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Measuring Work-Related Expenses in the Redesigned 2014 SIPP Panel: Methods and Implications

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Abstract

Since the 1996 Panel of the Survey of Income and Program Participation (SIPP), information on work-related expenses has been collected through a series of questions contained in annual topical modules. This information is used to subtract a fixed amount from the incomes of all workers to account for work-related expenses when producing estimates of the Supplemental Poverty Measure (SPM). The 2014 Panel of the SIPP reflects the culmination of a reengineering process designed to reduce costs and improve data quality and timeliness. As part of this major survey redesign, changes to the interview reference period, core content, and reporting methods constitute a significant break in series for the work-related expense variables.

Given that the current method of calculating the fixed deduction used in the SPM is no longer appropriate due to changes in data collection, this research evaluates alternate methodologies to calculate the work-related expense deduction when using data from the 2014 and later SIPP Panels. Among proposed methods, preliminary unweighted estimates of work-related expenses in the 2014 SIPP, referencing calendar year 2013, are compared to unweighted estimates calculated from the 2008 SIPP Panel, which provided data for calendar years 2009, 2010 and 2011. Given that estimates are unweighted, this research is limited to evaluating observed differences across unweighted estimates and discusses the anticipated impact on poverty measures for the working-age population.[2]

Differences in estimates of work-related expenses across the 2008 and 2014 SIPP Panels vary depending on the methodology used, although regardless of method, preliminary unweighted estimates indicate that work-related expenses increased from calendar year 2011 in the 2008 SIPP Panel to calendar year 2013 in the 2014 SIPP Panel. Preliminary estimates from the 2014 SIPP suggests increases stem from greater reported miles driven to and from work, as well as an increase in the percentage of workers reporting costs associated with miscellaneous expenses such as licenses, union dues or uniforms.

Keywords: Supplemental Poverty Measure, SPM, Survey of Income and Program Participation, SIPP, Redesign, Work-Related Expenses, Commuting Costs

Overview

[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. 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/programs-surveys/sipp/tech-documentation/source-accuracy-statements/source-accuracy-statements-2008.html.

[2] Estimates from the 2014 Panel presented in this paper are preliminary, and are subject to change due to continued editing and review. None of the observed differences presented in this research have been weighted or statistically tested unless explicitly noted. Where estimates are weighted or statistically tested, a 90 percent confidence threshold is used to calculate margins of error and statistical differences.

The research in this paper is guided by multiple objectives, 1) to summarize survey instrument changes across the 2008 and 2014 Panels of the Survey of Income and Program Participation (SIPP), 2) to compare data collected in the 2014 SIPP with the earlier 2008 Panel, and 3) to consider alternate approaches to calculating the work-related expense deduction used in the Supplemental Poverty Measure (SPM) while remaining as consistent as possible with the historic SPM series and methods.

Background: The Supplemental Poverty Measure

Mollie Orshansky, an economist at the Social Security Administration, developed the original poverty thresholds in 1964 based on the cost of the Department of Agriculture's "economy food plan" inflated by a multiplier of 3 to account for other costs. The Bureau of the Budget (1969) and later the Office of Management and Budget (1981) directed the U.S. Census Bureau to use these 1964 poverty thresholds to calculate a set of income thresholds that varied by family size and composition, for the purpose of calculating the official federal statistical definition of poverty (Fisher 1992). The Census Bureau continues to release this official poverty measure annually based on data collected from the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC). The official poverty rate for the nation in 2014 was 14.8 percent (DeNavas-Walt et al. 2015).[3]

Since 2010, the Census Bureau has also published annual estimates of the Supplemental Poverty Measure (SPM). The SPM is an extension of the official poverty measure, designed to address a number of conceptual and technical limitations with the original measure. The SPM exists as an experimental poverty measure, and does not replace the official poverty measure or determine eligibility for government programs. The SPM is based on guidance and recommendations from a number of technical working papers and reports, most notably the 1995 National Academy of Science (NAS) report *Measuring Poverty: A New Approach*. Later guidance from the 2010 Interagency Technical Working Group (ITWG) on Developing a Supplemental Poverty Measure further guided the Census Bureau's efforts in cooperation with the Bureau of Labor Statistics (BLS).

The SPM address a number of criticisms of the official poverty measure related to both the assignment of poverty thresholds as well as the calculation of income; with the goal being to provide a more complex statistical picture of families economic circumstances. Instead of using the original 1964 poverty thresholds, the thresholds used in the SPM are derived from the Consumer Expenditure Survey (CE) reflecting spending on food, shelter, clothing, and utilities and are adjusted for geographic differences in the cost of housing across the United States. The BLS is responsible for developing the SPM thresholds based on the CE, while the Census Bureau then calculates geographic adjustments for the thresholds as well as SPM estimates.

The resource calculation of the SPM is also unlike the official poverty measure, which uses gross pre-tax cash income to determine family resources. The SPM is designed to include the value of in-kind benefits such as; the Supplemental Nutrition Assistance Program (SNAP), housing vouchers, the National School Lunch Program and Supplementary Nutrition Program for Women Infants and Children (WIC), as well as

[3] Weighted estimate (+/- 0.3).

assistance provided through the Low-Income Home Energy Assistance (LIHEAP) program. In addition to adding the value of in-kind benefits to families' resources, the SPM deducts necessary expenses such as taxes[4], work-related expenses associated with commuting and child-care, child-support payments made to other households, as well as contributions toward the cost of health insurance premiums and medical care. The Census Bureau produces SPM estimates using data from the CPS ASEC, which is also the data source for the official poverty measure. The poverty rate using the SPM in 2014 was 15.3 percent[5] (Short 2015).[6] For additional details on differences across the official and SPM, see Table 1.

The Measurement of Work-Related Expenses

The decision to deduct work-related expenses from family income when calculating the SPM reflects the 1995 NAS panel's concern that the official poverty measure was not adequately distinguishing differences in expenses across working and non-working families. These concerns were partly driven by growth in the number of women entering the labor force since the original poverty thresholds were defined, which has led to increased demand and costs associated with child care as well as higher work-related costs incurred by dual-earner families. (National Research Council 1995, 2005)

The 1995 NAS report suggested subtracting work-related expenses from the resource side of the SPM, given the panel's concern about creating alternate thresholds based on this distinction (National Research Council 1995). The NAS panel noted that work expenses include both standard expenses associated with commuting as well as expenses related to child care. As proposed by the NAS panel and later 2010 Interagency Technical Working Group (ITWG), the SPM deduction for child-care expenses would be based on actual reported expenses, while the deduction for work-related expenses would be based on a flat amount deducted per week worked for each worker over the age of 18. These recommendations reflect the belief that child-care expenses are more variable than commuting expenses, since many families find ways to meet their child-care needs outside the market. Additionally, given that individuals often face tradeoffs in costs associated with housing or transportation, variation associated with commuting expenses is partly accounted for in the housing cost adjustment on the threshold side of the SPM. Both the NAS panel and ITWG suggested further research on the comparative benefits of using reported expenses to deduct work-related commuting expenses (National Research Council 1995, 2005).[7]

In adopting these recommendations when calculating the SPM, questions on out-of-pocket expenses for child care were added to the CPS ASEC in 2010. In order to calculate the deduction for work-related commuting expenses, the SPM follows the guidance of the initial 1995 NAS panel, which based the deduction on data from the 1987 Panel of the Survey of Income and Program Participation (SIPP). In

[4] In cases where families have a negative tax liability, i.e., receive tax credits such as the Earned Income Tax Credit (EITC) the value of those tax credits are added to families resource measure.
[5] Weighted estimate (+/- 0.3)
[6] Unlike the official poverty measure, the SPM includes unrelated individuals under the age of 15 in the poverty universe. When those individuals are included in the universe for the official poverty measure, the "official" poverty rate in 2014 is measured as 14.9 percent (+/- 0.3), not statistically different from the actual 2014 official poverty rate of 14.8 percent (+/- 0.3). Estimates of poverty in 2014 were higher using the SPM than when using the official poverty measure with both the original or alternate universe (Short 2015).
[7] Edwards et al. (2014) examined alternative methods of valuing work-related expenses using the SIPP and American Community Survey.

calculating the SPM, the 85th percentile of median weekly work-related expenses as calculated from the SIPP is subtracted as a fixed amount from the incomes of all workers in order to account for expenses related to traveling to and from work, as well as other miscellaneous work expenses. Since the 1996 SIPP Panel, questions on work-related expenses have been collected through a series of questions contained in annual topical modules (TMs). In calculating the SPM, the deduction for work-related expenses is one of the only resource deductions that is derived from a survey other than the CPS ASEC.

The NAS panel as well as the ITWG proposed capping child-care and commuting related expenses. Child-care expenses are only included in the resource deduction when no other adult is available to provide home care. Additionally, the Census Bureau caps deductions for work-related expenses, from both child-care and commuting/miscellaneous work costs, so as not to exceed the earnings of the lowest earner in the family (Short 2015).

When calculating the 2014 SPM, the subtraction of work-related expenses from families' income, accounting for both child-care and commuting/miscellaneous cost, led to an increase of 2.0 percentage points[8] in the SPM. The only resource subtraction to have a larger impact on the 2014 SPM was the deduction for medical out-of-pocket spending, which led to an increase of 3.5 percentage points.[9] Additionally, the impact of the work-related expense deduction was not uniform across populations. As expected, the subtraction of work-related expenses led to larger increases in the SPM for the working age population, those aged 18 to 64, than among those aged 65 or over. (Short 2015).[10]

The Redesign of the Survey of Income and Program Participation

Since the first SPM estimates were produced for calendar year 2010, the work-related expense deduction, excluding the child-care component, has been based on data collected in the 2008 Panel of the Survey of Income and Program Participation (SIPP). The SIPP is a nationally representative longitudinal household survey conducted by the Census Bureau.[11] As a longitudinal survey, SIPP respondents are surveyed over time in successive interviews referred to as "waves." The 2008 SIPP Panel covered the period from May 2008 to November 2013, with 16 interviews, or "waves", conducted at 4-month intervals over the course of the panel.

Following the end of data collection for the 2008 SIPP Panel, the next SIPP Panel, the 2014 Panel, reflects the culmination of a reengineering process initiated in 2008 to reduce survey costs and improve data quality and timeliness. As part of this major survey redesign, changes to the interview reference period, core content, and reporting methods constitute a significant break in series for the survey as a whole, as well as the work-related expense content. This section describes those survey instrument changes across panels, while later sections outline proposed methodologies for continuing to produce estimates of work-related expenses from the SIPP.

[8] Weighted estimate (+/- 0.4).
[9] Weighted estimate (+/- 0.4).
[10] The subtraction of work-related expenses in the 2014 SPM lead to a 2.1 percentage point (+/- 0.4) increase in the poverty rate for individuals aged 18 to 64, while the impact for those aged 65 or over was not statistically significant.
[11] For detailed source and accuracy information, please see http://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html

The 2008 SIPP Panel and Work-Related Expense Topical Modules

The SIPP is unique in providing longitudinal data on household composition and income at a monthly level. However, prior to the 2014 redesign, not all content covered by the SIPP was asked in every interview, or "wave." Questions asked of respondents in every wave of the 2008 Panel were referred to as "core" content, which included questions on demographic characteristics, labor force participation, income, household and family composition, and program participation. Supplemental topical modules (TMs) were then appended to the end of the core interview to capture additional detail on social and economic characteristics. TMs could be fielded multiple times over the course of a panel, but unlike the core content, were not asked in each wave. Additionally, the reference period and file format of these TMs varied from the core survey. The 2008 Panel core survey content referenced the previous 4-month period, and was reported in a person-month format while the TM reference period varied, ranging from the respondents status at the time of the interview, to the respondents entire life history. Additionally, content asked in the TM was not reported monthly, but at the person level.

Prior to the 2014 SIPP redesign, questions on work-related expenses were collected in the "Work-Related Expenses/Child Support Paid" TM. The work-related expenses TM 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 expenses collected in the work-related expense TM contributed to the calculation of median work-related expenses; 1) annual work-related expenses, such as union dues, licenses, permits, special tools, or uniforms[12], 2) the number of miles driven to and from work in a typical week for those who drove alone to work[13], 3) weekly expenses associated with public transit or parking/toll fees (Edwards et al. 2014).

The frequency and timing of this TM varied across SIPP Panels, but in the 2008 Panel this TM was conducted in waves 4, 7, and 10. Prior to the 2014 redesign, the survey used a rotation group format, with the sample divided into four subsamples of equal size. This rotation group format allowed one rotation group to be interviewed per month, helping to spread the survey workload while also mitigating longitudinal seam effects across the reference period. Depending on a respondents' rotation group, the interview month for the 2008 Panel work-related expense TM covered September to December 2009 for Wave 4, September to December 2010 for Wave 7, and September to December 2011 for Wave 10.

The 2014 SIPP Panel

The redesign of the SIPP was motivated by a variety of factors, but was triggered by a lack of funding appropriations in fiscal year 2007. In response to these budget pressures, the Census Bureau had initially planned to end the SIPP. However, following public backlash and pressure from the data user community, Congress reinstated funding for the SIPP program while directing the Census Bureau to reengineer the SIPP to develop a "more accurate and timely survey" (U.S. House Report 110-240). The subsequent

[12] These annual expenses are divided by 52.2 to convert to a weekly expense.

[13] The cost associated with driving to and from work is derived from reported miles by using the Internal Revenue Service (IRS) Standard Mileage Rates to account for depreciation, insurance, repairs, tires, maintenance, gas, and oil costs.

reengineering process was motivated by a desire to reduce the burden on survey respondents, lower program costs, and improve accuracy, timeliness and data accessibility (National Research Council 2009).

Field tests of the redesigned SIPP were conducted in 2008, 2010, 2011, 2012, and 2013, with the 2014 Panel the first production SIPP instrument reflecting the redesign. While there are a number of changes to individual questions in the redesigned SIPP, the biggest methodological changes include; 1) the move to annual interviewing with a 12-month calendar year reference period, 2) the adoption of Event-History Calendar (EHC) interview methods, 3) the expansion of the core survey content to replace the use of separate TMs, and 4) the discontinuation of the rotation group design.[14]

Data from Wave 1 of the 2014 SIPP Panel covers calendar year 2013, and subsequent annual interviews, or "waves," will reference calendar years 2014 to 2016, a total of 4 waves of data collection. The 2014 SIPP is consistent with previous SIPP Panels in that it continues to be conducted by Census field representatives using computer assisted personal interviewing (CAPI). Waves 1 and 2 of the 2014 Panel have been conducted, however, the data is currently being processed, edited, and reviewed internally by the Census Bureau. An initial Wave 1 research file containing limited content areas will be released in early 2016, with the release of a full Wave 1 file planned for Summer of 2016.

Measuring Work-Related Costs

The components of work-related expenses, excluding child care, remain consistent across the 2008 and 2014 SIPP Panels, with costs derived from the following sources:

- driving costs (calculated from miles driven);
- commuting/transit costs;
- parking/tolls; and
- 'other' expenses (ex. licenses, permits, union dues, tools, or uniforms for work).

However, while the components used to calculate work-related expenses are collected in both the 2008 and 2014 SIPP Panel, there are a number of differences across surveys in how those costs are reported by respondents. Question changes outlined below reflect the Census Bureau's attempt to improve the ease and accuracy of respondents reported work-related travel and incurred expenses while remaining as consistent with the 2008 Panel as possible given the survey redesign.

In the 2008 SIPP, work-related expense questions were asked in select TMs (Waves 4, 7, and 10). These questions were asked at the end of the core content, separately from employment, and were reported for a typical week, across all jobs, at the person-level, referencing the past 4-month reference period. These questions were asked of survey respondents who were aged 15 or older at the time of the interview and who reported working for an employer or owning a business at some point over the 4-month reference period. In the 2008 SIPP Panel, respondents were able to report working at up to 2 different employers as

[14] For more information on the redesign of the SIPP, visit http://www.census.gov/programs-surveys/sipp/about/re-engineered-sipp.html

well as up to 2 owned businesses over the 4-month reference period, although the TMs did not ask work-related costs per job, but rather for an average week, across all jobs.

In the 2014 SIPP Panel, work-related expenses are included in the core content, as TMs are no longer used. Additionally, commuting and work-related expenses are reported individually for each employment spell recorded in the Event-History Calendar (EHC). [15] See Figure 1 for visualization. Given the extended reference period of the 2014 SIPP Panel, 12 months compared to 4 in the 2008 Panel, respondents in the 2014 Panel may report up to 7 individual employers or owned businesses over the reference period; further, up to 2 distinct spells of employment may be recorded at a given job over the 12-month reference period, meaning that for a single job, commute modes and costs may vary across employment spells. Commuting and work-related expenses are reported at the job spell level, meaning work-related costs for a given employment spell do not vary by month over the course of that employment spell, although both the employment, and work-related expense data are output in person-month format. The universe for work-related expenses is the same as the universe for reporting an employment spell, limited to individuals aged 15 or over at the time of their interview, consistent with the 2008 Panel.

Since respondents in the 2014 Panel, may report up to 7 different employers or businesses over the 12-month reference period, work-related expenses variables are prefixed by "EJB1_" to "EJB7_" to correspond with the reported job. Respondents first reported job is recorded by variables prefixed with "EJB1_" and additional reported jobs (EJB2 through EJB7), may or may not overlap with the respondents first reported job (i.e., jobs may be reported concurrently or sequentially).[16] In addition to recording work-related expenses by job, recode variables created in the 2014 Panel aggregate costs across all reported jobs in a given month. These monthly recode variables include daily one-way miles across all jobs, daily one-way reimbursed miles across all jobs, daily transit costs across all jobs, daily parking/toll costs across all jobs, and daily "other" costs across all jobs.[17]

In addition to collecting work-related expense data in the 2014 Panel for each individual job spell within the employment section of the survey, the commuting and work-related cost questions also vary in a number of ways across panels. Table 2 illustrates specific differences in how commuting and work-related expense questions are asked across the 2008 and 2014 Panels.

As shown in Table 2, mileage in the 2014 Panel is reported as daily, one-way, per job spell, as opposed to total weekly miles across all jobs in the 2008 Panel. Similarly, parking and transit costs in the 2014 Panel

[15] The Event History Calendar (EHC) is a survey tool unique to the 2014 SIPP Panel that is designed to improve respondents recall and identification of sub-annual income and program dynamics. When going through a computer assisted personal interview (CAPI) the EHC portion of the survey shows a customized calendar, with columns for each month of the calendar year reference period, as well as the current interviewing period. Each row of the calendar then lists different domains related to residence history, employment, health insurance coverage, and program receipt. As the field representative (FR) is conducting the interview, both the FR and survey respondent may use the EHC to assist in aiding the respondents' memory while benchmarking events with related domains, for example, employment and health insurance coverage. (National Research Council 2009)

[16] This paper may reference variable names using the "EJB*i*" prefix when referring to work-related costs, to reflect that expenses are reported across multiple jobs, ranging from job 1 to 7.

[17] "Other" costs across all jobs are converted to daily costs to be consistent with the reporting of mileage, transit, and parking costs in the 2014 Panel. This is achieved by dividing the reported "other" costs for each employment spell in a given month by the number of days worked in that employment spell, calculated by multiplying the number of weeks worked in the employment spell by the number of days worked per week in the employment spell.

are reported as daily, per job spell, as opposed to weekly costs across all jobs as in the 2008 Panel. The reporting of "other" work-related costs also varies in the redesigned SIPP survey. In the 2008 Panel, "other" work-related expenses such as licenses, permits, or union dues were reported as an annual expense. Since the 2008 Panel work-related expenses TM was fielded from September to December, respondents were likely responding to this question by referencing January to the time of interview, roughly the full calendar year. In the 2014 Panel, the reference period for this question is slightly different. The 2014 Panel references the amount spent on these "other" expenses over the course of the employment spell, so depending on the duration of the employment spell referenced, these expenses may not be considered annual expenses. In the 2008 Panel, these annual "other" expenses were converted to a weekly costs in order to be consistent with the 2008 Panel reporting of weekly mileage, transit, and parking costs. This was done by dividing "other" expenses by 52.2, the number of weeks in a year. In the 2014 Panel, the reporting of these "other" expenses will be converted to daily costs, to be consistent with the reporting of daily mileage, transit, and parking costs in the 2014 Panel. This is achieved by dividing the reported "other" costs over the employment spell by the number of days worked in the spell, calculated by multiplying the number of weeks worked in the employment spell by the number of days worked per week in that spell.

Given that costs in the 2014 Panel are reported daily as opposed to weekly, the 2014 Panel asks respondents about what days they worked at each job, as well as if they ever work at home for a given job, and if so, how many days a week they worked at home. Similar data on respondents' work schedules and teleworking were collected in the 2008 Panel, but were not reported as part of the work-related expenses TM, but rather the "Work Schedule" TM, which was conducted in Waves 5 and 8 of the 2008 Panel, referencing January to April 2010 and 2011 respectively. See Table 2. Because work-related expense data in the 2008 Panel were reported as weekly, and median weekly costs are used to assign the SPM deduction, the work schedule information reported in the 2008 Panel was not necessary to calculate the SPM deduction.

The redesigned 2014 Panel also includes new commuting and work-related expense content that was not previously included in the 2008 TMs. The 2014 Panel includes more detailed information on commute modes, although these expanded response categories do not directly impact our calculation of commuting costs. The 2014 Panel separates the earlier 2008 Panel commute mode of "public transportation" to ask specifically about the use of busses, rail, or "other" public transportation. The 2008 Panel commute mode of "biked or walked" is two distinct commute modes in the 2014 Panel and the "other" option as reported in the 2008 Panel is further categorized in the 2014 Panel as driving a company vehicle, working at home, or using some other mode not listed. See Table 2. Respondents in both the 2008 and 2014 SIPP Panels have the option of selecting multiple commute modes.

In addition to collecting more detailed data on respondents' commute modes, the 2014 Panel attempts to better account for work-related expenses that may be reimbursed by an employer. In the 2008 Panel, respondents were asked to only report commuting, parking, and "other" costs that were not reimbursed by their employer or business. However, driving costs in the 2008 Panel were calculated based on reported miles driven to work regardless of any reimbursement. The number of miles a respondent drives as part of their work commute is valuable to researchers not only in calculating work-related costs, but also for transportation and time use research. For this reason, it is important to capture the total number of miles a

respondent drives as part of their commute, even if some or all of those miles are reimbursed by their employer. For respondents in the 2014 Panel who report driving to work using their own or a company car, they are asked whether their employer or business reimbursed them for any of their mileage. For respondents who report being reimbursed for their work-related mileage, they then report how many of their daily, one-way commute miles for that job were reimbursed by their employer. These reimbursed miles are then excluded when calculating respondents' out-of-pocket driving costs using the IRS Standard Mileage Rates.

The above changes in the methodological design of the SIPP, as well as in the reporting of work-related expenses will require changes in how SPM deductions are calculated in the 2014 and later SIPP Panels.

Methods

The purpose of this research is not to propose innovative *new* methods to account for work-related expenses. Rather, guided by the recommendations of the NAS and ITWG, and given the redesign of the 2014 SIPP Panel, this research considers how we might *continue* to calculate work-related expenses in the 2014 Panel, while remaining as consistent as possible with the historic SPM series and methods.

Current Methods – 2008 Panel

Figure 2 illustrates the existing processing procedure to calculate median work-related expenses in the person-level 2008 Panel TM files. All individuals aged 15 or older who reported working for an employer or owning a business in the 4-month reference period are included in the universe for calculating median work-related expenses. It is important to note that it is possible for SIPP respondents to report working within the reference period, but having no work-related costs. Respondents in both the 2008 and 2014 Panels are allowed to report zero miles even if they report driving to work, and respondents who report using other commute modes are similarly allowed to report zero commuting costs. When calculating median weekly work-related expenses for use the in the SPM, the universe is all workers aged 15 or over, regardless of whether they incurred expenses. In the 2008 Panel TMs, approximately 88.5 percent of workers reported having work-related expenses.[18] See Table 3. This research reports costs separately for all workers as well as workers who report incurring work-related expenses.

As shown in Figure 2, costs are kept in a weekly format consistent with reporting in the 2008 TMs, while "other" costs are distributed evenly over the year by dividing reported annual "other" costs by 52.2, the number of weeks in a year. All costs are calculated at the person level, and are weighted using the cross-sectional base weight in reference month 4 of the respondents' interview reference period. The median is calculated as the midpoint of the weekly cost distribution, or 50^{th} percentile. There are no measures of variation produced for the median using this method.

When applying this deduction to estimates of the SPM, the 85^{th} percentile of the median calculated from the SIPP is deducted from the incomes of all workers in the CPS ASEC, based on the number of weeks

[18] The weighted percent of workers reporting work-related expenses was 88.7 percent (+/- 0.2) in 2009, and 88.5 percent (+/- 0.2) in 2010 as well as 2011. There was no statistical difference in the percent of individuals reporting work-related expenses across years.

respondents reported working in the CPS ASEC. Estimates in this paper focus on the calculation of the median, although the actual amount deducted in the SPM is the 85th percentile of the median.

Editing

While many elements of the 2014 Panel content have yet to undergo editing, the majority of the work-related expense content has gone through both editing and imputation, and estimates presented in this paper from both the 2008 and 2014 SIPP Panels include imputed values. Estimates from the 2014 Panel presented in this paper are preliminary, and are subject to change due to continued editing and review.

Weights

When calculating median work-related expenses for the SPM using the 2008 SIPP TMs, the cross sectional weight in the 4th reference month is the appropriate weight (U.S. Census Bureau, 2001). Normally, the Census Bureau recommends using replicate weights when producing SIPP estimates to account for the complex survey design when calculating standard errors, however, since the SPM uses median work-related expenses as a flat deduction, estimates of variance for the sample median have not traditionally been produced, thus the use of the base weight as opposed to using replicate weights to generate standard errors.

As of the writing of this paper, cross-sectional as well as longitudinal weights for the 2014 Panel are not yet available. As the 2014 Panel is currently in the process of being edited, weights are in development and not yet released. When producing estimates for the 2014 Panel, the eventual choice of appropriate weights will vary depending on the method used. If median work-related costs are based on costs reported over the course of the year, longitudinal weights should be used. Alternatively, if the decision is made to calculate median costs based on monthly expenses, cross-sectional weights would be the appropriate choice.

Since 2014 Panel weights are unavailable, all 2014 Panel estimates presented in this paper are unweighted, and unless otherwise noted, all 2008 Panel estimates are similarly unweighted, to provide for comparable estimates across panels. Given that estimates presented here are unweighted, this paper can not make statistical comparisons across SIPP Panels accounting for differences in the sampling population or distributions. Estimates presented here are designed to provide a preliminary evaluation of observed differences across SIPP Panels and methodologies, and apparent differences may not be statistically significant. Estimates from the 2014 SIPP are subject to change when accounting for weights and as data continue to go through processing and review.

Calculating Medians

The median provides a measure of the central value, and is often a preferred measure for describing skewed distributions as estimates are less affected by outlier values than other descriptive measures, such as the mean. Although the SPM deduction is based on median expenses, this research will calculate both median and mean expenses to highlight this skewness in the distribution.

Given that estimates of work-related expenses in the 2008 and 2014 Panels reference different calendar years (2009 to 2011 in the 2008 Panel and 2013 in Wave 1 of the 2014 Panel) all estimates of work-related expenses are adjusted to compare costs across years in constant 2014 dollars. For driving costs, this is done by multiplying reported miles driven by the IRS Standard Mileage Rate in 2014, which was $0.56 per mile.[19] For all other work-related costs, costs as reported in the SIPP reference year are adjusted to reflect increases in the Consumer Price Index for All Urban Consumers (CPI-U) from the reference year to 2014.

Median work-related costs as calculated for the SPM are calculated using the Base SAS "proc means" procedure. The median may be thought of as the 50th percentile, as it is the midpoint of the distribution, in cases with an odd number of observations, the midpoint of the two central values is the assigned median. When using the Base SAS "proc means" procedure, no measures of variation are produced for the median (SAS Institute Inc. 2009).

Although measures of variance are not produced using the above method, and are not necessary when using the median as a deduction for the SPM, in this research it is useful to calculate measures of variance associated with the median in order to evaluate changes across TMs and SIPP Panels. Unfortunately, because this research does not yet have access to replicate weights for the 2014 Panel, we are unable to produce estimates of variance associated with the sample median using the Census Bureau recommended Fay's method of balanced repeated replication (BRR) (U.S. Census Bureau, 2001). Estimates may be produced from the 2008 SIPP Panel using this method, and are shown in Table 3 for reference, although comparisons across Panels for the purpose of this research are based on unweighted estimates from both the 2008 and 2014 SIPP Panels, in order to provide consistency across Panels.

Proposed Methods – 2014 Panel

The first issue to consider when calculating median work-related costs in the 2014 SIPP, is the time frame over which work-related costs should be measured. The SPM has traditionally deducted work-related costs on a weekly basis; this is how costs were previously reported in the 2008 Panel TMs, and the CPS ASEC collects data on the number of weeks respondents worked in the previous year. The CPS ASEC also collects the hours worked per week, but not the number of days worked per week, and there is no distinction in the CPS ASEC between time spent working at home or at an office location (U.S. Census Bureau 2015).

In order to keep the SPM deduction as consistent as possible, and given the limited information on daily work schedules available in the CPS ASEC, data from the 2014 Panel will continue to be used to produce median weekly work-related expenses, although respondents report their costs daily. There are multiple ways to achieve this. Daily costs as reported in the 2014 Panel could be converted to weekly costs using a set multiplier reflecting a traditional work-week. In TM 8 of the 2008 Panel, 71.7 percent of workers reported working 5 days a week at their first reported job. In the 2014 Panel, 64.6 percent of respondents

[19] Available at https://www.irs.gov/Tax-Professionals/Standard-Mileage-Rates.

reported working 5 days a week at their first reported job.[20] However, the limitation with using a set 5-day a week multiplier is that all jobs would then be assumed to have the same 5-day a week schedule, which we know from the 2014 Panel data is not the case. Only 45.6 percent of respondents in the 2014 SIPP Panel worked 5 days a week at their second jobs. See Table 7.

An alternative to using a set multiplier, would be to use detailed data on respondents' work schedules to produce weekly costs for each respondent. Under this method, daily commute-related costs for each job would be multiplied by the number of days a respondent worked at that job per week minus any days they worked at home. Daily commute costs include one-way miles driven net of miles reimbursed multiplied by 2 for round trip miles, parking/toll costs, and transit costs. Costs associated with "other" expense such as licenses, union dues or uniforms would be divided by the total number of weeks worked in a given job spell over the reference period, regardless of time spent working at home. Total weekly expenses would then be summed across all jobs, reflecting the respondents' weekly costs and work schedules across all jobs in a given month. This research will produce weekly estimates from the 2014 Panel using both methods.

Additionally, given that one of the biggest changes in the 2014 Panel is that work-related costs are reported for each job individually, there may be some concern that individuals are misreporting costs for secondary jobs. As designed, survey respondents should only be reporting the *additional* commuting or other work-related costs associated with overlapping job spells. For example, a respondent who reported that they worked from January to December in their first reported job, would report the number of miles they drive one way to that job, as well as any daily transit or parking costs as well as "other" expenses *specific* to that employment spell. If that respondent also worked a second or third overlapping job spell during the year, the respondent should only report the *additional* mileage incurred by driving to the second or third job as well as any *additional* commuting or miscellaneous costs. However, respondents may have difficulty separating out mileage and other work-related costs when working at multiple overlapping jobs with an irregular schedule. If we believe that individuals may be misreporting mileage or costs across concurrent jobs, it may be preferable to only calculate the SPM deduction based on costs associated with respondents first reported job.

Estimates for the 4 methods outlined below will be calculated separately for all reported jobs, and for the respondents first reported job, defined as the job listed as EJB1.[21] It is important to note that the first reported job may not be the job the respondent held for the longest period of time over the calendar year, or the respondents primary job over the reference period based on the number of hours worked. However, given that respondents are first exposed to the work-related cost questions when reporting the job listed in EJB1, these responses are presumed to be the least impacted by potential confusion when respondents work multiple jobs over the 12-month reference period.

[20] Although the reported number of days worked per week does not vary over the course of a given job spell, respondents may have multiple spells of employment reported on job line 1 over the reference year, therefore, the number of days worked at the first reported job in the reference year is calculated as a person-level average across all job spells reported for job 1.

[21] Because the 2014 Panel data is still going through editing, some respondents report being employed on job variables 2 through 7, but not on job variable 1, traditionally used to record a respondents first reported job. In these cases (representing 169 individuals) respondents are not in universe for reporting costs for job 1, but are included when calculating costs across all jobs.

Method 1. The Direct Median Across all Months

The most conceptually straightforward option for calculating median weekly costs from the person-month dataset, would be to simply calculate the median across all months. This would create a direct measure of weekly work-related expenses based on all months where respondents were employed in the calendar year reference period. Under this method, using a monthly dataset, longer employment spells would have more weight than shorter employment spells, which might be a reasonable consideration.

Method 2. The Median Across Person-Level Averages

Since work-related costs in the 2008 Panel were reported at the person level as opposed to monthly, it would be more consistent with traditional practices to similarly create a single person-level estimate that reflected costs across all jobs held over the reference period. Under this method, weekly costs across the 12-month reference period would be averaged across the months a respondent worked, creating a person-level measure of average weekly cost across all jobs held over the reference period. The overall median would then be calculated from these person-level averages. Unlike the direct measure from the monthly dataset, by first creating a person-level average, longer employment spells would have less influence on measures of the median, since the final estimate is calculated at the person level.

Method 3. The Median Across Person-Level Medians

Method 3 is largely similar to Method 2 described above. The monthly data would be converted to a person-level statistic, however, instead of averaging costs over the months a respondent worked in the reference period, Method 3 calculates the person-level median cost across all months worked. If we believe that respondents have large fluctuations in work-related costs across months, the person-level median may be less impacted by outlier employment situations than the person-level average.

Method 4. The Median in a Specific Month

If we believe that there will be spikes or troughs in the reporting of work-related expenses over the course of the calendar year, we may want to identify the most representative month. Although work-related costs do not vary by month over the course of an employment spell, it may be that seasonal employment spells bring workers with unusually high or low work-related costs into the labor force. Method 4 calculates medians at the monthly level for individual months across the calendar year in an attempt to identify unique time trends in the reporting of work-related expenses.

Findings

Approximately 58.8 percent of 2014 Panel respondents aged 15 or older reported working at some point in calendar year 2013.[22] See Table 5. Of these individuals, 9.4 percent reported a secondary job at some

[22] The percent of individuals who reported working is 58.5 percent when excluding individuals who did not report employment for the job 1 variables (EJB1), but did report employment on jobs 2 through 7 (EJB2-EJB7).

point in the reference year, with less than 1 percent of workers reporting more than 2 jobs over the reference year. (Results not shown.) The percent of individuals aged 15 and over who report working in the 2014 SIPP Panel is higher than unweighted estimates from the 2008 Panel TMs (ranging from 41.4 to 50.5 percent), which is reasonable considering that the 2014 Panel reference period is 12 months, which allows for the increased capture of employment spells over the extended reference period. See Table 5.

The majority (84.2 percent) of 2014 Panel respondents who reported working at any point in the reference period worked all 12 months, additionally, the majority of workers (88.2 percent) did not have a change in work-related costs over the time they report working. However, some respondents had up to 8 changes (9 unique monthly costs) when reporting work-related expenses over the calendar year. (Results not shown.) Since work-related costs are constant over the course of an employment spell, changes in costs must correspond with a new job spell or the gain or loss of a supplemental job. Individuals with multiple changes in reported work-related expenses experienced frequent employment changes and overlapping employment spells. In months where respondents reported working, nearly all (93.6 percent) of those employed months are cases where an individual was employed at a single job. In select cases, respondents reported working at up to 6 different jobs or businesses in a single month. (Results not shown.)

These findings are encouraging, as they suggest that although the reference period in the 2014 SIPP is extended from 4 to 12 months, and respondents report work-related costs individually for each job spell, the practical implications of these reporting changes may be limited. Given that the majority of workers in the 2014 Panel did not experience frequent changes in their work situations or costs over the course of the year, the use of sporadic TMs in the 2008 Panel referencing an average week would have adequately represented annual costs for the majority of the employed population.

1. The Incidence and Co-Occurrence of Work-Related Expenses

Of employed individuals interviewed in the 2014 Panel, 89.7 percent reported incurring some form of work-related expense over the reference year, with the most prevalent being driving expenses, which 80.6 percent of workers incurred at some point during their 2013 work history. The second most prevalent expense was related to "other" costs, with 21.6 percent of individuals reporting expenses related to licenses, permits, union dues, special tools, or uniforms at some point in 2013. Workers reported transit or parking expenses infrequently, with 8.7 percent of workers reporting transit expenses over the year and 4.9 percent reporting parking/toll expenses. See Table 5.

As shown in Table 5, the percent of workers reporting expenses at any point over the Wave 1 reference year of the 2014 Panel appears to be fairly consistent with unweighted estimates from the 2008 Panel. The percent of respondents reporting driving and parking expenses appear highly consistent across the 2008 and 2014 Panels, approximately 80 and 5 percent respectively. However, the 2014 Panel captures a 21 percent increase from the 2008 Panel Wave 10 TM in the percent of respondents reporting transit costs (7.2 percent to 8.7 percent), and a 46 percent increase in the proportion of workers reporting 'other' costs over the year (14.8 percent to 21.6 percent). Given that the percent of workers in Wave 1 of the 2014 Panel reporting any work-related costs is largely consistent with Wave 10 of the 2008 Panel, these observed increases in the reporting of transit and 'other' expenses are likely accruing to individuals who have already reported costs elsewhere. Approximately 32.0 percent of individuals reporting transit costs

over the course of the year also reported other work-related costs at some point in 2013, while 93.1 percent of individuals reporting 'other' work-related costs in 2013 also reported costs associated with commuting to and from work. (Results not shown.)

Analysis of respondents first reported job indicate that the monthly reporting of costs are correlated as one might expect, although the magnitude of correlation statistics are extremely weak, approximately .01. As expected, transit costs are negatively associated with driving expenses, and there is positive correlation between parking and driving expenses. The reporting of 'other' work-related expenses is positively associated with the reporting of driving expenses, but not for other commuting expenses. (Results not shown.)

2. Median Daily Work-Related Expenses

Although there is little within-person variation in the reporting of work-related expenses over the reference period, there is an exceptional degree of variation in the reporting of work-related expenses across persons, supporting the use of the median statistic to account for the high variation in work-related expenses across the employed population.[23]

Within-persons, 88.2 percent of individuals who worked at any point in the calendar year reference period report no changes in work-related expenses over their time employed, with an average within-person standard deviation of $1.03 for total daily work-related costs over the year. However, the across-person standard deviation in average total daily work-related expenses over the year was $63.29. This across-person variation in reporting work-related costs in the 2014 Panel is driven by high variation in reported transit costs and miles driven to work (standard deviation of $53.59 and $28.59 respectively). Respondents in the 2014 Panel report a maximum of $2,380 spent per *day* on driving expenses,[24] and a maximum of $5,284 on *daily* transit expenses; certainly considered unreasonable amounts. However, the presence of these extreme outliers is not unique to the 2014 Panel. The across-person standard deviation in weekly work-related expenses among those who worked during the 2008 Panel Wave 10 reference period was $88.33, with reported miles driven to work varying widely, with a maximum reported *weekly* driving cost of $4,116[25] in the 2008 Panel Wave 10 TM. (Results not shown.)

Reports of outlier expenses have traditionally been included in calculating the SPM, which attempts to mitigate the impact of these extreme outliers by basing the work-related deduction on the median. As shown in Table 6 Column 2, depending on the method used, median reported total daily work-related expenses for all workers in the 2014 Panel range from $10.20 to $11.20. Approximately 11 percent of workers report no work-related costs (Table 6 Column 3). The calculation of median costs does not increase dramatically when excluding workers without reported expenses; increasing approximately 8

[23] This high variation in the reporting of work-related expenses supports the ITWG suggestion to continue research on the comparative benefits of using reported expenses rather than a flat deduction to account for work-related expenses in the SPM (National Research Council 1995, 2005).

[24] Based on a maximum reported daily round-trip mileage of 4,250 miles, roughly the equivalent of driving daily from Washington, DC to Salt Lake City, UT.

[25] Based on a maximum reported weekly round-trip mileage of 7,350 miles, roughly the equivalent driving from Washington, DC to Milwaukie, WI 5 days a week.

percent when calculated based on workers first reported job, and approximately 4 percent when calculated across all reported jobs (Table 6 Column 5).

Across the methods proposed in this paper, differences in the calculation of *daily* medians across methodologies are relatively small, as shown in Table 6. Median work-related costs do increase when including secondary jobs, by approximately $1.00, or 10 percent, but the increase is not exponential, suggesting that the potential for drastically misreporting costs across multiple employers is not of major concern, at least when calculating costs at the daily level. It does appear that median daily work-related costs for the first reported job are slightly lower ($0.20) when calculated at the person level (Methods 2 and 3) than across all person-months (Method 1), however there is no differences across monthly or person-level estimates when including all reported jobs. As expected given the limited within-person variation in reported expenses, daily costs in the 2014 Panel calculated based on a person-level median (Method 3) do not vary largely from estimates based on a person-level average (Method 2).

Of some concern is evidence in Table 6 that work-related costs for respondents first reported job appear to decline over the course of the calendar year (Method 4), from $10.90 in January 2013, to $10.20 in December. This decline leads to greater differences across estimates based on all jobs versus respondents first reported job in months closest to the interview period. When calculating median daily costs across all jobs, daily work-related costs are $11.20 regardless of the calculation method or reference month. See Table 6.

As expected, driving costs are the primary driver of daily work-related expenses, with a median cost of $9.00 a day regardless of the calculation method used. Approximately 2.5 percent of respondents who reported driving their own or a company car to work at their first reported job were reimbursed for their mileage costs, with 83 percent of those respondents reporting all of their mileage costs reimbursed by their primary employer or business. When calculating work-related driving expenses, these reimbursed miles are excluded. Given the much lower percent of workers who report transit, parking, or "other" work-related expenses, overall medians for these cost components are $0.00 across all calculation methods. Of workers who incur costs, median daily transit expenses are $5.10 across all calculation methods, daily parking expenses range from $4.10 to $4.30 depending on the calculation method used, and "other" daily costs are $1.20 across all calculation methods. (Results not shown.)

3. Median Weekly Work-Related Expenses

Respondents reporting their work-related expenses for a "typical week" in the 2008 SIPP TMs likely accounted for their work-schedules in the reporting of their commuting expenses. Similarly, it is important to consider the impact of respondents individual work schedules in calculating weekly commuting expenses from the 2014 Panel.

In the 2014 Panel, without accounting for telework arrangements, 64.6 percent of respondents reported working 5 days a week at their first reported job when averaging across the year.[26] Approximately 21.1

[26] Although the reported number of days worked per week does not vary over the course of a given job spell, respondents may have multiple spells of employment reported on job line 1 over the reference year, therefore, the number of days worked at a

percent of individuals in the 2014 Panel reported working more than 5 days a week at their first job, with less than 15 percent of respondents working fewer than 5 days a week. For secondary jobs, respondents are less likely to work 5 days a week. Approximately 30.3 percent of respondents report working less than 5 days a week at their second reported job, while 24.1 percent report working more than 5 days a week. See Table 7.

In addition to accounting for the number of days respondents worked per week, commuting costs should also reflect the days a respondent works from home, when commuting costs are not incurred. As shown in Table 7, in the 2014 Panel, 11.3 percent of respondents report working from home at least one day a week at their first reported job over the reference period. This reflects an increase from the 2008 Panel in the percent of workers who reported teleworking in their first reported job, from an unweighted estimate of 9.5 percent in Wave 5 and 9.3 percent in Wave 8 of the 2008 Panel. Additionally, of those workers in the 2014 Panel who report working from home at their first job, 96.8 percent report working exclusively at home over the year, incurring no work-related commuting expenses; much higher than in the 2008 Panel, where approximately 71 percent of workers teleworked full time, and approximately 11 percent teleworked 20 percent of their work week.[27] When accounting for teleworking, 6.7 percent of workers in Wave 5 and 8 of the 2008 Panel worked from home exclusively in their first reported job, increasing to 11.0 percent of workers in the 2014 Panel. See Table 7.

When calculating weekly work-related expenses in the 2014 Panel, costs based on respondents actual work schedules, accounting for telework, as shown in Table 8a are lower than those calculated in Table 8b based on a set multiplier representing a 5 day work week. Median weekly work-related costs when excluding secondary jobs are approximately $8.70 lower per week in in Table 8a than when calculated using a set multiplier in Table 8b, with the difference increasing to $11.20 per week when calculated based on all reported jobs. Median weekly costs in the 2014 Panel when accounting for respondents unique work schedules ranged from $41.10 to $44.80 depending on the method used to calculate the median. See Table 8a. Alternatively, median weekly costs based on an assumed 5-day work week for all jobs ranged from $50.80 to $56.00. See Table 8b.

By accounting for respondent's telework arrangements, a smaller percentage of workers (approximately 5.2 percentage points) incur weekly work-related expenses given their full time telework schedule. See Column 3 in Table 8a and Table 8b. Accounting for these workers who incur no costs due to a full-time telework schedule is the biggest driver of differences when assigning weekly costs, as median weekly costs for workers who report incurring work-related expenses (Column 5 in Table 8a and Table 8b) are fairly consistent across methods using either reported work schedules ($56.00 regardless of method used) or a set multiplier (approximately $57.00).

Regardless of the method used to convert daily costs to weekly, estimates in Table 8a and Table 8b based on respondents first reported job were generally lower than costs based on all reported jobs. Further,

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first reported job in the reference year is calculated as a person-level average across all job spells reported for job1 rounded to the nearest integer.

[27] The difference across SIPP Panels in the percent of teleworkers who work full-time from their home is likely driven by remaining issues that need to be resolved in data processing and editing. Further investigation into the reporting of work-schedules and telework arrangements continues to be part of the 2014 Panel Wave 1 data review process.

differences when including versus excluding secondary jobs are greater when calculated at the monthly level (Method 1) rather than the person level (Methods 2 and 3). The impact of including secondary jobs in estimates of weekly work-related expenses appears to be the most impactful later in the calendar year, in months closest to the interview, consistent with the calculation of daily costs (Table 6). In both cases (daily and weekly costs) median costs over the calendar year are constant across months when including all jobs, but decline over the course of the calendar when based only on respondents' initially reported job.

As shown in Table 9 Column 1, when accounting for respondents' work schedules, weekly median driving expenses derived from person-level medians (Method 3) ($35.80) are lower than those calculated from person-level averages (Method 2) ($39.20) when including all jobs. However, calculating estimates from the person-level median does not always lead to lower cost estimates. Median weekly parking expenses among those reporting costs (Table 9 Column 9) indicate expenses when including all jobs are higher when calculated using the person-level median (Method 3) ($20.30) than when using person-level averages (Method 2) ($17.80).

Consistent with estimates for daily costs, median weekly work-related costs when accounting for respondents' work schedules, are primarily driven by expenses related to driving to and from work. However, accounting for teleworking when calculating weekly driving costs reduces the percent of workers incurring driving expenses by approximately 5.5 percentage points, or 7 percent. See Column 3 of Table 8a and Table 8b. As shown in Column 1 of Table 9, when accounting for respondents unique work schedules, median weekly driving costs for all workers is approximately $34 at workers' first job, and $39 across all reported jobs. However, these estimates include the approximately 25 percent of workers who do not drive to work or otherwise incur no weekly driving expenses based on their reported work schedules. Of the approximately 75 percent of workers who report driving to and from work without having their mileage reimbursed (Table 9 Column 3), median weekly driving expenses are $56.00 regardless of the method used to calculate the median.

4. Comparisons Across SIPP Panels

The following section evaluates estimates across the 2008 and 2014 SIPP Panels, comparing unweighted estimates from Wave 10 of the 2008 Panel referencing calendar year 2011 (Table 4a to Table 4e) to unweighted estimates from Wave 1 of the 2014 Panel referencing calendar year 2013. Estimates from the 2014 SIPP Panel account for respondents reported work schedules as shown in Table 9. Again, it is important to note that observed differences across the 2008 and 2014 SIPP Panels are based on unweighted estimates, meaning that measures of variance are unavailable and observed differences across SIPP Panels may not be statistically significant.

Estimates of median weekly work-related expenses from the 2014 Panel (Table 8a and Table 8b) are higher than those calculated in the 2008 Panel (Table 4e), regardless of the methodology used to derive weekly costs or calculate the median. Differences range from an increase of $3.05 (8.0 percent) a week when calculated for the first job using a person-level median (Method 3), to an increase of $6.72 (17.6 percent) a week when calculated across all reported jobs, regardless of the method used to derive the median. See Table 4e and Table 9 Column. Accounting for full-time teleworkers lowers the percent of

workers in the 2014 Panel incurring costs to approximately 84 percent (Table 9 Column 14), lower than the percent reporting expenses in any of the 2008 Panel TMs (Table 4e).

Although the percent of workers reporting any weekly costs in the 2014 Panel (Table 9) is approximately 5 percentage points (6 percent) lower in than in Wave 10 of the 2008 Panel, the percent of workers in the 2014 Panel reporting "other" work-related expenses is approximately 6 percentage points (41 percent) higher. Under some calculation methods there are small increases from Wave 10 of the 2008 Panel to Wave 1 of the 2014 Panel in the percent of workers reporting transit expenses, but generally, the percent of workers reporting driving, transit, or parking expenses in the 2014 Panel is lower than reported in the 2008 Panel. The percent of workers incurring weekly driving expenses declined from Wave 10 of the 2008 Panel to Wave 1 of the 2014 Panel by approximately 7 percent, those reporting transit expenses declined by approximately 7 percent, and the reporting of parking/tolls declined approximately 27 percent depending on the calculation method used. See Table 4a to Table 4e and Table 9.

Although the percent of workers reporting weekly driving expenses in the 2014 Panel (Table 9 Column 2) is lower than in the 2008 Panel (Table 4a), median driving expenses for all workers in Wave 1 of the 2014 SIPP increased by approximately $1.10 (3 percent) a week in respondents' first job, and by $6.70 (21 percent) a week when reported across all jobs in the 2014 Panel. Of those workers reporting weekly driving costs, median weekly expenses related to driving to and from work increased by $5.60 (11 percent) from Wave 10 of the 2008 Panel to Wave 1 of the 2014 Panel regardless of the calculation method used. See Table 4a and Table 9.

Reported weekly costs for those incurring transit expenses declined slightly ($0.90 or 3 percent) from the 2008 Panel Wave 10 TM to Wave 1 of the 2014 Panel, while parking costs among those who paid such expenses increased by approximately $4.50, or 29 percent. See Table 4b to Table 4c and Table 9. Although there were large increases in the percent of workers in the 2014 Panel reporting "other" weekly work-related costs, median reported costs for those with "other" expenses were generally consistent with the 2008 Panel, declining slightly by $0.20, or 3 percent. See Table 4d and Table 9.

When calculated across all jobs in the 2014 Panel, differences in median work-related costs across the population of all workers (Table 9 Column 13) and only those who report costs (Column 15) was $11.20 ($44.80 compared to $56.00). This reflects an increase from a difference of $9.30 in Wave 10 of the 2008 SIPP ($38.10 compared to $47.40). These larger discrepancies in costs across all workers and those reporting costs highlights concern that a flat deduction distorts the assignment of costs for the approximately 15 percent of workers who incur no work-related costs and the approximately 85 percent who do report expenses. However, this discrepancy is not unreasonable based on historical context given that the discrepancy is consistent with differences observed in the 2008 Panel Wave 7 TM. See Table 4e and Table 9.

Discussion

Given the preliminary, unweighted results outlined above, accounting for respondents' work schedules will be critical when producing SPM deductions from the 2014 Panel. Failing to account for the number of days respondents work per week in their jobs (or the number of days they work from home) causes

estimates based on a "typical" work schedule to over-estimate the percent of workers who incur work-related expenses by approximately 5 percentage points and leads to a 20 to 25 percent increase in estimates of median weekly work-related expenses. Work-related costs when using a set multiplier based on a "typical" work week particularly over-estimate costs for respondents who report more than one job, by $11.20 a week regardless of the method used to assign the median, reflecting a 25 percent higher cost burden than calculations that account for respondents job schedules. See Table 8a and Table 8b.

When deciding among the various methods for calculating a work-related expense deduction from the 2014 Panel, this analysis weighs various considerations, with the primary goal being to produce estimates that reflect conceptual and methodological consistency across the 2008 and 2014 SIPP Panels.

Estimates using monthly (Method 1) rather than person-level averages (Method 2) or medians (Method 3) lead to slightly higher median cost estimates when including only the first job ($43.30 compared to $41.70 and $41.10, respectively). Additionally, there is some evidence of a time trend indicating that work-related costs associated with the first reported job decline over the course of the calendar year, from $44.80 in January of 2013 to $42.10 in December. However, when estimates are based on all reported jobs, median weekly work-related costs are $44.80 regardless of whether costs are calculated at a monthly or person level, and monthly estimates are consistent across the reference period. See Table 8a.

Considering that respondents in the 2008 Panel reported work-related costs for an average week over the reference period across all jobs, including costs from all reported employers or businesses would be most consistent moving forward with the 2014 Panel. Additionally, based on this analysis, there is little evidence to support concerns about misreporting costs for secondary jobs in the 2014 Panel.

If a decision is made to base estimates on all reported jobs, the choice of methodology becomes less influential, as median weekly work-related expenses are consistent across all methods explored in this paper when including costs from all jobs. Estimates calculated from a person-level dataset are most conceptually consistent with the 2008 Panel, but there is limited evidence to suggest much benefit to using the person-level average (Method 2) over the median (Method 3), or vise versa, given the limited within-person variation in reported costs over a respondents work history.

Regardless of the final methodology chosen, evidence based on this preliminary review of the 2014 SIPP Panel Wave 1 data suggests researchers should anticipate increases to the work-related expenses deduction in the 2015 SPM, holding child-care costs equal. Early estimates place the increase in median work-related expenses from Wave 10 of the 2008 SIPP Panel to Wave 1 of the 2014 SIPP Panel at $6.70 per week if the decision is made to calculate costs across all reported jobs and businesses. For an individual employed all year, this would lead to an approximate $300.00 increase in the SPM work-related expense deduction, or a $600.00 increase in the deduction for dual-earner families.[28] Based on these initial estimates, the 2015 SPM work-related expense deduction for a dual-earner household, excluding child-care costs, would be $3,975 annually.[28]

[28] In 2014 dollars, calculated based on the 85th percentile of a median weekly work-related expense of $44.80. Assumes full employment over the year, 52.2 weeks.

This increase in work-related expenses across the 2008 and 2014 SIPP Panels reflects an approximate 41 percent increase in the percent of workers reporting miscellaneous expenses such as licenses, union dues, or uniforms. Additionally, although a lower percentage of workers in the 2014 Panel report driving and parking/toll expenses, early estimates indicate an 11 percent increase in driving costs for respondents who incurred driving expenses, and a 29 percent increase in weekly parking/toll costs among those who reported such expenses. See Table 9.

One potential explanation as to why weekly commuting costs among those who incur expenses is higher in the 2014 Panel than in the 2008 Panel while the percent reporting expenses is lower, may be due to differences in respondents' work schedules across Panels. As shown in Table 7, the percent of workers who report teleworking full time at their first reported job increased from 6.7 percent in Wave 8 of the 2008 Panel to 11.0 percent in Wave 1 of the 2014 Panel, causing a higher percentage of workers in the 2014 Panel to incur no commuting-related expenses. However, among those workers commuting to work at their first job, a larger percentage of workers in the 2014 Panel worked more than 5 days per week (17.4 percent) compared to the 2008 Panel (7.2 percent in Wave 5 and 6.8 percent in Wave 8). Differences across panels in the reporting of work schedules for secondary jobs are even larger, with 60.6 percent of workers at a secondary job working 5 or more days a week in the 2014 Panel, compared to less than 35 percent of workers at secondary jobs in the 2008 Panel.

Given that mileage and commuting costs were reported weekly in the 2008 SIPP Panel, this research is unable to determine whether increases in work-related costs in the 2014 SIPP Panel are due to increases in daily commuting costs as opposed to an increase in the number of days respondents commute to work per week. It is also important to note that the work schedule TM was fielded in Waves 5 and 8 of the 2008 Panel, while the work-related expenses TM was fielded in Waves 4, 7, and 10 of the 2008 Panel. Given that the TMs were fielded in different waves, estimates across TMs are based on different populations, and the work schedule characteristics of workers in Waves 5 and 8 of the 2008 Panel may not necessarily be the same as the work schedule of workers reporting expenses in Waves 4, 7, and 10.

Next Steps

This research presents initial comparisons of work-related expenses as calculated in the 2008 and 2014 SIPP Panels. These preliminary estimates provide insight as to *anticipated* differences in the calculation of work-related costs across SIPP Panels, however, the estimates presented here remain preliminary, and given the lack of weights to control for differences in sample characteristics across surveys, apparent differences may not be statistically significant. It is anticipated that Wave 1 of the 2014 SIPP will be publicly released with sample weights in Summer of 2016. At that time, I plan to update this analysis using replicate weights to calculate measures of variance associated with the medians presented here, which will allow for the statistical testing of differences across SIPP Panels.

Future research in this area should further explore how costs reported for overlapping job spells in the 2014 SIPP Panel compare to costs reported for non-overlapping job spells to provide further confidence that survey respondents are able to cognitively process the reporting of commuting and work-related costs individually for overlapping spells, particularly for mileage, which is the biggest component of work-related expenses. An additional benefit of collecting work-related expenses in each wave of the SIPP is

that respondents report costs each wave, which will further allow for the review of reporting consistency across interviews for more complex employment patterns.

An additional unresolved issue from this research requires disentangling the role of daily cost and work-schedules in determining weekly work-related expenses. Future research should evaluate whether increases in work-related expenses in the 2014 SIPP are due to respondents driving farther, or paying more in transit and parking fees per day versus commuting a greater number of days per week. Merging the 2008 Panel Wave 8 work-schedule TM to the 2008 Panel Wave 10 work-related expenses TM would allow weekly commuting costs as reported in Wave 10 to be divided by the number of days not worked from home as reported in Wave 8. This would allow for the comparison of *daily* work-related costs across SIPP Panels that would greatly inform this question. Understanding this issue is further complicated by early findings in the 2014 SIPP Panel indicating large changes in respondents employment and telework schedules, which will continue to be an area of review when processing the 2014 Wave 1 data.

More broadly, as discussed in Edwards et al. 2014, this research further highlights that the use of a flat deduction will continue to over-estimate work-related costs for the approximately 25 percent of workers who do not drive their own or a company car to work, while underestimating costs for those 75 percent of workers who drive to work.

Appendix

Table 1. Poverty Measure Concepts: Official and Supplemental

Poverty Measure Concepts: Official and Supplemental		
	Official Poverty Measure	**Supplemental Poverty Measure**
Measurement Units	Families or unrelated individuals	Families, including any coresident unrelated children who are cared for by the family (such as foster children) and any cohabiters and their relatives, or unrelated, noncohabiting individuals
Poverty Threshold	Three times the cost of a minimum food diet in 1963	The mean of expenditures on food, clothing, shelter, and utilities (FCSU) over all two-child consumer units in the 30th to 36th percentile range multiplied by 1.2
Threshold Adjustments	Vary by family size, composition, and age of householder	Geographic adjustments for differences in housing costs by tenure and a three-parameter equivalence scale for family size and composition
Updating Thresholds	Consumer Price Index: all items	5-year moving average of expenditures on FCSU
Resource Measure	Gross before-tax cash income	Sum of cash income, plus noncash benefits that families can use to meet their FCSU needs, minus taxes (or plus tax credits), minus work expenses, out-of-pocket medical expenses and child support paid to another household

Source: Short, Kathleen. (2015). The Supplemental Poverty Measure: 2014. U.S. Census Bureau. Current Population Reports, P60-254. Washington, DC: U.S. Government Printing Office.

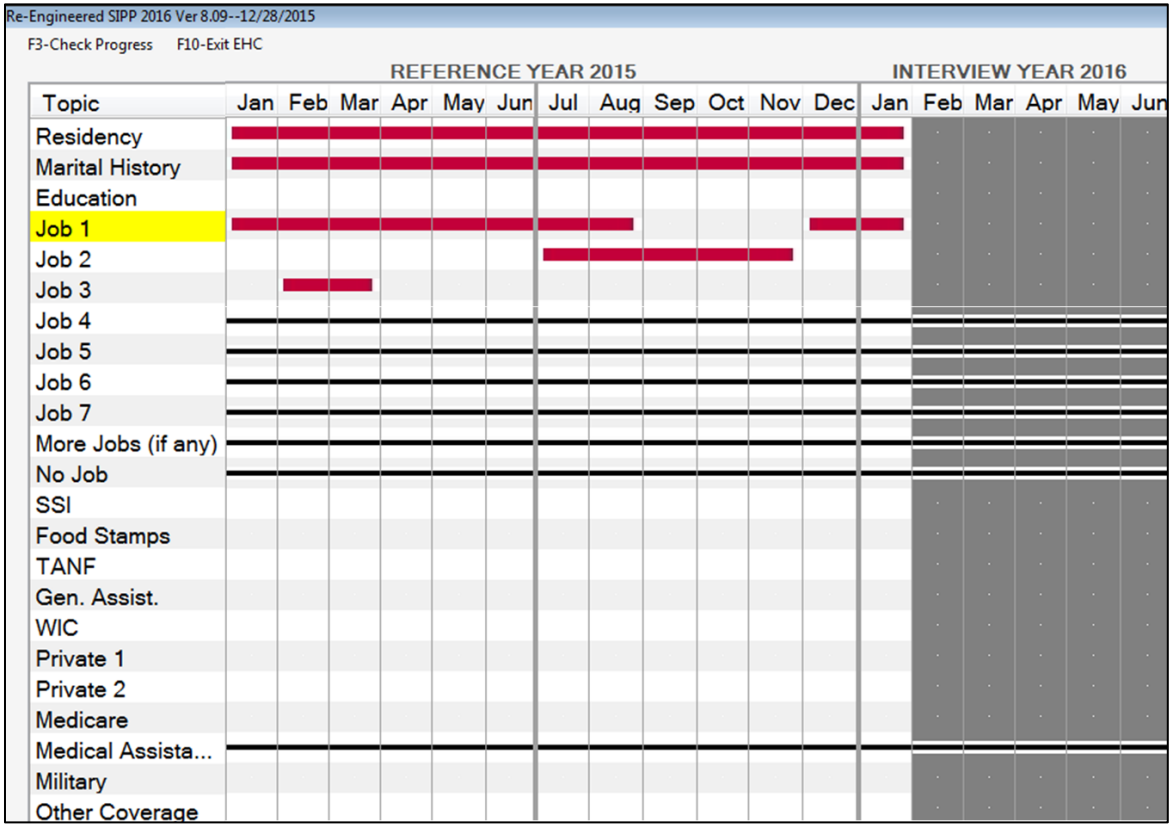
Table 2. Reporting of Work-Related Expenses in the 2014 and 2008 SIPP Panels

2014 SIPP Panel		
Variable	Label	Survey Instrument
		EHC
EJB1_PVWKTR1	Drive own vehicle to work?	X
EJB1_PVWKTR2	Rider in someone else's vehicle/van pool?	X
EJB1_PVWKTR3	Bus to work?	X
EJB1_PVWKTR4	Rail to work?	X
EJB1_PVWKTR5	Other public transportation to work?	X
EJB1_PVWKTR6	Walked to work?	X
EJB1_PVWKTR7	Bicycled to work?	X
EJB1_PVWKTR8	Drove company vehicle to work?	X
EJB1_PVWKTR9	Worked at home?	X
EJB1_PVWKTRA	Other mode to work?	X
EJB1_PVMILE	Drove how many miles from home to work as part of commute?	X
EJB1_REIMBMI	Reimbursed for miles drove to work?	X
EJB1_IMBMIC	How many miles were reimbursed?	X
EJB1_PVPARK	Pay any parking or tolls?	X
EJB1_PVPARKC	Amount paid per day for parking/tolls?	X
EJB1_PVOTHRC	Amount paid per day for commuting expenses?	X
EJB1_PVOEXP	Paid for work-related expenses?	X
EJB1_PVOEXPC	Amount of work-related expenses over job spell?	X
EJB1_DYSWKD	Number of days a week worked at job 1	X
EJB1_WSHMWRK	Any days worked only at home at job 1?	X
EJB1_DYSWKDH	Number of days a week worked at home at job 1?	X

2008 SIPP Panel						
Variable	Label	Survey Instrument				
		Wave 4 TM	Wave 5 TM	Wave 7 TM	Wave 8 TM	Wave 10 TM
EPVWK1	Drive own vehicle to work?	X		X		X
EPVWK2	Rider in someone else's vehicle/van pool?	X		X		X
EPVWK3	Use public transportation to work (bus, train, subway)?	X		X		X
EPVWK4	Bike/walk to work?	X		X		X
EPVWK5	Get to work some other way?	X		X		X
EPVMILWK	Drove how many miles per week as part of commute?	X		X		X
EPVPAPRK	Pay any parking or tolls?	X		X		X
EPVPAYWK	Amount paid per week for parking/tolls?	X		X		X
EPVCOMUT	Amount paid per week for commuting expenses?	X		X		X
EPVWKEXP	Paid for work-related expenses?	X		X		X
EPVANEXP	Amount of annual work-related expenses?	X		X		X
EWSDYS1	Number of days worked at job 1?		X		X	
EWSHMWK1	Any days worked only at home at job 1?		X		X	
EWSDY11-EWSDY17	Worked at home on Sunday…Saturday, in a typical week at job 1?		X		X	

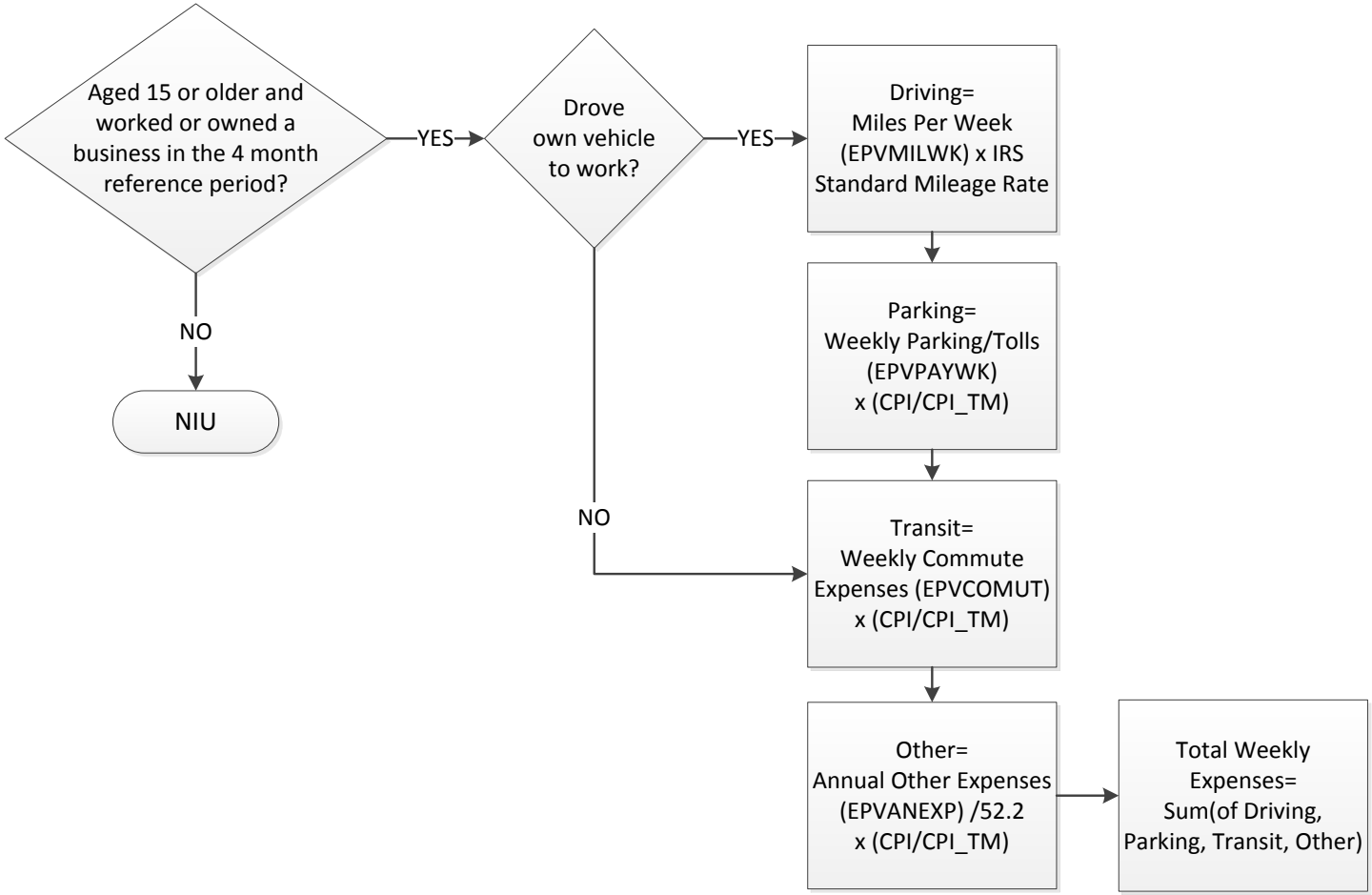
Note: In the 2008 Panel, data on work-related expenses was collected in Topical Modules (TMs) in Waves 4, 7, and 10. In these TMs, respondents reported commuting modes and expenses at the person level across all jobs (with a maximum of 2 jobs reported) over the 4-month reference period covered by the interview. In the 2014 Panel, respondents reported commuting methods and expenses for each job individually, over the previous 12-month calendar year, with a maximum of 7 jobs reported.

Figure 1. 2014 SIPP Panel Event History Calendar (EHC) Design



The Event History Calendar (EHC) is a survey tool unique to the 2014 SIPP Panel that is designed to improve respondents recall and identification of sub-annual income and program dynamics. When going through a computer assisted personal interview (CAPI) the EHC portion of the survey shows a customized calendar, with columns for each month of the calendar year reference period, as well as the current interviewing period. Each row of the calendar then lists different domains related to residence history, employment, health insurance coverage, and program receipt. As the field representative (FR) is conducting the interview, both the FR and survey respondent may use the EHC to assist in aiding the respondents' memory while benchmarking events with related domains, for example, employment and health insurance coverage. (National Research Council 2009) Respondents in the 2014 Panel may report up to 7 individual employers or businesses over the reference period and for each employer or business, may record up to 2 distinct spells of employment over the 12-month reference period. Commuting and work-related costs are reported individually for each distinct employment spell.

Figure 2. 2008 SIPP Panel, Work-Related Expenses Edit Spec



Note: IRS Mileage Factor is taken from IRS annual reimbursement rates available at http://www.irs.gov/Tax-Professionals/Standard-Mileage-Rates

CPI_TM is the annual CPI-U rate based on the reference year of the topical module. CPI and IRS Rates must be based on the same year

Note: Total weekly work-related expenses are used to calculate median weekly work-related expenses which is used in the calculation of the Supplemental Poverty measure (SPM). Measures of total weekly expenses are weighted using an individual's person month weight in reference month 4. Mileage, parking, transit, and other expenses are reported at the person level across all jobs held during the reference period.

Table 3. Weighted 2008 SIPP Panel Estimates: Total Weekly Expenses

Survey	Wave	Calendar Year	N (had job)	Total Weekly Expenses				
				All Workers		Workers With Costs		
				Mean	Median	Percent	Mean	Median
2008 Panel	4	2009	150,827,003	62.8 (0.6)	33.6 (-)	88.7 (0.2)	70.9 (0.6)	44.1 (1.4)
	7	2010	148,729,694	64.3 (0.6)	33.6 (-)	88.5 (0.2)	72.6 (0.7)	44.8 (0.3)
	10	2011	149,173,888	64.1 (0.6)	39.2 (0.4)	88.5 (0.2)	72.3 (0.6)	49.0 (1.9)
				C1	C2	C3	C4	C5

Note: Estimates are weighted and in 2014 dollars. Standard errors shown in parentheses.
- Represents or rounds to zero.

Table 4a. Unweighted 2008 SIPP Panel Estimates: Weekly Driving Expenses

Survey	Wave	Calendar Year	N (had job)	Weekly Driving Expenses				
				All Workers		Workers With Costs		
				Mean	Median	Percent	Mean	Median
2008 Panel	4	2009	44,155	55.9	28.0	80.2	69.7	44.8
	7	2010	40,307	57.1	28.0	80.3	71.1	44.8
	10	2011	37,173	57.7	32.5	80.2	71.9	50.4
				C1	C2	C3	C4	C5

Table 4b. Unweighted 2008 SIPP Panel Estimates: Weekly Transit Expenses

Survey	Wave	Calendar Year	N (had job)	Weekly Transit Expenses				
				All Workers		Workers With Costs		
				Mean	Median	Percent	Mean	Median
2008 Panel	4	2009	44,155	3.2	0.0	7.5	42.1	24.3
	7	2010	40,307	3.3	0.0	7.3	45.1	26.1
	10	2011	37,173	2.9	0.0	7.2	40.3	26.3
				C1	C2	C3	C4	C5

Table 4c. Unweighted 2008 SIPP Panel Estimates: Weekly Parking Expenses

Survey	Wave	Calendar Year	N (had job)	Weekly Parking Expenses				
				All Workers		Workers With Costs		
				Mean	Median	Percent	Mean	Median
2008 Panel	4	2009	44,155	1.7	0.0	5.4	31.3	16.6
	7	2010	40,307	1.9	0.0	5.2	36.8	15.2
	10	2011	37,173	1.6	0.0	5.0	30.9	15.8
				C1	C2	C3	C4	C5

Table 4d. Unweighted 2008 SIPP Panel Estimates: Weekly "Other" Expenses

Survey	Wave	Calendar Year	N (had job)	Weekly 'Other' Expenses				
				All Workers		Workers With Costs		
				Mean	Median	Percent	Mean	Median
2008 Panel	4	2009	44,155	2.0	0.0	16.5	12.4	6.3
	7	2010	40,307	1.9	0.0	15.2	12.2	6.2
	10	2011	37,173	1.9	0.0	14.8	12.6	6.0
				C1	C2	C3	C4	C5

Table 4e. Unweighted 2008 SIPP Panel Estimates: Total Weekly Expenses

Survey	Wave	Calendar Year	N (had job)	Total Weekly Expenses				
				All Workers		Workers With Costs		
				Mean	Median	Percent	Mean	Median
2008 Panel	4	2009	44,155	62.8	33.6	88.5	70.9	43.2
	7	2010	40,307	64.2	33.6	88.3	72.6	44.8
	10	2011	37,173	64.0	38.1	88.4	72.5	47.4
				C1	C2	C3	C4	C5

Note: Estimates are unweighted and in 2014 dollars.

Estimates presented here are designed to provide a preliminary evaluation of differences across SIPP Panels and methodologies. Apparent differences may not be statistically significant, and comparisons in this paper have not undergone statistical testing unless explicitly noted. Estimates from the 2014 SIPP are subject to change when accounting for weights and as data continues to go through processing and review.

Table 5. Percent of Individuals in Labor Force and Incurring Work-Related Expenses, 2008 and 2014 SIPP Panels

SIPP Panel	Wave	Calendar Year	Percent Employed	Percent of Workers Incurring Costs				
				Driving	Transit	Parking	'Other'	Any Costs
2008	4	2009	50.5	80.2	7.5	5.4	16.5	88.5
2008	7	2010	44.9	80.3	7.3	5.2	15.2	88.3
2008	10	2011	41.4	80.2	7.2	5.0	14.8	88.4
2014	1	2013	58.8	80.6	8.7	4.9	21.6	89.7
			C1	C2	C3	C4	C5	C6

Note: All estimates are unweighted. The universe for workers in both the 2008 and 2014 SIPP Panels are individuals aged 15 or older at the time of interview. In the 2008 SIPP Panel, estimates are calculated at the person level based on respondents who were employed or owned their own business within the 4-month reference period of the TM interview, referencing an average week over the 4-month reference period. In the 2014 SIPP Panel, estimates are calculated at the person level, based on individuals who reported working at any point in the 12-month calendar year reference period. Respondents in the 2014 SIPP Panel are considered to incur costs if expenses were reported for any job, at any point over the 12-month reference period, regardless of respondents' work schedules.

Table 6. Daily Work-Related Expenses in Wave 1 of the 2014 SIPP Panel, CY 2013

Measure		N (had job)	Total Daily Expenses				
			All Workers		Workers With Costs		
			Mean	Median	Percent	Mean	Median
1. Direct measure across all months							
Job 1		364,806	17.2	10.4	88.7	19.4	11.2
All Jobs		379,258	18.3	11.2	89.0	20.6	11.7
2. Median across person level average							
Job 1		34,089	17.0	10.2	88.8	19.2	11.2
All Jobs		34,258	18.0	11.2	89.7	20.1	11.6
3. Median across person level median							
Job 1		34,089	17.0	10.2	88.5	19.2	11.2
All Jobs		34,258	17.9	11.2	88.9	20.2	11.2
4. Median in a given month							
Job 1	Jan	29,062	17.4	10.9	88.7	19.6	11.2
	Feb	29,252	17.4	10.7	88.7	19.6	11.2
	Mar	29,496	17.3	10.7	88.7	19.5	11.2
	Apr	29,754	17.3	10.6	88.7	19.5	11.2
	May	30,070	17.3	10.5	88.7	19.4	11.2
	Jun	30,403	17.2	10.4	88.6	19.4	11.2
	Jul	30,563	17.2	10.2	88.6	19.4	11.2
	Aug	30,970	17.1	10.2	88.5	19.3	11.2
	Sep	31,024	17.2	10.3	88.6	19.4	11.2
	Oct	31,283	17.2	10.2	88.6	19.4	11.2
	Nov	31,445	17.1	10.2	88.6	19.3	11.2
	Dec	31,484	17.1	10.2	88.6	19.3	11.2
All Jobs	Jan	30,827	18.4	11.2	89.1	20.7	11.7
	Feb	30,993	18.5	11.2	89.1	20.7	11.7
	Mar	31,176	18.4	11.2	89.1	20.6	11.7
	Apr	31,337	18.3	11.2	89.1	20.6	11.7
	May	31,561	18.3	11.2	89.1	20.5	11.6
	Jun	31,810	18.3	11.2	89.0	20.5	11.7
	Jul	31,799	18.3	11.2	88.9	20.5	11.7
	Aug	31,986	18.3	11.2	88.9	20.6	11.7
	Sep	31,860	18.3	11.2	89.0	20.6	11.7
	Oct	31,985	18.3	11.2	88.9	20.6	11.6
	Nov	32,004	18.3	11.2	89.0	20.5	11.6
	Dec	31,920	18.3	11.2	89.0	20.5	11.6
			C1	C2	C3	C4	C5

Note: Estimates are unweighted and based on using preliminary edited data as of December 2015. Costs are in 2014 dollars. Given that 2014 SIPP data is still going through editing, some respondents report being employed on job variables 2 through 7, but not on job variable 1. In these cases (169 individuals) respondents are not in universe for reporting costs for job 1, but are included when calculating costs across all jobs.

Table 7. Reported Days Worked Per Week in the 2008 and 2014 SIPP Panel

Measure		2008 SIPP Panel				2014 Panel	
		Wave 5		Wave 8		Wave 1	
		Job 1	Job 2	Job 1	Job 2	Job 1	Job 2
Days Worked Not Accounting for Telework	1	3.0	25.3	2.8	23.1	1.2	6.9
	2	3.4	16.4	3.4	15.3	2.7	9.8
	3	5.8	11.9	5.7	12.8	4.3	7.7
	4	8.2	7.6	7.7	6.8	6.1	5.9
	5	70.4	27.8	71.7	32.1	64.6	45.6
	6	5.8	4.2	5.7	4.0	7.6	6.0
	7	3.5	6.8	3.1	5.9	13.5	18.1
Percent Teleworking		9.5	22.9	9.3	22.4	11.3	13.3
Days Worked at Office, Accounting for Telework	0	6.7	19.1	6.7	19.6	11.0	12.9
	1	2.9	20.9	2.7	18.2	1.1	5.6
	2	3.5	14.5	3.4	13.4	2.5	8.5
	3	6.0	10.2	5.9	10.8	4.0	6.7
	4	8.7	6.6	8.3	6.2	5.7	5.6
	5	65.1	22.3	66.3	25.3	58.3	41.6
	6	4.8	3.0	4.7	3.0	6.8	5.4
	7	2.4	3.4	2.1	3.5	10.6	13.6
N (Had Job)		41,193	3,049	37,983	2,671	34,089	4,948
		C1	C2	C3	C4	C5	C6

Note: Estimates are unweighted and based on using preliminary edited data as of December 2015. The above table is limited to jobs 1 and 2 out of a max of 7 reported jobs in the 2014 Panel, in the 2008 Panel, a max of 2 jobs were reported. Given that 2014 SIPP data is still going through editing, some respondents report being employed on job variables 2 through 7, but not on job variable 1. In these cases (169 individuals) respondents are not in universe for reporting work schedules for job 1, but are included when calculating work schedules in job 2. In the 2014 SIPP, work schedules reflect the average number of days worked in a given job over the calendar year rounded to the nearest integer. Although the reported number of days worked per week does not vary over the course of a given job spell, respondents may have multiple spells of employment reported on each job line over the reference year.

Table 8a. Reported (Accounting for Telework) Weekly Work-Related Expenses in Wave 1 of the 2014 SIPP Panel, CY 2013

Measure		N (had job)	Reported Total Weekly Expenses				
			All Workers		Workers With Costs		
			Mean	Median	Percent	Mean	Median
1. Direct measure across all months							
Job 1		364,806	78.7	43.3	83.3	94.5	56.0
All Jobs		379,258	82.4	44.8	83.9	98.2	56.0
2. Median across person-level average							
Job 1		34,089	78.0	41.7	83.8	93.2	56.0
All Jobs		34,258	81.4	44.8	85.1	95.7	56.0
3. Median across person level median							
Job 1		34,089	78.0	41.1	83.4	93.5	56.0
All Jobs		34,258	80.8	44.8	84.0	96.2	56.0
4. Median in a given month							
Job 1	Jan	29,062	79.3	44.8	83.3	95.3	56.0
	Feb	29,252	79.2	44.8	83.3	95.1	56.0
	Mar	29,496	79.2	44.8	83.3	95.1	56.0
	Apr	29,754	78.9	44.2	83.3	94.7	56.0
	May	30,070	78.8	43.7	83.4	94.5	56.0
	Jun	30,403	78.5	43.4	83.3	94.2	56.0
	Jul	30,563	78.6	43.2	83.3	94.3	56.0
	Aug	30,970	78.3	42.7	83.2	94.1	56.0
	Sep	31,024	78.6	43.1	83.3	94.4	56.0
	Oct	31,283	78.6	42.3	83.3	94.4	56.0
	Nov	31,445	78.2	42.6	83.3	93.8	56.0
	Dec	31,484	78.2	42.1	83.4	93.9	56.0
All Jobs	Jan	30,827	82.9	44.8	83.9	98.8	56.0
	Feb	30,993	83.3	44.8	83.9	99.3	56.0
	Mar	31,176	82.7	44.8	84.0	98.4	56.0
	Apr	31,337	82.5	44.8	84.0	98.2	56.0
	May	31,561	82.3	44.8	84.0	98.0	56.0
	Jun	31,810	82.1	44.8	84.0	97.8	56.0
	Jul	31,799	82.2	44.8	83.9	98.0	56.0
	Aug	31,986	82.2	44.8	83.8	98.1	56.0
	Sep	31,860	82.3	44.8	83.9	98.1	56.0
	Oct	31,985	82.2	44.8	83.8	98.1	56.0
	Nov	32,004	82.0	44.8	83.9	97.8	56.0
	Dec	31,920	82.0	44.8	83.9	97.8	56.0
			C1	C2	C3	C4	C5

Table 8b. Assigned (5 Day Multiplier) Weekly Work-Related Expenses in Wave 1 of the 2014 SIPP Panel, CY 2013

Measure		N (had job)	Assigned Total Weekly Expenses				
			All Workers		Workers With Costs		
			Mean	Median	Percent	Mean	Median
1. Direct measure across all months							
Job 1		364,806	86.1	51.9	88.7	97.1	56.0
All Jobs		379,258	91.6	56.0	89.0	102.9	58.4
2. Median across person level average							
Job 1		34,089	85.1	50.8	88.8	95.8	56.0
All Jobs		34,258	90.2	56.0	89.7	100.6	57.8
3. Median across person level median							
Job 1		34,089	85.0	50.8	88.5	96.1	56.0
All Jobs		34,258	89.6	56.0	88.9	100.9	56.0
4. Median in a given month							
Job 1	Jan	29,062	87.0	54.3	88.7	98.0	56.0
	Feb	29,252	86.8	53.4	88.7	97.8	56.0
	Mar	29,496	86.7	53.4	88.7	97.7	56.0
	Apr	29,754	86.4	52.9	88.7	97.4	56.0
	May	30,070	86.3	52.6	88.7	97.2	56.0
	Jun	30,403	85.9	51.8	88.6	96.9	56.0
	Jul	30,563	85.9	51.2	88.6	97.0	56.0
	Aug	30,970	85.7	50.8	88.5	96.7	56.0
	Sep	31,024	85.9	51.5	88.6	96.9	56.0
	Oct	31,283	85.9	50.8	88.6	96.9	56.0
	Nov	31,445	85.6	50.9	88.6	96.6	56.0
	Dec	31,484	85.6	50.8	88.6	96.6	56.0
All Jobs	Jan	30,827	92.2	56.0	89.1	103.5	58.7
	Feb	30,993	92.4	56.0	89.1	103.7	58.5
	Mar	31,176	91.9	56.0	89.1	103.1	58.5
	Apr	31,337	91.7	56.0	89.1	102.9	58.3
	May	31,561	91.5	56.0	89.1	102.7	58.1
	Jun	31,810	91.3	56.0	89.0	102.6	58.4
	Jul	31,799	91.4	56.0	88.9	102.7	58.3
	Aug	31,986	91.4	56.0	88.9	102.8	58.4
	Sep	31,860	91.5	56.0	89.0	102.9	58.4
	Oct	31,985	91.4	56.0	88.9	102.8	58.1
	Nov	32,004	91.4	56.0	89.0	102.7	58.1
	Dec	31,920	91.4	56.0	89.0	102.7	58.0
			C1	C2	C3	C4	C5

Note: Weekly costs calculated in Table 8a are based on respondents reported days worked per week, with weekly commuting costs based on the number of days respondents worked away from their home. Weekly costs calculated in Table 8b are calculated by multiplying respondents daily work-related expenses by a set multiplier of 5, representing the number of days worked in a typical week. All estimates are unweighted and based on using preliminary edited data as of December 2015. Costs are in 2014 dollars. Given that 2014 SIPP data is still going through editing, some respondents report being employed on job variables 2 through 7, but not on job variable 1. In these cases (169 individuals) respondents are not in universe for reporting costs for job 1, but are included when calculating costs across all jobs.

Table 9. Reported (Accounting for Telework) Weekly Work-Related Expenses in Wave 1 of the 2014 SIPP Panel, CY 2013: By Cost Component

Measure		N (had job)	Reported Weekly Driving			Reported Weekly Transit Expenses			Reported Weekly Parking			Reported Weekly 'Other' Expenses			Reported Total Weekly Expenses		
			All	Workers With Costs		All	Workers With Costs		All	Workers With Costs		All	Workers With Costs		All	Workers With Costs	
			Median	Percent	Median	Median	Percent	Median	Median	Percent	Median	Median	Percent	Median	Median	Percent	Median
1. Direct measure across all months																	
Job 1		364,806	33.6	74.3	56.0	0.0	6.6	25.4	0.0	3.6	20.3	0.0	20.7	5.9	43.3	83.3	56.0
All Jobs		379,258	39.2	75.0	56.0	0.0	6.8	25.4	0.0	3.8	20.3	0.0	20.9	5.9	44.8	83.9	56.0
2. Median across person-level average																	
Job 1		34,089	33.6	74.1	56.0	0.0	7.6	25.4	0.0	3.5	20.3	0.0	20.5	5.9	41.7	83.8	56.0
All Jobs		34,258	39.2	75.7	56.0	0.0	8.0	25.4	0.0	3.9	17.8	0.0	21.6	5.9	44.8	85.1	56.0
3. Median across person level median																	
Job 1		34,089	33.6	73.8	56.0	0.0	7.3	25.4	0.0	3.5	20.3	0.0	20.5	5.9	41.1	83.4	56.0
All Jobs		34,258	35.8	74.6	56.0	0.0	7.4	25.4	0.0	3.7	20.3	0.0	20.7	5.9	44.8	84.0	56.0
4. Median in a given month																	
Job 1	Jan	29,062	35.8	74.5	56.0	0.0	6.3	25.4	0.0	3.7	20.3	0.0	20.7	5.9	44.8	83.3	56.0
	Feb	29,252	33.6	74.4	56.0	0.0	6.4	25.4	0.0	3.7	20.3	0.0	20.7	5.9	44.8	83.3	56.0
	Mar	29,496	33.6	74.5	56.0	0.0	6.4	25.4	0.0	3.7	20.3	0.0	20.8	5.9	44.8	83.3	56.0
	Apr	29,754	33.6	74.5	56.0	0.0	6.4	25.4	0.0	3.7	20.3	0.0	20.8	5.9	44.2	83.3	56.0
	May	30,070	33.6	74.4	56.0	0.0	6.5	25.4	0.0	3.6	20.3	0.0	20.7	5.9	43.7	83.4	56.0
	Jun	30,403	33.6	74.3	56.0	0.0	6.6	25.4	0.0	3.6	20.3	0.0	20.6	5.9	43.4	83.3	56.0
	Jul	30,563	33.6	74.3	56.0	0.0	6.7	25.4	0.0	3.6	20.3	0.0	20.6	5.9	43.2	83.3	56.0
	Aug	30,970	33.6	74.2	56.0	0.0	6.7	25.4	0.0	3.6	20.3	0.0	20.6	5.9	42.7	83.2	56.0
	Sep	31,024	33.6	74.1	56.0	0.0	6.8	25.4	0.0	3.6	20.3	0.0	20.7	5.9	43.1	83.3	56.0
	Oct	31,283	33.6	74.0	56.0	0.0	6.8	25.4	0.0	3.6	20.3	0.0	20.7	5.9	42.3	83.3	56.0
	Nov	31,445	33.6	74.1	56.0	0.0	6.8	25.4	0.0	3.6	20.3	0.0	20.7	5.9	42.6	83.3	56.0
	Dec	31,484	33.6	74.1	56.0	0.0	6.9	25.4	0.0	3.6	20.3	0.0	20.7	5.9	42.1	83.4	56.0
All Jobs	Jan	30,827	39.2	75.3	56.0	0.0	6.5	25.4	0.0	3.8	20.3	0.0	20.8	5.9	44.8	83.9	56.0
	Feb	30,993	39.2	75.2	56.0	0.0	6.6	25.4	0.0	3.8	20.3	0.0	20.8	5.9	44.8	83.9	56.0
	Mar	31,176	39.2	75.3	56.0	0.0	6.6	25.4	0.0	3.8	20.3	0.0	20.9	5.9	44.8	84.0	56.0
	Apr	31,337	39.2	75.2	56.0	0.0	6.7	25.4	0.0	3.8	20.3	0.0	20.9	5.9	44.8	84.0	56.0
	May	31,561	39.2	75.2	56.0	0.0	6.7	25.4	0.0	3.8	20.3	0.0	20.9	5.9	44.8	84.0	56.0
	Jun	31,810	39.2	75.0	56.0	0.0	6.9	25.4	0.0	3.8	20.3	0.0	20.8	5.9	44.8	84.0	56.0
	Jul	31,799	39.2	74.9	56.0	0.0	6.9	25.4	0.0	3.8	20.3	0.0	20.8	5.9	44.8	83.9	56.0
	Aug	31,986	39.2	74.8	56.0	0.0	6.9	25.4	0.0	3.8	20.3	0.0	20.9	5.9	44.8	83.8	56.0
	Sep	31,860	39.2	74.7	56.0	0.0	6.9	25.4	0.0	3.7	20.3	0.0	21.0	5.9	44.8	83.9	56.0
	Oct	31,985	39.2	74.7	56.0	0.0	7.0	25.4	0.0	3.7	20.3	0.0	21.1	5.9	44.8	83.8	56.0
	Nov	32,004	39.2	74.7	56.0	0.0	6.9	25.4	0.0	3.7	20.3	0.0	21.1	5.9	44.8	83.9	56.0
	Dec	31,920	39.2	74.7	56.0	0.0	7.0	25.4	0.0	3.7	20.3	0.0	21.1	5.9	44.8	83.9	56.0
			C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15

Note: Reported weekly costs are based on respondents reported days worked per week, with weekly commuting costs based on the number of days respondents worked away from their home. All estimates are unweighted and based on using preliminary edited data as of December 2015. Costs are in 2014 dollars. Given that 2014 SIPP data is still going through editing, some respondents report being employed on job variables 2 through 7, but not on job variable 1. In these cases (169 individuals) respondents are not in universe for reporting costs for job 1, but are included when calculating costs across all jobs.

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