

2014 Survey of Income and Program Participation Evaluation Report: Class of Worker, Industry, and Occupation

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Overview

In order to enhance data quality, and reduce respondent burden and costs, the U.S. Census Bureau redesigned the 2014 panel of the Survey of Income and Program Participation (SIPP) and made changes to a variety of topics – including employment. The survey instrument also was re-engineered to include an event history calendar (EHC) for certain topics, including employment, and a one-year reference period. Altogether, these changes greatly affected the amount of data that are collected about workers, allowing for more detailed information on up to seven jobs per respondent.³

This evaluation report describes the data review process for the industry and occupation content appearing on the SIPP 2014 Panel, Waves 1 and 2, and provides an assessment of the quality of the SIPP public use files (PUFs). As a result, this report will help data users better understand the SIPP. This report is broadly organized into three sections. The first section outlines the measurement and coding of the SIPP data and explores how employment-related information is captured by the interviewing instrument. Key concepts and definitions also are presented.⁴ The second section provides a narrower discussion of the data review process (including internal allocation procedures) and summarizes the two SIPP waves' sample characteristics. The third and final section presents weighted estimates for three key variables: class of worker, industry, and occupation.^{5,6}

¹ This report is released to inform interested parties of ongoing research and to encourage discussion. Any views expressed are those of the author and not necessarily those of the U.S. Census Bureau.

² The U.S. Census Bureau's Disclosure Review Board and Disclosure Avoidance Officers have reviewed this data product for unauthorized disclosure of confidential information and have approved the disclosure avoidance practices applied to this release. DRB number: CBDRB-FY19-POP001-0033.

³ Additional information concerning the re-engineered SIPP, including evaluations and presentations, is available at the following website <<https://www.census.gov/programs-surveys/sipp/about/re-engineered-sipp.html>>.

⁴ Concepts and definitions used in this report are specific to the industry and occupation content on the SIPP.

⁵ The estimates in this report are based on responses from a sample of the population. As with all surveys, estimates may vary from the actual values because of sampling variation or other factors. All comparisons made in this report have undergone statistical testing and are significant at the 90-percent confidence level unless otherwise noted.

⁶ For further information on Census Bureau data sources and accuracy of the estimates, including standard errors and confidence intervals, see the following: SIPP Complete Technical Documentation <<https://www.census.gov/programs-surveys/sipp/tech-documentation/complete-technical-documentation.html>>; CPS Complete Technical Documentation <<https://www.census.gov/programs-surveys/cps/technical->

Only weighted estimates from the SIPP 2014 Panel, Waves 1 and 2 PUFs are used in this report. All estimates come from the first available spell of employment information (i.e., spell 1).⁷ Further, all estimates correspond with a total count of jobs rather than a total count of workers since the SIPP captures multiple jobs per respondent. Unless otherwise stated, the total count of jobs in the SIPP refers to the sum of jobs across job lines 1 through 7.⁸

SIPP Measurement and Coding

SIPP's public use file captures employment-related information for all respondents aged 15 years and older from January 1 through December 31 of the calendar year preceding the interview. Unlike other large surveys administered by the U.S. Census Bureau, such as the American Community Survey (ACS) and the Current Population Survey (CPS), the SIPP uses an Event History Calendar (EHC) to help respondents remember the timing of events that occurred during the reference period.^{9,10} At the time of the interview, data are collected in reverse chronological order and entered into the EHC in a spell-level format for six domains (i.e., content areas): residences, marital history, school enrollment, jobs, program participation, and health insurance coverage. After the data are formatted into the PUF, non-varying spell-level data in the jobs domain are copied to each month. Additionally, the PUF is organized chronologically such that the first job held by respondent in a reference year is listed before other more recent jobs.

KEY CONCEPTS AND DEFINITIONS⁴

Spell – a period of consecutive employment or non-employment.

Job line – a field in the SIPP interviewing instrument's EHC where employment data are entered.

Class of Worker – the ownership type of a respondent's employer.

Unpaid Family Worker – a class of worker category corresponding to respondents who worked 15 hours or more per week in a family member's business or farm.

Industry – the type of business conducted by a respondent's employer, or own business if self-employed.

Occupation – the kind of work performed by a respondent.

documentation/complete.html>; ACS Technical Documentation <<https://www.census.gov/programs-surveys/acs/technical-documentation.html>>, including Code Lists, Definitions, and Accuracy <<https://www.census.gov/programs-surveys/acs/technical-documentation/code-lists.html>>.

⁷ A spell can refer to a period of consecutive employment or non-employment. The number of spells that can be reported also varies by placement on job lines 1-7, the "more jobs" line, and the "no job" line.

⁸ A job line refers to the field in the SIPP interviewing instrument's event history calendar (EHC) where employment data are entered. Job lines 1 through 7 each correspond with a single job reported by a respondent and are assigned individual variables for class of worker, industry, and occupation.

⁹ The SIPP reference period corresponds with the previous calendar year (i.e., January 1 to December 31).

¹⁰ See Appendix A for an example of the SIPP EHC.

Respondent work history is concentrated in the EHC jobs domain.^{11,12} Detailed employment information – such as industry and occupation – are recorded for up to seven jobs in the EHC and entered into the SIPP instrument on job lines 1 through 7.^{13,14} In addition, SIPP respondents are able to report up to two nonconsecutive periods of employment (i.e., spells) for jobs recorded on job lines 1 through 7.¹⁵ Multiple spells of employment for a single job line can result from either periods of unemployment or periods away from work without pay.¹⁶ For respondents who worked more than seven jobs during a single calendar year, the SIPP instrument records information about all additional jobs on the “more jobs” line. However, less detailed information is captured for jobs appearing on the “more jobs” line.¹⁷ Information about non-employment and unpaid work in a family member’s business or farm is recorded on the separate “no job” line for up to six spells of data.

BENEFITS OF THE SIPP SURVEY DESIGN

The SIPP survey design offers researchers ample flexibility for studying employment given the use of job lines and spells in the EHC. For instance, using job lines 1 through 7, researchers can potentially identify respondents’ employment transitions by determining when they began or ended a job in relation to all other held jobs in a specified year, and when a period of non-employment occurred between jobs. Job spells can similarly be used to identify gaps in respondents’ work history within a job, and help identify the reasons for their non-employment. Considered more broadly, the length of respondents’ employment – measured as a single job line with one spell or multiple spells – can also be assessed to determine whether a particular job was seasonal. Finally, overlapping job lines can be examined as an indicator of multiple job holding.

After data collection, clerical coders manually assign specific industry and occupation codes to each job reported by a respondent. Industry refers to the type of business conducted by a respondent’s employer, or own business if self-employed. Occupation refers to the kind of work performed by the respondent.¹⁸

Once clerical coding is finished, subject matter specialists conduct a thorough review checking for missing values, coding errors, and other issues that may affect data reasonableness.

¹¹ More information about the SIPP and its measures in the EHC jobs domain are available in the SIPP 2014 Panel Users’ Guide (see Chapter 3.9 Employment and Earnings) <<https://www2.census.gov/programs-surveys/sipp/tech-documentation/methodology/2014-SIPP-Panel-Users-Guide.pdf>>.

¹² For more information on the SIPP EHC and the jobs domain, including a completed EHC example, see the SIPP Webinar Series: Jobs <<https://www.census.gov/data/academy/webinars/2019/sipp-series/jobs.html>>.

¹³ Each job line also includes a classifying variable (i.e., JBORSE) that identifies whether the respondent worked for an employer, or was self-employed in their own business.

¹⁴ Because the PUF is organized chronologically, information on job line 1 corresponds with the first job held by a SIPP respondent during the reference year.

¹⁵ Among workers, the first job output in the SIPP PUFs is on job line 1 spell 1.

¹⁶ Class of worker and industry do not vary within job lines (i.e., across multiple spells) or within spells. In contrast, occupation may vary within job lines (to allow for possible occupational mobility), but not within spells.

¹⁷ The “more jobs” line does not include information on class of worker, industry, or occupation. Additionally, data from the “more jobs” line are generally excluded from the SIPP PUFs except in select recoded variables.

¹⁸ See the General Overview of the Alphabetical Indexes of Industries and Occupations for a more in-depth discussion of the coding process <<https://www2.census.gov/programs-surveys/demo/guidance/industry-occupation/overview2010.pdf>>.

Data review includes multiple steps to evaluate the coded, edited, and processed data. The primary goal of the review process is to confirm item nonresponse and correct missing data through allocation. In this report, allocation refers to the process of assigning a value to the missing data through one of three methods: logical assignment (including model-based imputation), hot-deck imputation, or cold-deck imputation. In addition, subject matter specialists assess the quality of the data before and after processing has occurred.

The first step in the data review process checks for instrument storage issues, invalid values, and incomplete interviews in the unedited SIPP data. During this step, subject matter specialists examine the data for possible issues when they are compiled from the EHC, and again when they are formatted into person-month records. Afterwards, the data are submitted for clerical coding to assign values for respondents' industry and occupation based on their given answers. When the data are returned from clerical coding, subject matter specialists check whether the unedited industry and occupation variables were assigned valid codes according to the 2012 Industry Code List and the 2010 Occupation Code List. The data also are reviewed to check whether write-in information was available for cases that were not assigned industry and occupation codes.

The next step in the data review process checks whether the unedited data were edited according to internal programming specifications (i.e., edit specifications).¹⁹ As a result, subject matter specialists review the data to determine if they were allocated correctly to address logical inconsistencies and unaccounted values among the class of worker, industry, and occupation variables. Variables are analyzed separately depending on their placement in the SIPP EHC for responses appearing on job lines 1 through 7 and the "no job" line.²⁰ Class of worker, industry, and occupation are all examined for paid workers, while only industry and occupation are examined for unpaid family workers.²¹ Cases that fail the edit specification checks will warrant further examination. The data review process thus evaluates the extent to which allocation could affect data quality for key measures.²²

Once the edited data are considered reasonable, a PUF is created for the SIPP with select variables top-coded to protect the confidentiality of respondents.²³ In a final step, the PUFs are compared with the internal SIPP files to ensure the data are of sound quality. In this step, subject matter specialists check whether industry and occupation were top-coded properly, and that no invalid codes were assigned according to the 2013 ACS 1-Year and 2014 SIPP PUMS Industry Code List and the 2013 ACS and 2014 SIPP PUMS Occupation Code List.

¹⁹ The edits for industry and occupation (I&O) and class of worker occur after the labor force participation edit. The portion of the I&O edit that applies to unpaid family workers occurs after the "no jobs" variables edit.

²⁰ Because the data are re-ordered to remove blank job lines before the I&O edit occurs, most information is recorded on the first few job lines. Excessive amounts of data on the higher job lines or the "no job" line following the re-order could indicate a problem with the coded data, the edit, or the instrument itself.

²¹ In the SIPP, unpaid family workers are considered distinct from other categories of class of worker and use a separate survey universe for the industry and occupation variables.

²² For a more complete discussion of imputation and its role in the SIPP, please refer to the SIPP 2014 Panel Users' Guide (see Chapter 6 Data Editing and Imputation).

²³ Industry and occupation are top-coded in the SIPP PUMS and the variables are aggregated such that detailed titles are collapsed into broader categories (see Appendices B and C).

Comparison with Other Nationally Representative Surveys

Following data review, subject matter specialists compare the distribution of the SIPP measures with two other nationally representative surveys – the American Community Survey (ACS) 1-year estimates, and the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC) – to determine overall data reasonableness. This process checks if the SIPP measures are reflective of real world phenomena and are valid when compared to external sources. Various issues also affect comparisons between the SIPP and these other surveys, including multiple job holding, differences in unit of measurement, survey universe, and consideration of unpaid family workers.

One factor affecting the comparability of industry and occupation measures concerns multiple job holding. Published estimates from the ACS and the CPS often reference a person’s “main job,” defined in terms of the job with the most usual hours worked during a specified reference period.²⁴ However, the SIPP does not identify a respondent’s main job nor distinguish it from their auxiliary jobs (if applicable). Rather, the SIPP EHC captures the number of jobs respondents work and whether they hold more than one job simultaneously.^{25,26} In order for the SIPP distributions to be directly compared with other surveys, researchers would need to establish additional criteria to determine a respondent’s main job and differentiate it from all other held jobs.

Differences in the unit of measurement between surveys also affect the comparability of measures. For instance, given the complex survey design of the SIPP (including its use of job lines and spells), the SIPP distributions frequently reference a count of jobs rather than a count of individuals. Moreover, the total count of jobs in the SIPP does not match the total count of workers since up to seven jobs can be nested within each respondent. Conversely, distributions from the ACS and the CPS reference all sampled workers – a distribution equal to one job per sampled person. In order for the SIPP distributions to be directly compared with the ACS or the CPS, researchers would need to limit each SIPP respondent to a single job.

Differences in survey universe also affect the comparability of measures between the SIPP, CPS, and ACS. For example, the overarching SIPP universe consists of the non-institutionalized U.S. population (excluding Puerto Rico) ages 15 years or older, and the universe for workers is limited to individuals participating in the labor force (either employed, self-employed, or in another work arrangement) during the reference period. The full CPS universe also focuses on the non-institutionalized U.S. population, but is limited to a civilian population of individuals ages 16 and older. The CPS universe for workers only includes individuals participating in the labor force (employed, self-employed, or working 15 hours or more in a family operated enterprise) during the survey’s reference week. Finally, the ACS universe focuses on the U.S. population (including Puerto Rico) ages 16 and older and encompasses individuals in housing units or group quarters. ACS workers include the employed,

²⁴ While the CPS includes some information on multiple job holders, the BLS estimates for industry and occupation reference a person’s sole or main job (see Occupational and industry classifications used in the CPS) <<https://www.bls.gov/cps/documentation.htm#oi>>.

²⁵ In the SIPP, respondents having data on two or more job lines with overlapping spells are considered multiple job holders.

²⁶ For a more in-depth look at multiple job holding in the SIPP, see Beckhusen (2019) <<https://www.census.gov/library/publications/2019/demo/p70br-163.html>>.

self-employed, and those working 15 hours or more on a family farm or business during the reference week.²⁷

Comparisons involving unpaid family workers are another related challenge. In the SIPP, information about employed and self-employed workers is recorded on job lines 1 through 7, while information about unpaid family workers is recorded separately on the “no job” line. As a result, in the SIPP “unpaid family worker” is not a category in the edited class of worker variable due to differences in the sample universe between paid workers and unpaid family workers. Conversely, in the ACS and the CPS “unpaid family worker” is included as a category in the class of worker variable since unpaid family workers come from the same sample universe as paid workers.

In this report, all comparisons between the ACS, CPS and the SIPP reference the SIPP using data from only job line 1 and spell 1.

Sample Characteristics of the 2014 SIPP Panel, Waves 1 and 2

The 2014 SIPP Panel, Wave 1 was administered in 2014 – between February and June – and referenced the 2013 calendar year. About 53,000 living quarters were sampled for the 2014 SIPP Panel, and the final dataset included 29,825 households and 67,994 person interviews.²⁸ Regarding the extent of missing or invalid data in Wave 1 (spell 1),²⁹ most jobs contained valid responses for class of worker (91.8 percent), industry (92.1 percent), and occupation (91.6 percent). There also was no statistical difference in the percentage of allocation between the three measures. About eight percent of jobs were jointly allocated, or allocated on two or more of the following measures: class of worker, industry, and occupation. Among those jobs jointly allocated, significantly more were allocated on all three measures (7.2 percent) than only two measures (0.6 percent). In total, the Wave 1 (spell 1) data comprised a weighted estimate of 184,200,000 jobs.³⁰

The 2014 SIPP Panel, Wave 2 was administered in 2015 and referenced the 2014 calendar year. In Wave 2, the SIPP also changed focus from a household survey to one that is person-based. As a result, Wave 2 included all Wave 1 respondents, in addition to anyone living or staying with an original sample person at the time of the Wave 2 interview. For those individuals who moved between Wave 1 and Wave 2, the Census Bureau attempted to locate them and conduct a Wave 2 interview at the new address. Similar to Wave 1, most jobs in Wave 2 (spell 1) included complete information for class of worker (92.7 percent), industry (92.6 percent), and occupation (87.3 percent). There was no significant difference in the amount of missing data between class of worker and industry.³¹ Among jobs jointly allocated in Wave 2, significantly more jobs were allocated on all three measures (6.1 percent), and

²⁷ In contrast to the ACS definition used to describe employed people, all comparisons in this report focus on jobs and not workers. As a result, the universe for ACS jobs includes jobs held by the civilian employed and those held by individuals in the armed forces.

²⁸ Additional information concerning the SIPP survey design and the 2014 SIPP Panel sample is available in the SIPP 2014 Panel Users’ Guide (see Chapter 2 Sampling Design, Organizing Principles and Interview Procedures).

²⁹ In this report, allocation refers to the process of assigning a value to missing data at the item level.

³⁰ In this report, job estimates encompass both the employed and self-employed regardless of profit level or payment type. Jobs among unpaid family workers are included only in comparisons with other surveys.

³¹ Compared with class of worker and industry, there were significantly fewer jobs with a reported occupation.

fewer jobs on only two measures (1.6 percent). In total, the Wave 2 (spell 1) data comprised a weighted estimate of 197,600,000 jobs.

In order to enhance data quality, reduce possible seam bias, and decrease respondent burden, the SIPP instrument included features designed to automatically retain and fill-in select information after each completed interview. This ability – known as dependent interviewing – relies on the use of overlapping spells between survey waves to routinely feed back information into the instrument for future use.³² Wave 2 represented the first use of dependent interviewing in the 2014 SIPP panel.³³

Class of Worker

The first variable reviewed by Census Bureau subject matter specialists among the industry and occupation content is class of worker, which describes the ownership type of a respondent's employer corresponding with a reported job. The class of worker edit combines the responses from three separate variables into one edited variable when the SIPP data are compiled from the instrument. In total, seven variables for class of worker are created – one variable per job line for job lines 1 through 7. In addition, missing data are assigned response values through allocation.

Table 1 shows the class of worker distribution for jobs in the SIPP 2014 Panel, Waves 1 and 2 (spell 1).

Findings indicate that approximately 3 out of 4 jobs reported in the 2014 SIPP Panel, Wave 1 were in private companies, with more jobs concentrated in for-profit companies (67.7 percent) compared with not-for-profit companies (8.2 percent). Within government, the highest percentage of jobs were held at the local level of government (5.7 percent), while fewer jobs were held at the state (5.0 percent) and federal levels (2.4 percent). In self-employed businesses, there were 3.5 percentage points more jobs in not incorporated businesses compared with incorporated businesses. The class of worker category with the fewest jobs reported was active duty military (0.4 percent).

In Wave 2, the class of worker distribution was consistent with the Wave 1 pattern. A majority of jobs were concentrated in private, for-profit companies (67.9 percent), while the fewest jobs were in active duty military (0.4 percent). Additionally, there was no statistical difference between the percentage of jobs in Wave 2 and Wave 1 among self-employed businesses (10.5 percent and 10.7 percent) and government (13.1 percent each).

³² For more information on dependent interviewing in the SIPP, please refer to the SIPP 2014 Panel Users' Guide (see Chapter 2.3.2 Feedback/Dependent Interviewing).

³³ The reference period for the 2014 SIPP Panel, Wave 2 encompasses the entire calendar year between January 1, 2014, and December 31, 2014, including the interview date for Wave 1. Thus respondent information obtained from a spell ranging between January 1, 2014, and the interview date for Wave 1 is automatically entered into the instrument before the EHC is loaded for the Wave 2 interview.

Table 1.
Class of Worker Distribution for Jobs, by Wave (Job lines 1-7, Spell 1)

Class of Worker	Wave 1		Wave 2	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	184,200	1,054	197,600	1,342
Private, for-profit company	67.7	0.5	67.9	0.5
Private, not-for-profit company.....	8.2	0.3	8.2	0.3
Federal government.....	2.4	0.2	2.2	0.2
State government	5.0	0.2	5.2	0.3
Local government	5.7	0.2	5.7	0.3
Active duty military.....	0.4	0.1	0.4	0.1
Self-employed, incorporated business	3.6	0.2	3.5	0.2
Self-employed, not incorporated business.....	7.1	0.3	7.0	0.3

¹The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Table 2 shows the class of worker distribution for jobs in the 2014 SIPP Panel, Waves 1 and 2 (spell 1) by job line.³⁴

As a whole, Table 2 shows how jobs on job line 1 compared with job lines 2-7.³⁵ In Wave 1, the class of worker distributions for job line 1 and job lines 2-7 contained few small differences. For example, a majority of jobs reported on job line 1 and job lines 2-7 were in private, for-profit companies. However, among jobs in private, for-profit companies, fewer jobs were reported on job line 1 compared with job lines 2-7 (67.5 percent and 69.4 percent respectively). Differences by job line also emerged within the government and self-employed business categories. In government, a significantly greater percentage of jobs at all levels – federal, state, and local – were reported on job line 1 compared with job lines 2-7. In self-employed businesses, more jobs in incorporated businesses were reported on job line 1 (3.7 percent) over job lines 2-7 (2.7 percent). Conversely, a greater percentage of jobs reported on job lines 2-7 were categorized in self-employed, not incorporated businesses compared with job line 1 (9.3 percent and 6.7 percent respectively).

Overall, there were few differences in the class of worker distributions between survey waves by job line. In Wave 2, the class of worker distribution for jobs on job line 1 did not significantly differ from the Wave 1 pattern. The distribution on job lines 2-7 in Wave 2 differed significantly from Wave 1 only for the category self-employed incorporated. Specifically, the percentage of self-employed incorporated jobs was higher in Wave 2 (3.5 percent) compared with Wave 1 (2.7 percent).

³⁴ Job lines 2 through 7 are collapsed into a single category because of the small number of jobs appearing on the higher job lines.

³⁵ Differences between job lines – in terms of class of worker, industry, and occupation – may provide additional information about respondents' employment throughout the year. See Beckhusen (2019) for an example of how the SIPP's unique structure was used to examine job seasonality and multiple job holding.

Table 2.

Class of Worker Distribution for Jobs, by Wave and Job Line (Spell 1)

Class of Worker	Wave 1				Wave 2			
	Job Line 1		Job Lines 2-7		Job Line 1		Job Lines 2-7	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	158,000	811	26,170	644	164,400	868	33,150	892.1
Private, for-profit company	67.5	0.5	69.4	1.2	67.5	0.6	69.9	1.3
Private, not-for-profit company.....	8.1	0.3	8.6	0.7	8.2	0.3	8.1	0.7
Federal government.....	2.6	0.2	1.2	0.3	2.5	0.2	1.1	0.3
State government	5.1	0.2	3.9	0.4	5.4	0.3	4.0	0.5
Local government	5.9	0.2	4.6	0.6	5.9	0.3	4.8	0.6
Active duty military.....	0.4	0.1	N	N	0.4	0.1	N	N
Self-employed, incorporated business	3.7	0.2	2.7	0.4	3.6	0.2	3.5	0.5
Self-employed, not incorporated business.....	6.7	0.3	9.3	0.7	6.7	0.3	8.4	0.7

¹The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

N Not available or not comparable

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Table 3 shows the class of worker distribution for jobs on job line 1 by survey wave and sex.

In Wave 1, about 75 percent of the jobs reported on job line 1 for men and women were in private companies. However, a greater percentage of men were employed in private for-profit companies compared with women (70.3 percent and 64.3 percent respectively), while a lower percentage were employed in private not-for-profit companies (5.1 percent and 11.4 percent). Men also were more likely than women to be employed in the federal government, but less likely to be employed in state and local governments. Concerning self-employment, men were more likely to hold jobs in both incorporated and not incorporated businesses compared with women.

There were no statistical differences in the sex distributions between Waves 1 and 2.

The final class of worker category examined by Census Bureau analysts among the industry and occupation content is unpaid family worker. In the SIPP, an unpaid family worker can be defined as a respondent working 15 hours or more per week in a family member's business or farm. Given the small number of unpaid family workers reported in the SIPP, the data are presented only in a comparison with other surveys.³⁶ Further, in order to compare the distribution of unpaid family workers in the SIPP to the ACS and the CPS the estimate of unpaid family workers on the "no job" line was added to the other edited categories of class of worker for a weighted total of 159,300,000 jobs (job line 1, spell 1).

Figure 1 shows the distribution of class of worker for three surveys: the SIPP, ACS, and CPS.^{37,38} The SIPP significantly differed from the ACS in all class of worker categories except private, not-for-profit companies. Differences between the two surveys ranged 0.2 percentage points to 1.7 percentage points. The SIPP also differed from the CPS in all categories except two: federal government; and self-employed, not incorporated business. The differences between the SIPP and CPS ranged 0.1 percentage points to 3.0 percentage points. While these results indicate the SIPP estimates are statistically different from the ACS and the CPS estimates, the magnitude of the difference in class of worker estimates is often small, which may suggest the data are of reasonable quality when compared with other sources.

³⁶ The format for unpaid family worker in the SIPP is significantly different from the format used in the ACS and the CPS. In the ACS and the CPS, unpaid family worker exists as a distinct category included with all other class of worker categories. In the SIPP, data for unpaid family worker is recorded on the "no job" line of the EHC calendar and is not included in the class of worker variable by default.

³⁷ Estimates from these three surveys – the SIPP 2014 Panel, Wave 1, the 2013 ACS 1-year estimates, and the CPS 2013 ASEC – can be generalized to the 2013 calendar year. However, differences between surveys can affect the comparability of estimates.

³⁸ The class of worker category active duty military is exclusive to the SIPP and is not included as a separate category in the distributions for the ACS or the CPS.

Table 3.

Class of Worker Distribution for Jobs, by Wave and Sex (Job line 1, Spell 1)

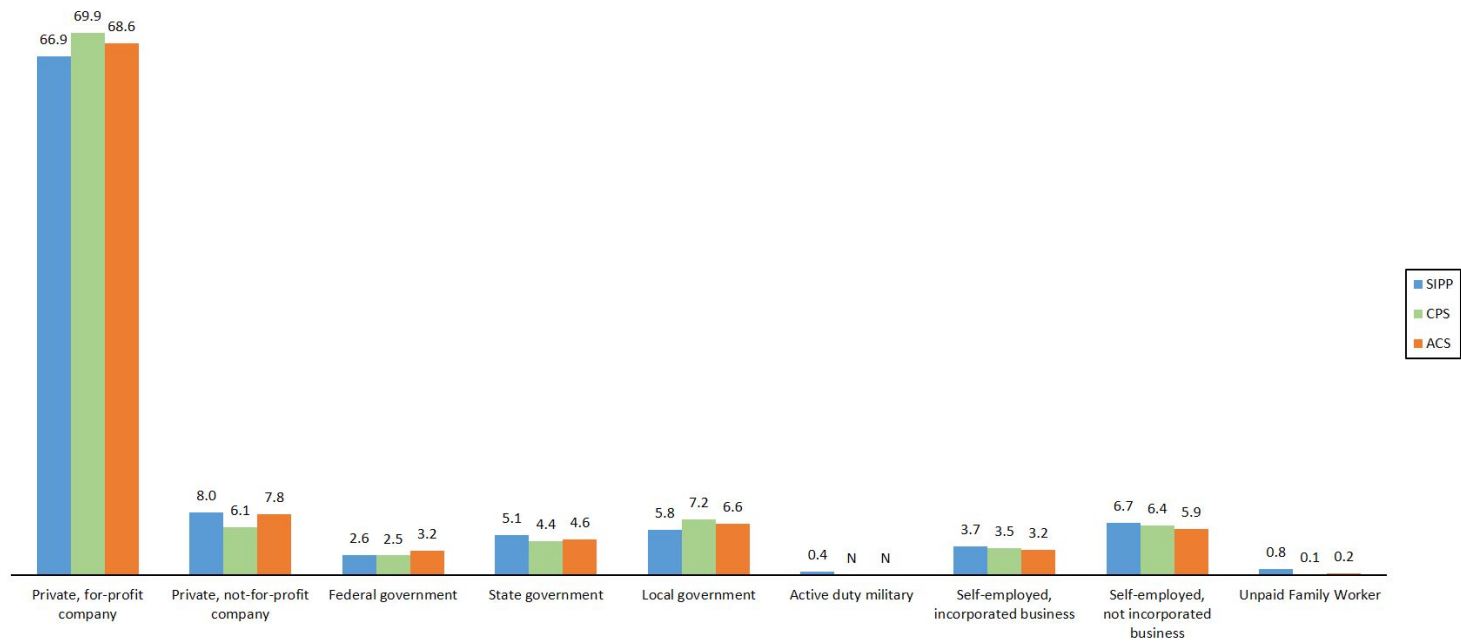
Class of Worker	Wave 1				Wave 2			
	Men		Women		Men		Women	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	82,760	550.6	75,270	552.6	86,300	548.4	78,130	659
Private, for-profit company	70.3	0.6	64.3	0.7	70.4	0.7	64.2	0.8
Private, not-for-profit company.....	5.1	0.3	11.4	0.5	5.3	0.4	11.4	0.5
Federal government.....	2.9	0.2	2.3	0.2	2.7	0.3	2.2	0.2
State government	3.8	0.3	6.6	0.3	4.0	0.3	7.0	0.4
Local government	4.5	0.3	7.3	0.4	4.7	0.4	7.2	0.5
Active duty military.....	0.7	0.1	N	N	0.6	0.1	N	N
Self-employed, incorporated business	4.9	0.3	2.4	0.2	4.9	0.3	2.1	0.2
Self-employed, not incorporated business.....	7.8	0.4	5.5	0.3	7.4	0.4	5.9	0.4

¹The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

N Not available or not comparable

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Figure 1.
Percent Distribution of Class of Worker (including Unpaid Family Worker), by Survey



N Not available or not comparable

Source: U.S. Census Bureau, 2013 American Community Survey (ACS) 1-year estimates; U.S. Census Bureau, Current Population Survey (CPS) 2013 Annual Social and Economic Supplement; U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Wave 1 (Job line 1, Spell 1 Only)

Industry

Industry is the second variable reviewed by the Census Bureau among the industry and occupation content and describes the type of business conducted by a respondent's employer, or own business if self-employed. Data on job lines 1 through 7 describe the industry of jobs among the employed and self-employed, while data on the "no job" line describe the industry for unpaid work in a family member's business or farm.

Table 4 shows the industry distribution for jobs in the SIPP 2014 Panel, Waves 1 and 2 (spell 1) using 14 categories.³⁹

In Wave 1, a majority of jobs were among the four largest industries. Educational services, and health care and social assistance was the largest industry reported and encompassed over one-fifth of jobs in Wave 1. The second-largest industry – professional, scientific, and management, and administrative and waste management services – comprised fewer jobs compared with the largest industry (12.4 percent and 22.7 percent, respectively). The number of jobs held in the third- and fourth-largest industries were not significantly different: retail trade (11.6 percent); and arts, entertainment, and recreation, and accommodation and food services (11.2 percent). Military was the industry with the fewest jobs reported in the 2014 SIPP Panel, Wave 1 (0.5 percent).

In Wave 2, the distribution by industry was not statistically different from that of Wave 1. Moreover, most jobs in Wave 2 remained concentrated among the four largest Wave 1 industries. There also were no significant differences in the distribution of jobs within industries between Waves 1 and 2.

Table 4.

Industry Distribution for Jobs, by Wave (Job lines 1-7, Spell 1)

Industry	Wave 1		Wave 2	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	184,200	1,054	197,600	1,342
Educational services, and health care and social assistance.....	22.7	0.4	22.8	0.4
Professional, scientific, and management, and administrative and waste management services ...	12.4	0.4	12.6	0.4
Retail trade.....	11.6	0.3	11.8	0.4
Arts, entertainment, and recreation, and accommodation and food services.....	11.2	0.3	11.4	0.4
Manufacturing	9.5	0.3	9.3	0.3

³⁹ All detailed industries were collapsed into 14 aggregate categories corresponding with the overarching industry groups from the 2013 ACS and 2014 SIPP PUMS Industry Code List. For more information, see Appendix B.

Table 4. (Continued)

Industry	Wave 1		Wave 2	
	Percent	MOE (\pm) ¹	Percent	MOE (\pm) ¹
Finance and insurance, and real estate and rental and leasing	6.0	0.2	5.8	0.2
Construction.....	5.8	0.2	5.7	0.3
Transportation and warehousing, and utilities.....	4.7	0.2	4.7	0.3
Other services, except public administration	4.8	0.2	4.8	0.2
Public administration	4.2	0.2	4.5	0.3
Wholesale trade	2.4	0.2	2.3	0.2
Information	2.1	0.2	2.1	0.2
Agriculture, forestry, fishing and hunting, and mining.....	2.2	0.2	2.1	0.2
Military.....	0.5	0.1	0.4	0.1

¹The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Table 5 provides further context on the industry distribution of jobs in the 2014 SIPP Panel, Waves 1 and 2 (spell 1) by job line.

In Wave 1, there were some statistical differences in the distributions for job line 1 and job lines 2-7. For example, the largest industry on job line 1 and job lines 2-7 was educational services, and health care and social assistance. However, the order of the next three largest industries varied by job line: on job line 1, the largest industries were professional, scientific, and management, and administrative, and waste services (12.1 percent), retail trade (11.4 percent), and arts, entertainment, and recreation, and accommodation, and food services (10.5 percent); on job lines 2-7, the largest industries were arts, entertainment, and recreation, and accommodation, and food services (15.6 percent), professional, scientific, and management, and administrative, and waste services (14.4 percent), and retail trade (12.8 percent).⁴⁰ Manufacturing was the fifth-largest industry on both job line 1 and job lines 2-7 (10.0 percent and 6.4 percent).

Concerning differences by survey wave and job line, Wave 2 illustrated a trend that approximated Wave 1. Moreover, the percentage of jobs within each industry category did not significantly vary by survey wave and job line.

Table 6 illustrates the industry distribution by survey wave and by sex.

⁴⁰ On job line 2-7, the percentage of jobs in the category arts, entertainment, and recreation, and accommodation, and food services was not significantly different from professional, scientific, and management, and administrative, and waste management services.

Differences by sex were notable among the largest industries for men and women in Wave 1. For men, the two largest industries – manufacturing (13.6 percent) and professional, scientific, and management, and administrative and waste management services (13.2 percent) – were not significantly different and together accounted for more than a quarter of jobs reported. In contrast, the single largest industry for women – educational services, and health care and social assistance (35.6 percent) – comprised over one third of reported jobs.

The patterns portrayed in Wave 1 were consistent with those in Wave 2 with one exception. Among women, a lower proportion of jobs were held in agriculture, forestry, and fishing, and hunting and mining in Wave 2 (0.8 percent) compared with Wave 1 (1.1 percent).

As shown in Figure 2, the SIPP is comparable to the ACS and the CPS in its industry distribution. Educational services, and health care and social services was the largest industry for all three surveys. Differences between the SIPP and the ACS,⁴¹ and between the SIPP and the CPS,⁴² also were within one percentage point for all industries.

⁴¹ The following industries were significantly different between the SIPP and the ACS: agriculture, forestry, fishing and hunting, and mining; arts, entertainment, and recreation, and accommodation and food services; construction; manufacturing; military; professional, scientific, and management, and administrative and waste management services; retail trade; other services, except public administration; and wholesale trade.

⁴² Three industries were significantly different between the SIPP and the CPS: arts, entertainment, and recreation, and accommodation and food services; construction; and finance and insurance, and real estate and rental and leasing.

Table 5.
Industry Distribution for Jobs, by Wave and Job Line (Spell 1)

Industry	Wave 1				Wave 2			
	Job Line 1		Job Lines 2-7		Job Line 1		Job Lines 2-7	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	158,000	811	26,170	644	164,400	868	33,150	892.1
Educational services, and health care and social assistance.....	22.7	0.4	22.9	1.1	22.6	0.4	23.6	1.1
Professional, scientific, and management, and administrative and waste management services	12.1	0.4	14.4	0.9	12.3	0.4	13.8	0.9
Retail trade.....	11.4	0.3	12.8	0.9	11.5	0.4	13.2	0.9
Arts, entertainment, and recreation, and accommodation and food services.....	10.5	0.3	15.6	0.8	10.7	0.4	14.6	1.0
Manufacturing	10.0	0.3	6.4	0.6	9.9	0.3	6.8	0.6
Finance and insurance, and real estate and rental and leasing	6.2	0.3	5.2	0.6	6.0	0.3	4.8	0.6
Construction.....	5.9	0.2	4.7	0.5	5.9	0.3	4.8	0.5
Transportation and warehousing, and utilities....	4.9	0.2	3.6	0.5	5.0	0.3	3.4	0.5
Other services, except public administration	4.7	0.2	5.3	0.6	4.7	0.3	5.2	0.5
Public administration	4.4	0.2	2.9	0.5	4.8	0.3	3.4	0.5
Wholesale trade.....	2.5	0.2	1.5	0.3	2.4	0.2	1.7	0.3
Information	2.1	0.2	2.1	0.4	2.1	0.2	2.2	0.4
Agriculture, forestry, fishing and hunting, and mining	2.2	0.2	2.2	0.4	2.0	0.2	2.4	0.4
Military.....	0.5	0.1	N	N	0.4	0.1	N	N

¹ The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

N Not available or not comparable

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Table 6.

Industry Distribution for Jobs, by Wave and Sex (Job line 1, Spell 1)

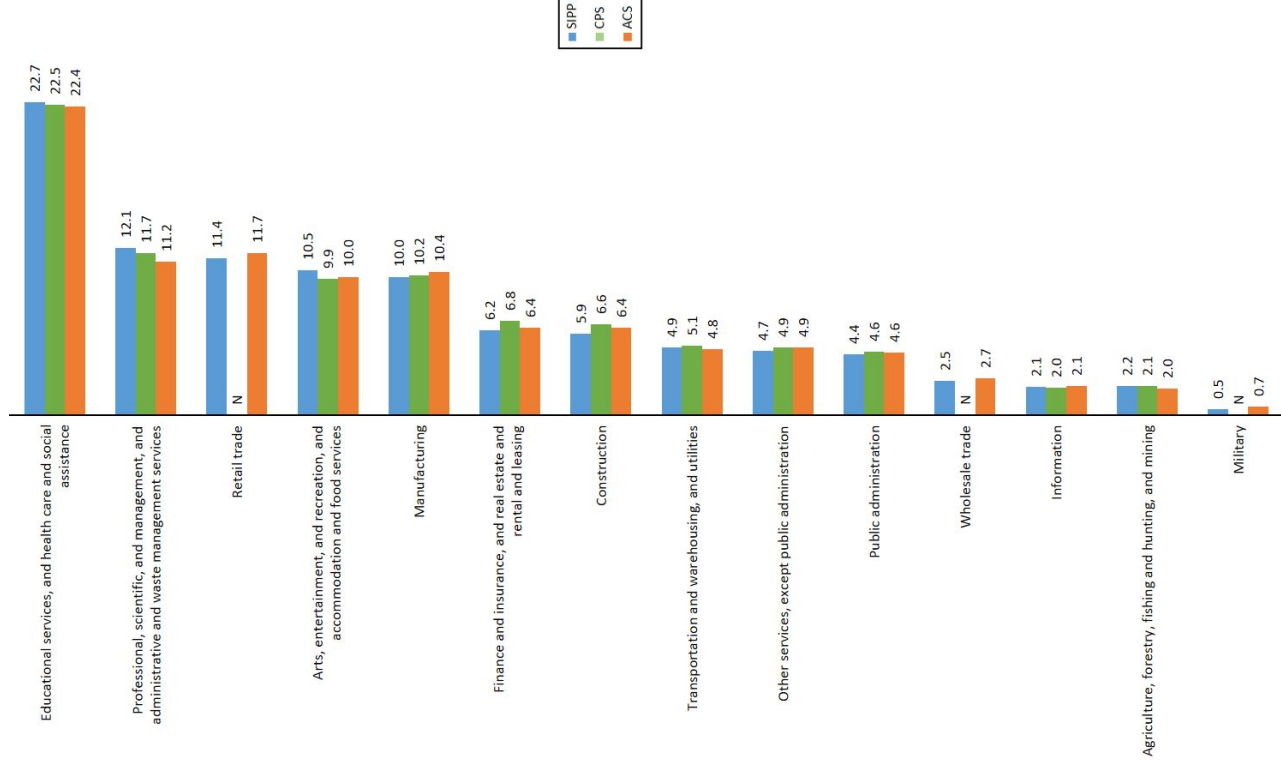
Industry	Wave 1				Wave 2			
	Men		Women		Men		Women	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	82,760	550.6	75,270	552.6	86,300	548.4	78,130	659
Educational services, and health care and social assistance.....	10.9	0.5	35.6	0.7	11.0	0.5	35.4	0.7
Professional, scientific, and management, and administrative and waste management services	13.2	0.5	10.9	0.5	13.1	0.5	11.4	0.5
Retail trade.....	10.9	0.4	11.8	0.5	10.8	0.5	12.2	0.5
Arts, entertainment, and recreation, and accommodation and food services.....	9.8	0.4	11.3	0.5	10.1	0.5	11.3	0.5
Manufacturing	13.6	0.5	6.1	0.3	13.4	0.5	6.0	0.4
Finance and insurance, and real estate and rental and leasing	5.6	0.3	6.7	0.4	5.5	0.3	6.4	0.4
Construction.....	10.4	0.4	1.0	0.1	10.1	0.5	1.2	0.2
Transportation and warehousing, and utilities....	7.2	0.4	2.5	0.2	7.3	0.5	2.4	0.2
Other services, except public administration	4.2	0.3	5.2	0.4	4.2	0.3	5.2	0.3
Public administration	4.8	0.3	4.1	0.3	5.1	0.4	4.4	0.3
Wholesale trade.....	3.3	0.3	1.6	0.2	3.3	0.3	1.4	0.2
Information	2.3	0.2	1.9	0.2	2.3	0.3	1.7	0.2
Agriculture, forestry, fishing and hunting, and mining	3.2	0.3	1.1	0.2	3.1	0.3	0.8	0.1
Military.....	0.8	0.1	N	N	0.7	0.1	N	N

¹ The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

N Not available or not comparable

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Figure 2.
Percent Distribution of Industry, by Survey



N Not available or not comparable

Source: U.S. Census Bureau, 2013 American Community Survey (ACS) 1-year estimates; U.S. Census Bureau, Current Population Survey (CPS) 2013 Annual Social and Economic Supplement; U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Wave 1 (Job line 1, Spell 1 Only)

Occupation

Occupation is the final variable reviewed by the Census Bureau among the industry and occupation content and refers to the kind of work performed by a respondent. Data for occupation is recorded on job lines 1 through 7 for jobs among the employed and self-employed, and on the “no job” line for unpaid work in a family member’s business or farm.

Table 7 presents the occupation distribution for jobs in the 2014 SIPP Panel, Waves 1 and 2 (spell 1) using 24 major occupation groups.⁴³

In total, over one-third of jobs were reported among the top five occupation groups. The largest group consisted of office and administration support (11.6 percent) occupations. The next two largest groups were sales and related (10.9 percent) and management (9.6 percent) occupations respectively. The fourth- and fifth-largest occupations groups – education, training, and library and food preparation and serving related – each comprised just over six percent of jobs (6.5 percent).

The distributions for Wave 2 did not differ from Wave 1 in 23 of the 24 occupation groups. Material moving occupations represented the sole exception and demonstrated a small but statistically significant increase of 0.3 percentage points between waves from 2.6 percent to 2.9 percent.

Table 7.
Occupation Distribution for Jobs, by Wave (Job lines 1-7, Spell 1)

Occupation	Wave 1		Wave 2	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	184,200	1,054	197,600	1,342
Office and administrative support	11.6	0.3	11.7	0.3
Sales and related	10.9	0.3	10.6	0.4
Management	9.6	0.3	9.4	0.3
Education, training, and library	6.5	0.3	6.6	0.3
Food preparation and serving related	6.5	0.3	6.8	0.3
Healthcare practitioners and technical	5.3	0.2	5.4	0.3
Production	5.5	0.2	5.4	0.2
Business and financial operations	5.0	0.2	5.0	0.3
Construction and extraction	4.8	0.2	4.6	0.2
Personal care and service	4.1	0.2	4.3	0.2

⁴³ All detailed occupations were collapsed into 24 aggregate categories corresponding with the occupation groups from the 2013 ACS and 2014 SIPP PUMS Occupation Code List. For more information, see Appendix C.

Table 7. (Continued)

Occupation	Wave 1		Wave 2	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Building and grounds cleaning and maintenance.....	3.8	0.2	3.9	0.2
Transportation	3.4	0.2	3.4	0.2
Computer and mathematical.....	2.9	0.2	3.0	0.2
Installation, maintenance, and repair.....	3.1	0.2	3.0	0.2
Material moving.....	2.6	0.1	2.9	0.2
Arts, design, entertainment, sports, and media.....	2.7	0.2	2.9	0.2
Healthcare support	2.4	0.2	2.4	0.2
Protective service.....	2.2	0.1	2.2	0.2
Architecture and engineering	2.0	0.1	1.9	0.2
Community and social service	1.8	0.1	1.7	0.2
Legal	1.1	0.1	1.0	0.1
Life, physical, and social science	0.9	0.1	0.9	0.1
Farming, fishing, and forestry	1.0	0.1	0.8	0.1
Military.....	0.5	0.1	0.4	0.1

¹The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Table 8 shows the occupation distribution for jobs by survey wave and by job line.

Differences in the distribution by job line are evident beginning in Wave 1. In general, job line 1 had about six times as many jobs compared with job lines 2-7. The distribution of the largest occupations by job line also varied. For example, the three largest occupation groups on job line 1 were office and administrative support (11.8 percent), sales and related (10.7 percent), and management (10.2 percent). On job lines 2-7, the two largest groups were sales and related (12.1 percent) and office and administrative support (10.6 percent) occupations, while the third- and fourth-largest groups were food preparation and serving related (9.0 percent) and education, training, and library (8.1 percent) occupations, which were not statistically different.

Many of the Wave 2 estimates did not differ significantly from the Wave 1 estimates. For example, office and administrative support (11.8 percent), sales and related (10.3 percent), and management (9.9 percent) occupations were among the three largest groups on job line 1 in Wave 2.⁴⁴ Sales and related (11.8 percent), office and administrative support (11.1 percent), and food preparation

⁴⁴ In Wave 2, the percentage of jobs on job line 1 in sales and related occupations was not significantly different from the percentage of jobs in management occupations.

and serving related (8.4 percent) occupations also were among the three largest groups on job lines 2-7.⁴⁵ With few exceptions, almost all of the occupation groups on job line 1 and job lines 2-7 did not significantly vary between survey waves.⁴⁶

Table 9 shows the occupation distribution for jobs on job line 1 (spell 1) by survey wave and by sex.

The Wave 1 comparisons highlight similarities and differences in the occupation distribution of jobs for women and men. Among the top three occupation groups for women were office and administrative support (17.7 percent), sales and related (11.7 percent), and education, training, and library (9.7 percent). Men were likely to hold jobs in management (11.6 percent), as well as sales and related occupations (9.7 percent) and construction and extraction (9.2 percent).⁴⁷

Some differences in the distribution of occupations were present by survey wave and sex. Among men, the percentage of jobs in sales and related occupations was significantly higher in Wave 1 (9.7 percent) compared with Wave 2 (8.9 percent), while the percentage of jobs in material moving occupations was significantly lower (4.0 percent and 4.4 percent respectively). Among women, the percentage of jobs in material moving occupations also was significantly lower in the first wave (1.0 percent compared with the second wave (1.3 percent).

⁴⁵ In Wave 2, the percentage of jobs on job lines 2-7 in sales and related occupations was not significantly different from the percentage of jobs in office and administrative support occupations.

⁴⁶ The percentage of jobs in material moving occupations on job line 1 was significantly higher in Wave 2 compared with Wave 1. On job lines 2-7 the percentage of jobs in healthcare practitioners and technical occupations also was significantly higher in the second wave while the percentage of jobs in architecture and engineering occupations was lower.

⁴⁷ Among men, the percentage of jobs in sales and related occupations was not significantly different from the percentage of jobs in construction and extraction occupations.

Table 8.

Occupation Distribution for Jobs, by Wave and Job Line (Spell 1)

Occupation	Wave 1				Wave 2			
	Job Line 1		Job Lines 2-7		Job Line 1		Job Lines 2-7	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	158,000	811	26,170	644	164,400	868	33,150	892.1
Office and administrative support	11.8	0.3	10.6	0.8	11.8	0.3	11.1	0.8
Sales and related	10.7	0.3	12.1	0.8	10.3	0.4	11.8	0.9
Management	10.2	0.4	6.5	0.6	9.9	0.3	6.8	0.6
Education, training, and library	6.2	0.3	8.1	0.7	6.5	0.3	7.2	0.7
Food preparation and serving related	6.1	0.3	9.0	0.7	6.4	0.3	8.4	0.8
Healthcare practitioners and technical	5.4	0.2	4.9	0.5	5.3	0.3	6.0	0.7
Production	5.6	0.2	4.7	0.5	5.7	0.3	4.3	0.4
Business and financial operations	5.0	0.2	4.9	0.5	5.0	0.3	4.9	0.6
Construction and extraction	4.9	0.2	3.9	0.5	4.7	0.2	3.9	0.5
Personal care and service	3.9	0.2	5.2	0.6	4.1	0.2	5.2	0.5
Building and grounds cleaning and maintenance	3.7	0.2	3.9	0.5	3.9	0.2	3.8	0.5
Transportation	3.4	0.2	3.1	0.4	3.4	0.2	3.6	0.5
Computer and mathematical	3.0	0.2	2.3	0.4	3.1	0.2	2.4	0.5
Installation, maintenance, and repair	3.3	0.2	2.1	0.4	3.1	0.2	2.3	0.4
Material moving	2.6	0.1	2.8	0.4	2.9	0.2	3.0	0.5
Arts, design, entertainment, sports, and media	2.3	0.2	5.1	0.5	2.5	0.2	4.9	0.6

Table 8. (Continued)

Occupation	Wave 1				Wave 2			
	Job Line 1		Job Lines 2-7		Job Line 1		Job Lines 2-7	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Healthcare support	2.4	0.2	2.5	0.4	2.3	0.2	2.6	0.4
Protective service.....	2.2	0.2	2.0	0.4	2.1	0.2	2.5	0.4
Architecture and engineering	2.0	0.1	1.6	0.3	2.1	0.2	0.9	0.2
Community and social service	1.8	0.1	1.8	0.3	1.7	0.2	1.9	0.4
Legal	1.2	0.1	N	N	1.1	0.1	N	N
Life, physical, and social science	1.0	0.1	N	N	1.0	0.1	N	N
Farming, fishing, and forestry	0.9	0.1	1.1	0.3	0.8	0.1	N	N
Military	0.5	0.1	N	N	0.4	0.1	N	N

¹The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

N Not available or not comparable

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Table 9.
Occupation Distribution for Jobs, by Wave and Sex (Job line 1, Spell 1)

Occupation	Wave 1				Wave 2			
	Men		Women		Men		Women	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Total (in thousands)	82,760	550.6	75,270	552.6	86,300	548.4	78,130	659
Office and administrative support	6.4	0.4	17.7	0.5	6.5	0.4	17.6	0.6
Sales and related	9.7	0.4	11.7	0.5	8.9	0.4	11.9	0.6
Management	11.6	0.5	8.6	0.4	11.1	0.5	8.5	0.5
Education, training, and library	3.0	0.2	9.7	0.4	3.3	0.3	10.0	0.5
Food preparation and serving related	5.2	0.3	7.0	0.4	5.6	0.4	7.3	0.4
Healthcare practitioners and technical	2.5	0.2	8.5	0.4	2.5	0.3	8.4	0.4
Production	7.7	0.4	3.3	0.2	7.7	0.4	3.4	0.3
Business and financial operations	4.3	0.3	5.8	0.3	4.5	0.4	5.6	0.4
Construction and extraction	9.2	0.4	N	N	8.7	0.4	N	N
Personal care and service	1.7	0.2	6.4	0.3	1.9	0.2	6.6	0.4
Building and grounds cleaning and maintenance	4.1	0.3	3.3	0.2	4.2	0.3	3.5	0.3
Transportation	5.7	0.3	1.0	0.1	5.7	0.3	0.9	0.1
Computer and mathematical	4.2	0.3	1.7	0.2	4.5	0.3	1.6	0.2
Installation, maintenance, and repair	5.9	0.3	0.4	0.1	5.7	0.4	N	N
Material moving	4.0	0.2	1.0	0.1	4.4	0.3	1.3	0.2
Arts, design, entertainment, sports, and media	2.3	0.2	2.3	0.2	2.5	0.3	2.4	0.3

Table 9. (Continued)

Occupation	Wave 1				Wave 2			
	Men		Women		Men		Women	
	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹	Estimate	MOE (\pm) ¹
Healthcare support	0.5	0.1	4.4	0.3	0.6	0.1	4.3	0.3
Protective service.....	3.1	0.2	1.2	0.2	3.1	0.3	1.0	0.2
Architecture and engineering	3.4	0.3	0.5	0.1	3.5	0.3	0.5	0.1
Community and social service	1.3	0.1	2.4	0.2	1.1	0.2	2.4	0.3
Legal	1.0	0.2	1.3	0.2	1.0	0.2	1.1	0.2
Life, physical, and social science	1.2	0.2	0.9	0.1	1.2	0.2	0.8	0.2
Farming, fishing, and forestry	1.3	0.2	0.5	0.1	1.2	0.2	0.4	0.1
Military.....	0.8	0.1	N	N	0.7	0.1	N	N

¹The margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number, when added to or subtracted from the estimate, represents the 90 percent confidence interval.

N Not available or not comparable

Source: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Waves 1 and 2.

Figure 3 shows the occupation distribution of jobs for the SIPP, ACS, and the CPS. Overall, the SIPP distribution contained small differences compared to the other two surveys. Compared with the ACS, differences within occupation groups were small and ranged from less than 0.1 percentage points to 1.6 percentage points. However, these differences were significant for 17 occupation groups.⁴⁸ Between the SIPP and the CPS, differences within occupations ranged from less than 0.1 percentage points to 1.0 percentage points. Additionally, only 10 of the 24 occupation groups were significantly different between the SIPP and CPS.⁴⁹

Summary of Data Quality

Overall, the SIPP PUFs appear to be of reasonable data quality given the extent of allocation in the class of worker, industry, and occupation measures. Over 90 percent of jobs were as reported in Wave 1 on class of worker, industry, and occupation. Similarly, in Wave 2 over 90 percent of jobs were as reported on class of worker and industry. However, the percentage of jobs with allocated values for occupation also increased in Wave 2. Among those jobs requiring allocation in either wave, the most common pattern was one of joint allocation on all three measures.

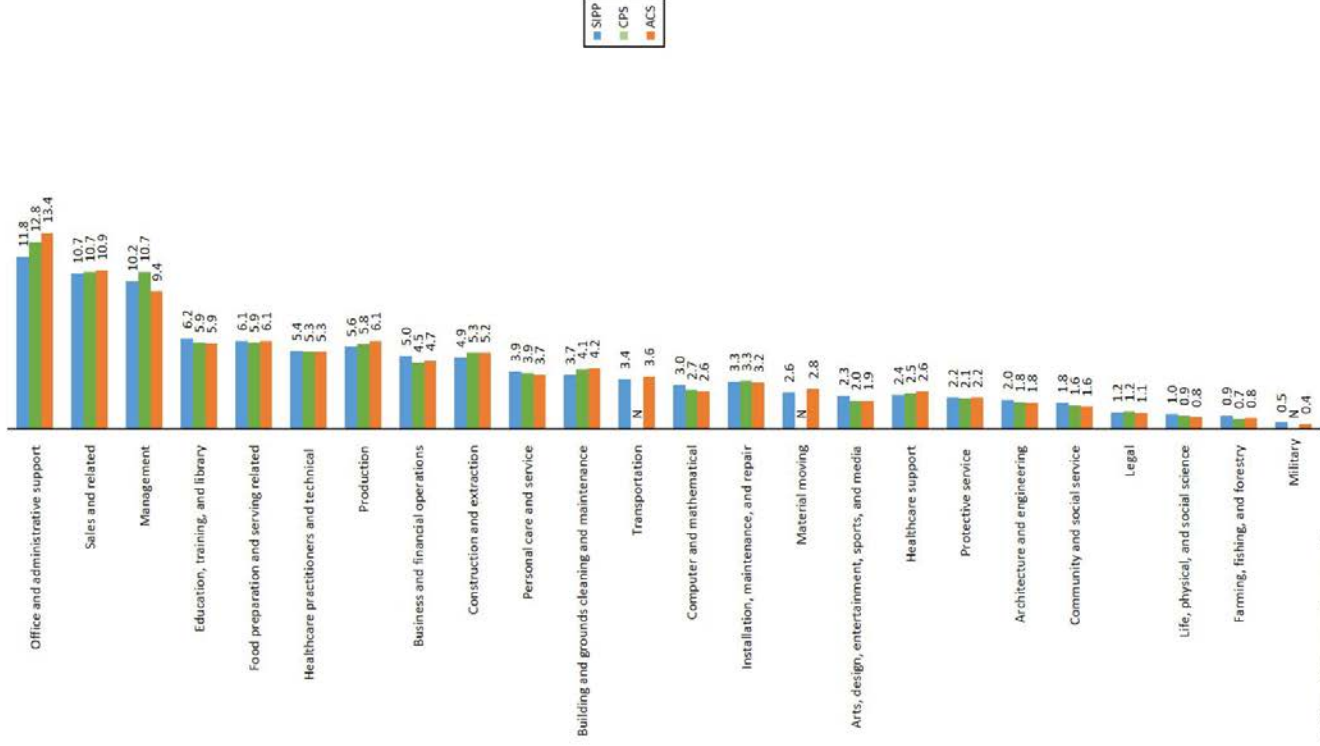
Concerning differences by survey wave, findings suggest that the SIPP PUF measures for class of worker, industry, and occupation performed consistently over time. Differences between the 2014 SIPP panel, Wave 1 and 2 estimates for these measures were limited and, in most cases, within about 1 percentage point. Further, there were few differences between waves even when the data were tabulated by job line or by sex.

Findings also suggest that few differences were found when comparing the 2014 SIPP Panel, Wave 1 (spell 1) estimates with the 2013 ACS 1-year estimates and the 2013 CPS ASEC. While estimates were sometimes statistically different between the SIPP and other surveys, the size of these differences often was small. For instance, the difference between class of worker estimates for the SIPP and the ACS ranged 0.2 to 1.7 percentage points, while the difference between the SIPP and the CPS ranged from 0.1 to 3.0 percentage points. Concerning industry, differences between the SIPP and the ACS or CPS were lower and within 1 percentage point or less. Differences between the surveys' occupation estimates also were within 1 percentage point, except for office and administrative support occupations where the differences were greater (1.0 percentage points between the SIPP and the CPS, and 1.6 percentage points between the SIPP and the ACS).

⁴⁸ The following occupation groups were significantly different between the SIPP and the ACS: military; architecture and engineering; arts, design, entertainment, sports, and media; building and grounds cleaning and maintenance; business and financial operations; community and social service; computer and mathematical; construction and extraction; education, training, and library; farming, fishing, and forestry; health care support; life, physical, and social science; management; material moving; office and administrative support; personal care and service; and production.

⁴⁹ The following occupation groups were statistically different between the SIPP and the CPS: architecture and engineering; arts, design, entertainment, sports, and media; building and grounds cleaning and maintenance; business and financial operations; community and social service; computer and mathematical; construction and extraction; farming, fishing, and forestry; management; and office and administrative support.

Figure 3.
Percent Distribution of Occupation, by Survey



N Not available or not comparable

Source: U.S. Census Bureau, 2013 American Community Survey (ACS) 1-year estimates; U.S. Census Bureau, Current Population Survey (CPS) 2013 Annual Social and Economic Supplement; U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2014 Panel, Wave 1 (job line 1, Spell 1 Only)

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APPENDIX A.
 2014 SIPP Panel Wave 1, Event History Calendar (EHC)

F3-Check Progress F10-Exit EHC		REFERENCE YEAR 2013												INTERVIEW YEAR 2014					
Topic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Residency																			
Marital History																			
Education																			
Job 1																			
Job 2																			
Job 3																			
Job 4																			
Job 5																			
Job 6																			
Job 7																			
More Jobs (if any)																			
No Job																			
SSI																			
Food Stamps																			
TANF																			
Gen. Assist.																			
WIC																			
Private 1																			
Private 2																			
Medicare																			
Medical Assista...																			
Military																			
Other Coverage																			

APPENDIX B.
 2014 SIPP PUMS Industry Code List, Collapsed Categories⁵⁰

* 0170 - 0490 Agriculture, Forestry, Fishing and Hunting, and Mining	* 0770 - 1060 Construction
* 1070 - 3990 Manufacturing	* 4070 - 4590 Wholesale Trade
* 4670 - 5790 Retail Trade	* 6070 - 6390, 0570 - 0690 Transportation and Warehousing, and Utilities
* 6470 - 6780 Information	* 6870 - 7190 Finance and Insurance, and Real Estate and Rental and Leasing
* 7270 - 7790 Professional, Scientific, and Management, and Administrative and Waste Management Services	* 7860 - 8470 Educational Services, and Health Care and Social Assistance
* 8560 - 8690 Arts, Entertainment, and Recreation, and Accommodation and Food Services	* 8770 - 9290 Other Services (except Public Administration)
* 9370 - 9590 Public Administration	* 9890 Active Duty Military

⁵⁰ The complete 2013 ACS 1-Year and 2014 SIPP PUMS Industry Code List is also available online <<https://www.census.gov/topics/employment/industry-occupation/guidance/code-lists.html>>.

APPENDIX C.
2014 SIPP PUMS Occupation Code List, Collapsed Categories⁵¹

* 0010 - 0430 Management Occupations	* 4000 - 4160 Food Preparation and Serving Related Occupations
* 0500 - 0950 Business and Financial Operations Occupations	* 4200 - 4250 Building and Grounds Cleaning and Maintenance Occupations
* 1000 - 1240 Computer and Mathematical Occupations	* 4300 - 4650 Personal Care and Service Occupations
* 1300 - 1560 Architecture and Engineering Occupations	* 4700 - 4965 Sales and Related Occupations
* 1600 - 1965 Life, Physical, and Social Science Occupations	* 5000 - 5940 Office and Administrative Support Occupations
* 2000 - 2060 Community and Social Service Occupations	* 6000 - 6130 Farming, Fishing, and Forestry Occupations
* 2100 - 2160 Legal Occupations	* 6200 - 6940 Construction and Extraction Occupations
* 2200 - 2250 Education, Training, and Library Occupations	* 7000 - 7630 Installation, Maintenance, and Repair Occupations
* 2600 - 2960 Arts, Design, Entertainment, Sports, and Media Occupations	* 7700 - 8965 Production Occupations
* 3000 - 3540 Healthcare Practitioners and Technical Occupations	* 9000 - 9420 Transportation Occupations
* 3600 - 3655 Healthcare Support Occupations	* 9500 - 9750 Material Moving Occupations
* 3700 - 3955 Protective Service Occupations	* 9840 Military Specific Occupations

⁵¹ The complete 2013 ACS 1-Year and 2014 SIPP PUMS Occupation Code List is also available online <<https://www.census.gov/topics/employment/industry-occupation/guidance/code-lists.html>>.