: \$47.17)				Difference	
		Number		Percent		Number		Percent		Number	Percent
		Estimate	Margin of error† (±)	Estimate	Margin of error† (±)	Estimate	Margin of error† (±)	Estimate	Margin of error† (±)		
<b>Region</b>											
Northeast	55,879	7,890	402	14.1	0.7	8,033	408	14.4	0.7	142 *	0.3 *
Midwest	67,115	7,195	376	10.7	0.6	7,401	378	11.0	0.6	206 *	0.3 *
South	120,115	18,452	604	15.4	0.5	18,816	607	15.7	0.5	364 *	0.3 *
West	75,759	11,677	459	15.4	0.6	12,000	474	15.8	0.6	323 *	0.4 *
<b>Health Insurance Coverage</b>											
With private insurance	214,238	18,309	551	8.5	0.3	18,814	558	8.8	0.3	505 *	0.2 *
With public, no private insurance	75,664	19,329	548	25.5	0.6	19,658	553	26.0	0.6	329 *	0.4 *
Not insured	28,966	7,576	331	26.2	1.0	7,777	323	26.8	1.0	201 *	0.7 *
<b>Work Experience</b>											
Total 18 to 64 years	197,260	27,012	590	13.7	0.3	27,719	596	14.1	0.3	707 *	0.4 *
All workers	150,229	12,396	337	8.3	0.2	12,949	343	8.6	0.2	553 *	0.4 *
Worked full-time, year-round	105,695	4,968	187	4.7	0.2	5,251	188	5.0	0.2	282 *	0.3 *
Less than full-time, year-round	44,534	7,428	275	16.7	0.6	7,699	274	17.3	0.6	271 *	0.6 *
Did not work at least 1 week	47,031	14,616	401	31.1	0.7	14,770	406	31.4	0.7	154 *	0.3 *
<b>Disability Status<sup>3</sup></b>											
Total 18 to 64 years	197,260	27,012	590	13.7	0.3	27,719	596	14.1	0.3	707 *	0.4 *
With a disability	15,276	4,002	184	26.2	1.0	4,054	185	26.5	1.0	52 *	0.3 *
With no disability	181,069	22,934	534	12.7	0.3	23,589	542	13.0	0.3	655 *	0.4 *

\* An asterisk preceding an estimate indicates change is statistically different from zero at the 90 percent confidence level.

† The margin of error (MOE) is a measure of an estimate's variability. The larger the MOE in relation to the size of the estimate, the less reliable the estimate. The MOE is the estimated 90 percent confidence interval. The MOEs shown in this table are based on standard errors calculated using replicate weights. For more information see 'Standard Errors and Their Use' at <www2.census.gov/library/publications/2016/demo/p60-256sa.pdf>.  
Z Represents or rounds to zero.

<sup>1</sup> Federal surveys 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). This table shows data using the first approach (race alone). The use of the single-race population does not imply that it is the preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches. Information on people who reported more than one race, such as White and American Indian and Alaska Native or Asian and Black or African American, is available from Census 2010 through American FactFinder. About 2.9 percent of people reported more than one race in Census 2010. Data for American Indians and Alaska Natives, Native Hawaiians and Other Pacific Islanders, and those reporting two or more races are not shown separately.

<sup>2</sup> The "Outside metropolitan statistical areas" category includes both micropolitan statistical areas and territories outside of metropolitan and micropolitan statistical areas. For more information, see "About Metropolitan and Micropolitan Statistical Areas" at < www.census.gov/programs-surveys/metro-micro.html >.

<sup>3</sup> The sum of those with and without a disability does not equal the total because disability status is not defined for individuals in the Armed Forces.

Source: U.S. Census Bureau, Current Population Survey, 2016 Annual Social and Economic Supplement.

**Table 6. SPM Poverty Unit Demographics by Adults Working and Poverty Rate**

Type of Unit	All SPM Units		All Adults <sup>1</sup> Working Full-time, Full-year <sup>2</sup>		All Adults Working; At Least One Part-time or Part-year <sup>3</sup>		At Least One Adult (but not all) Not Working		No Adults Working	
	Number of Units	Poverty Rate	Percent of Units	Poverty Rate	Percent of Units	Poverty Rate	Percent of Units	Poverty Rate	Percent of Units	Poverty Rate
<b>Total Number of Units</b>	<b>132,510</b>	<b>15.9</b>	<b>31.6</b>	<b>3.9</b>	<b>21.3</b>	<b>15.4</b>	<b>17.5</b>	<b>16.1</b>	<b>11.1</b>	<b>50.6</b>
	(411)	(0.2)	(0.2)	(0.2)	(0.2)	(0.4)	(0.2)	(0.4)	(0.1)	(0.8)
<b>Presence of Children</b>										
Units with Children Under 18 years	<b>39,099</b>	<b>15.0</b>	<b>32.0</b>	<b>3.6</b>	<b>29.3</b>	<b>12.4</b>	<b>31.5</b>	<b>17.7</b>	<b>6.0</b>	<b>67.8</b>
	(216)	(0.3)	(0.4)	(0.2)	(0.3)	(0.4)	(0.3)	(0.5)	(0.2)	(1.3)
<b>Type of Unit</b>										
Married couple unit	<b>60,204</b>	<b>8.4</b>	<b>26.8</b>	<b>1.1</b>	<b>23.3</b>	<b>4.8</b>	<b>28.1</b>	<b>12.7</b>	<b>6.3</b>	<b>30.5</b>
	(238)	(0.2)	(0.3)	(0.1)	(0.3)	(0.3)	(0.3)	(0.4)	(0.2)	(1.2)
Cohabiting partner unit	<b>8,711</b>	<b>12.5</b>	<b>35.6</b>	<b>1.2</b>	<b>30.9</b>	<b>9.3</b>	<b>24.9</b>	<b>26.2</b>	<b>5.4</b>	<b>46.5</b>
	(147)	(0.6)	(0.9)	(0.3)	(0.9)	(0.9)	(0.8)	(1.5)	(0.4)	(3.5)
Female reference person unit	<b>13,979</b>	<b>25.4</b>	<b>30.8</b>	<b>7.1</b>	<b>27.7</b>	<b>24.1</b>	<b>20.6</b>	<b>25.4</b>	<b>18.3</b>	<b>58.9</b>
	(165)	(0.5)	(0.5)	(0.6)	(0.6)	(0.9)	(0.5)	(1.2)	(0.5)	(1.4)
Male reference person unit	<b>4,987</b>	<b>17.5</b>	<b>34.9</b>	<b>5.3</b>	<b>23.3</b>	<b>14.0</b>	<b>25.5</b>	<b>22.9</b>	<b>13.5</b>	<b>46.0</b>
	(119)	(0.8)	(1.1)	(0.8)	(0.9)	(1.5)	(1)	(1.9)	(0.7)	(3)
Unrelated individuals	<b>44,857</b>	<b>23.4</b>	<b>37.2</b>	<b>6.1</b>	<b>14.7</b>	<b>35.6</b>	*	*	<b>16.0</b>	<b>59.0</b>
	(479)	(0.4)	(0.4)	(0.3)	(0.4)	(1)	*	*	(0.3)	(1.1)
<b>Race and Hispanic Origin of Unit Head</b>										
White	<b>104,276</b>	<b>14.0</b>	<b>31.4</b>	<b>3.4</b>	<b>21.6</b>	<b>13.5</b>	<b>16.9</b>	<b>15.1</b>	<b>9.8</b>	<b>46.5</b>
	(377)	(0.2)	(0.2)	(0.2)	(0.2)	(0.4)	(0.2)	(0.4)	(0.2)	(0.9)
White, not Hispanic	<b>88,223</b>	<b>12.2</b>	<b>31.7</b>	<b>2.6</b>	<b>21.5</b>	<b>12.3</b>	<b>14.5</b>	<b>10.5</b>	<b>9.8</b>	<b>43.2</b>
	(335)	(0.2)	(0.3)	(0.2)	(0.2)	(0.4)	(0.2)	(0.4)	(0.2)	(1.1)
Black	<b>17,327</b>	<b>24.4</b>	<b>33.2</b>	<b>6.1</b>	<b>20.0</b>	<b>26.6</b>	<b>16.6</b>	<b>21.3</b>	<b>17.2</b>	<b>57.8</b>
	(131)	(0.5)	(0.6)	(0.5)	(0.5)	(1.3)	(0.4)	(1.2)	(0.5)	(1.4)
Asian	<b>6,984</b>	<b>20.1</b>	<b>32.1</b>	<b>3.6</b>	<b>19.5</b>	<b>16.4</b>	<b>26.3</b>	<b>16.8</b>	<b>12.0</b>	<b>67.4</b>
	(77)	(0.8)	(0.9)	(0.6)	(0.7)	(1.6)	(0.9)	(1.3)	(0.8)	(2.7)
Hispanic (any race)	<b>18,068</b>	<b>23.8</b>	<b>30.2</b>	<b>8.4</b>	<b>22.8</b>	<b>20.3</b>	<b>29.0</b>	<b>26.7</b>	<b>9.9</b>	<b>65.1</b>
	(138)	(0.5)	(0.5)	(0.6)	(0.5)	(0.9)	(0.6)	(0.9)	(0.4)	(1.7)
<b>Health Insurance Coverage</b>										
At least one person in unit with private insurance	<b>95,733</b>	<b>10.6</b>	<b>38.3</b>	<b>2.9</b>	<b>23.3</b>	<b>11.1</b>	<b>18.8</b>	<b>12.3</b>	<b>6.2</b>	<b>47.1</b>
	(374)	(0.2)	(0.3)	(0.1)	(0.3)	(0.4)	(0.2)	(0.3)	(0.2)	(1.3)
At least one person in unit with public insurance	<b>40,479</b>	<b>24.6</b>	<b>12.1</b>	<b>8.1</b>	<b>16.0</b>	<b>22.1</b>	<b>20.7</b>	<b>22.9</b>	<b>21.1</b>	<b>45.8</b>
	(268)	(0.3)	(0.2)	(0.6)	(0.3)	(0.8)	(0.3)	(0.7)	(0.3)	(0.9)
At least one person in unit not insured	<b>18,315</b>	<b>27.1</b>	<b>28.1</b>	<b>7.8</b>	<b>28.3</b>	<b>24.4</b>	<b>27.5</b>	<b>25.7</b>	<b>14.7</b>	<b>70.2</b>
	(231)	(0.5)	(0.6)	(0.6)	(0.6)	(1)	(0.6)	(1)	(0.4)	(1.4)
<b>Disability Status</b>										
At least one disabled adult present	<b>13,510</b>	<b>26.3</b>	<b>11.4</b>	<b>3.1</b>	<b>16.7</b>	<b>19.3</b>	<b>32.5</b>	<b>16.7</b>	<b>39.5</b>	<b>44.0</b>
	(176)	(0.6)	(0.4)	(0.7)	(0.5)	(1.3)	(0.7)	(0.9)	(0.7)	(1.2)
No disabled adults present	<b>127,814</b>	<b>15.1</b>	<b>32.3</b>	<b>3.9</b>	<b>21.6</b>	<b>15.0</b>	<b>18.0</b>	<b>16.0</b>	<b>9.0</b>	<b>52.0</b>
	(394)	(0.2)	(0.2)	(0.2)	(0.2)	(0.4)	(0.2)	(0.4)	(0.1)	(0.8)

Notes:

Estimates are presented at the SPM Resource Unit level

Units with no adults (aged 18 – 64) not included

<sup>1</sup>Adults are persons aged 18 -64

<sup>2</sup>Full-time, full-year is defined as working at least 50 weeks/year and 35 hours/week

<sup>3</sup>Parttime or part-year is defined as working less than 35 hours/week or less than 50 week/year or both

Source: U.S. Census Bureau, Current Population Survey, 2016 Annual Social and Economic Supplement

## Appendix

Supplemental Table 1 and Supplemental Table 2 compare imputation rates across SIPP Panels for relevant commuting expense variables. 2008 Panel wave 10 Topical Module weekly imputation rates are lower than 2014 Panel daily first reported job imputation rates for all comparable modes of transportation except transit.<sup>19</sup> Imputed values of daily miles, parking costs and transit costs in wave 1 of the 2014 Panel are lower than non-imputed responses, while average parking costs for respondents in wave 10 of the 2008 Panel were higher when imputed. At the center of the distribution, neither the 2008 nor 2014 Panel showed significant differences across imputed versus non-imputed medians for comparable variables.

**Supplemental Table 1.** 2014 SIPP Wave 1 Imputation Rates and Estimates by Imputation Status

Label	Var Name	Imputation Rate		Estimates by Imputation Status								Difference	
				Not Imputed				Imputed					
		Rate	Std Err	Mean	Std Err	Median	Std Err	Mean	Std Err	Median	Std Err	Mean	Median
Daily one-way miles per job	ejb1_pvmile	12.6	0.2	16.5	0.3	9.9	0.3	15.0	0.2	9.7	0.6	-1.5 *	-0.2
	ejb2_pvmile	15.7	0.6	16.7	0.7	9.7	0.8	15.8	0.8	9.9	0.9	-0.9	0.1
	ejb3_pvmile	19.8	2.2	18.9	3.7	11.0	0.8	26.7	5.3	13.9	1.8	7.8	2.8
Daily one-way reimbursed miles per job	ejb1_imbmile	19.2	1.7	44.1	8.5	16.6	1.7	15.2	1.3	12.4	1.8	-28.9 *	-4.2 *
	ejb2_imbmile	21.7	5.2	59.6	16.0	23.0	3.6	8.2	1.9	3.6	5.3	-51.4 *	-19.4 *
	ejb3_imbmile	46.6	20.2	191.0	225.8	11.8	16.0	14.9	2.0	12.8	3.6	-176.1	1.0
Daily parking costs per job	ejb1_pvparkc	10.7	0.9	16.1	1.7	4.4	0.3	8.0	0.9	4.4	0.4	-8.1 *	0.0
	ejb2_pvparkc	8.2	2.3	7.7	0.9	4.5	0.3	6.8	2.8	3.1	0.9	-0.9	-1.3
	ejb3_pvparkc	14.6	9.2	5.7	1.6	3.3	1.2	6.5	2.7	2.8	1.6	0.8	-0.5
Daily commuting costs per job	ejb1_pvothrc	33.0	0.8	14.0	3.0	3.0	0.6	5.7	0.3	2.8	0.5	-8.3 *	-0.2
	ejb2_pvothrc	43.7	2.6	8.4	2.7	0.0	0.9	3.7	0.4	1.8	0.8	-4.6 *	1.8
	ejb3_pvothrc	47.3	6.3	21.1	18.0	0.4	1.3	3.4	1.0	1.7	1.1	-17.7	1.2
Spell level "other" work related expenses	ejb1_pvoexpc	8.6	0.4	2.9	0.2	1.2	0.1	2.9	0.2	1.4	0.2	-0.1	0.2
	ejb2_pvoexpc	5.5	0.9	4.9	0.4	1.5	0.1	7.2	2.6	2.8	0.8	2.3	1.3
	ejb3_pvoexpc	3.8	2.0	5.3	1.2	1.8	0.6	22.3	11.4	4.9	10.0	17.1	3.1

\* Differences are statistically significant at the 90 percent confidence level.

- Variance represents or rounds to zero.

All values calculated in 2015 dollars.

Universe includes all months from January to December 2013 where respondents reported being employed and were in universe for a given question. A single respondent may have up to 12 months of data depending on the number of months employed.

The above table is limited to jobs 1 to 3 to improve readability, respondents in the 2014 SIPP had the option to report up to 7 jobs.

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 and 2014 Panels.

<sup>19</sup> Reimbursed miles are not available in the 2008 SIPP.

**Supplemental Table 2.** 2008 SIPP Wave 10 Topical Module Imputation Rates and Estimates by Imputation Status

Label	Var Name	Imputation Rate		Estimates by Imputation Status								Difference	
				Not Imputed				Imputed					
		Rate	Std Err	Mean	Std Err	Median	Std Err	Mean	Std Err	Median	Std Err	Mean	Median
Weekly total miles across all jobs	EPVMILWK	22.4	0.4	128.4	1.3	96.3	3.5	125.6	2.2	89.6	5.0	-2.8	-6.8
Weekly parking costs across all jobs	EPVPAYWK	23.2	1.1	28.2	1.4	15.2	0.8	36.7	2.4	17.5	1.2	8.4 *	2.2
Weekly commuting costs across all jobs	EPVCOMUT	20.9	0.6	40.7	1.3	25.8	1.4	36.7	3.1	25.4	1.1	-4.0	-0.5
Annual "other"	EPVANEXP	25.9	0.7	682.6	28.3	316.1	32.4	628.5	41.5	331.2	17.4	-54.1	15.1

\* Differences are statistically significant at the 90 percent confidence level.

All values calculated in 2015 dollars.

Universe includes all respondents who reported working over the four month reference period of the interview and were in universe for a given question

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 and 2014 Panels.