What is a Primary Occupation? Comparing Occupation Measures in the ACS and the SIPP

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ABSTRACT

Surveys administered by the U.S. Census Bureau frequently include questions about the kind of work that respondents perform (i.e., their occupation). However, measures for occupation vary between surveys due to question wording and survey design. This working paper compares the 2013 American Community Survey (ACS) 1-year estimates with the Survey of Income and Program Participation (SIPP) 2014 Panel, Wave 1 estimates to assess whether occupation is measured consistently across two nationally-representative surveys.[3] While the ACS collects information about only one job, the SIPP allows respondents to report up to seven jobs. As a result, this paper assesses the one ACS measure against two possible SIPP configurations stemming from two different definitions for respondents' primary job. This paper presents evidence that the SIPP and the ACS capture occupation similarly, even when the criteria for selecting primary occupation are different in the two surveys. Results showed a similar occupation distribution between the ACS and SIPP.[4] Additionally, results indicated there were no significant differences between the two SIPP measures for primary occupation in the SIPP occupation distribution. The ACS measured a lower percentage of part-time workers than in both SIPP configurations. For the SIPP, the percentage of part-time workers was higher when occupation was defined as the job with the longest tenure rather than the job with the highest total hours.

[1] This paper is released to inform interested parties of ongoing research and to encourage discussion. Any views expressed on statistical, methodological, technical, or operational issues are those of the authors 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. CBDRB-FY20-POP001-0044

[3] Statistics from surveys are subject to sampling and nonsampling error. For further information on the source of the data and accuracy of the estimates, including standard errors and confidence intervals, for SIPP see < http://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html > and for ACS see < https://www.census.gov/programs-surveys/acs/technical-documentation/code-lists.2013.html>

[4] All comparative statements in this report have undergone statistical testing, and, unless otherwise noted, all comparisons are statistically significant at the 10 percent significance level.

INTRODUCTION

The American Community Survey (ACS) and the Survey of Income and Program Participation (SIPP) are two nationally-representative surveys that capture information about respondents' occupation, or the kind of work they perform in a job. However, these two surveys ask about respondents' jobs in different ways due to question wording and survey design. For example, the ACS asks only about the occupation corresponding with a respondent's current or most recent job (or if they have two or more jobs, the job with the most usual hours worked) while the SIPP asks for a respondent's occupation for up to seven jobs. Because the SIPP does not require an individual to select and identify one job apart from all other jobs, the occupation reported by a SIPP respondent also could differ depending on which job is examined. How the ACS and the SIPP capture information about respondents' jobs could affect the number and kind of occupations that are reported, especially among multiple jobholders who are limited in the ability to report more than one occupation in the ACS. More broadly, differences between these two surveys' occupation measures might even suggest dissimilar national job distributions. Given such a possibility, there is a need to re-examine what is being captured by the occupation questions on large-scale surveys such as the ACS and the SIPP, and to determine to what extent individuals could report different occupations based on the criteria used for job selection.

From the outset, the ACS has been compared with a variety of data such as the 2000 Decennial Census, the Current Population Survey (CPS), and administrative records. Findings suggest the ACS generally aligns with these other sources. For example, a comparison of the Census 2000 Supplementary Survey (a precursory survey illustrating the capabilities of the ACS)

with the 2000 Decennial Census indicated less than a 1 percentage point difference between the surveys' occupation and industry distributions, suggesting the two surveys captured respondents' jobs similarly (U.S. Census Bureau 2004). The validity of the ACS measures was similarly upheld in a comparison of the 2003 ACS with the 2003 CPS, which also revealed less than a 1 percentage point difference between surveys in their occupation and industry distributions at a national level (Downs, Tegler, and Weismantle 2003). These results suggest that the ACS and CPS capture jobs similarly, resulting in few substantive differences between surveys. More recently, the 2009 ACS was benchmarked against administrative records from the Census Longitudinal Employer-Household Dynamics (LEHD) program. While comparisons were limited to the ACS industry measures, findings indicated that nearly 75 percent of respondents' self-reported answers for their employer's industry matched employer-reported responses in the LEHD (Isenberg, Landivar, and Mezey 2013).[5] In short, there is evidence that occupation and industry measures in the ACS closely resemble other surveys.

So far, there have been few studies comparing the Survey of Income and Program Participation (SIPP) and other data since it was reengineered to incorporate an event history calendar (EHC) into its design in 2014. Even so, publicly available information suggests the reengineered SIPP is comparable to previous iterations. In one feasibility test involving the newly designed EHC, analysts compared the unedited, unweighted 2010 reengineered SIPP data with the edited, weighted data from the 2008 classic SIPP, and found about a 1 percentage point difference among six major occupation groups – management, professional, and related;

[5] Industry match rates between the ACS and the LEHSD varied by industry sector. As a result, some industries had a higher match rate between employee and employer responses, while other industries had a lower rate. How each survey defined industry also affected match rates.

service; sales and office; natural resources, construction, and maintenance; production, transportation, and material moving; and military (Layne 2013). While significance tests were not conducted for these feasibility test comparisons, results were promising and illustrated how the reengineered SIPP were of a reasonable data quality. More recently, an evaluation of the SIPP 2014 Panel, Waves 1 and 2 public use files indicated that the SIPP distribution of jobs among 24 occupation groups also was comparable to the ACS and CPS distributions, such that most differences between survey estimates were small in size. Specifically, results had shown the difference in the distribution between the SIPP and ACS were less than 1.6 percentage points, and less than 1 percentage point between the SIPP and CPS (Gumber 2019). Because there are fewer studies comparing the SIPP with other data sources, there remains a need to evaluate the ability of the SIPP to measure respondents' occupation to ensure the data are reasonable (U.S. Census Bureau 2016).

This study evaluates the redesigned SIPP's occupation measures against those of another major survey – the ACS. Findings from this study will provide researchers, policy makers, and others with a deeper understanding of the current tools employed in the ACS and the SIPP for capturing occupation. Due to the inclusion of an EHC in its survey design and a use of a one year reference period, the SIPP began offering different occupation measures compared with the ACS in 2014. This research is critical because there has been no extensive tests comparing the SIPP and ACS since the SIPP was reengineered. Prior to the redesign, the SIPP had captured occupation similarly to the ACS by asking about only one job for each respondent at the time of interview. Once the EHC was adopted, the SIPP began capturing information on up to seven jobs worked during the reference period. As a result, further

research is necessary to understand how the SIPP may differ from the ACS in its ability to capture respondents' *primary occupation* – or the occupation corresponding to their primary job – and to determine how respondents' primary occupation also could change depending on the criteria used to identify their primary job.

RESEARCH QUESTIONS

In order to assess the reasonableness of the SIPP occupation measures against the ACS measures, two research questions are addressed: First, does the definition used to identify a primary job in the SIPP affect respondents' occupation selection? In other words, what percentage of individuals in the SIPP could have a different primary occupation assigned when the criteria for selecting primary job also are changed? Second, are the SIPP occupation measures consistent with the ACS measures? That is, does the SIPP identify a similar occupation distribution to the ACS given respondents' reported job(s)? Answering these questions will help determine how job selection affects occupation assignment in the SIPP and will clarify what information is captured in the SIPP occupation measures compared with the ACS measures. In doing so, this paper will help determine what criteria in the SIPP might be used to find similar job distributions compared with the ACS.

This study broadly consists of two parts. In the first part, workers' characteristics are presented by survey and primary job definition. Three definitions for primary job are used: one in the ACS, and two in the SIPP. Comparisons among single job holders and multiple job holders in the SIPP also are included. In the second part, estimates for the occupation distributions are

presented by survey and primary job definition. Comparisons between the surveys' occupation distributions are discussed in terms of 23 occupation groups and 20 detailed occupations.

DATA AND SAMPLE UNIVERSE

Data for this study come from two nationally representative surveys administered by the U.S. Census Bureau: 1) the 2013 American Community Survey (ACS) 1-year estimates, and 2) the 2014 Survey of Income and Program Participation (SIPP) Panel, Wave 1. These surveys are ideal for comparison given their large samples, ability to generalize to the broader U.S. population, and similarity in employment-related content, such as respondents' employment status and kind of work (i.e., occupation). Moreover, the 2013 ACS and the 2014 SIPP Panel, Wave 1 share a common reference period – calendar year 2013.

The ACS is conducted annually and measures demographics, housing, and social and economic characteristics of the population. Data from the ACS 1-year estimates are cross-sectional and encompass all respondents participating between January 1 and December 31 of a single calendar year. In 2013, the ACS was administered in 3,141 counties and county equivalents in the U.S., and 78 municipalities in Puerto Rico (U.S. Census Bureau 2014). While the ACS sample is designed to provide estimates for all counties, some of the geographic areas with smaller populations need to pool 5 years of data to create estimates. In total, 93.3 percent of the total population were eligible for sampling (U.S. Census Bureau 2019a), with approximately 3.5 million households selected. About 60 percent of households responded,

resulting in a final 2013 interview sample of 2.2 million households (U.S. Census Bureau 2019b).[6]

The SIPP provides information on social and economic characteristics of the civilian, noninstitutionalized U.S. population and their enrollment in and out of federal aid programs. In contrast to the ACS, the 2014 SIPP panel is longitudinal and tracks respondents over a four-year period with data collected annually. The 2014 SIPP panel also uses a two-stage sample design. First, the Census Bureau establishes Primary Sample Units (PSU's), or geographic areas (counties or groups of counties) with a set of known characteristics. Based on these characteristics, a sample design is determined which dictates how many addresses will be selected from each area. In the second stage, individual addresses are selected for a wave 1 interview. In total, the 2014 SIPP panel, Wave 1 sample consisted of 53,000 household addresses, of which 30,000 were interviewed, yielding almost 68,000 person interviews (U.S. Census Bureau 2016).

Given the current study's focus on measuring occupation in the ACS and the SIPP, the analytic sample included all employed people ages 16 years or older in the United States. People living in Puerto Rico and other U.S. territories were excluded from the analyses since the SIPP is not administered in those areas. Some differences in the analytic sample also exist because of the survey measures used in the ACS and the SIPP to determine respondents' occupation.[7] For example, the ACS collects data on a respondent's current or most recent job in the past 5-years but the sample is limited to those people that reported being "employed, at

[6] As a result of the 2013 government shutdown, the ACS did not have a second mailing, a telephone follow up, nor a person follow up operation for the 2013 October panel.
[7] See Appendix A for the ACS occupation questions, and Appendix B for the SIPP occupation questions.

work" or "employed, with a job but not at work" during the preceding week. In the SIPP, the sample is limited to those people who were employed, self-employed, or had some other work arrangement during the previous calendar year. Unpaid family workers were not included in the sample for the ACS or the SIPP due to differences in survey sample universe. Individuals actively participating in the military or armed forces also were excluded.

WHAT IS A PRIMARY OCCUPATION?

In this study a *primary occupation* broadly refers to the kind of work a person does for pay most of the time. More specifically, the term is used to describe the occupation corresponding with a person's primary job. According to a recent report on multiple job holders using the 2014 SIPP Panel, Wave 1 estimates, most workers hold only one job. As a result, a *primary occupation* frequently corresponds with the occupation of an individual's one and only job. In 2013, 91.7 percent of US workers were employed in a single job at a time (Beckhusen 2019), and for this reason, the exact criteria used to define the concept often is unnecessary. However, for multiple jobholders and those in alternative work arrangements distinguishing a person's *primary occupation* from their secondary or auxiliary occupation(s) may be less obvious and depend more heavily on the criteria used by analysts to define the concept. For example, among multiple jobholders a *primary occupation* could potentially refer to the job worked most often, the job worked the longest, or a job defined by some other requirement. In short, the definition of the term depends on the number of jobs an individual works. For individuals with multiple jobs, other criteria also are used to identify their primary job and distinguish it from other jobs.

In addition to the conceptual challenge of defining the term *primary occupation*, operationalizing it as a variable is equally difficult due to differences between the ACS and the SIPP. For instance, the ACS asks for respondents' current or most recent job activity in the last five years, with this study focusing on persons who are currently employed. No information is obtained for multiple jobholders. Additional limitations are imposed such that the ACS yields information solely about the job which the person worked the most hours. Conversely, in the SIPP a *primary occupation* is not specified by default nor restricted by the survey's design. Rather, the SIPP allows respondents to provide an occupation for up to seven jobs via the use of an EHC. The EHC also yields granular detail on SIPP respondents at the spell-level,[8] capturing temporary breaks in employment, changes in usual hours worked, and other aspects of employment not measured in the ACS. As a result, operationalizing *primary occupation* as a variable is more straightforward in the ACS compared to the SIPP.

Three definitions for *primary occupation* are used in this study: one ACS measure and two SIPP measures. The ACS measure corresponds to the one job reported, where the questionnaire asks respondents to refer to the job they worked with the highest number of "usual hours" worked during the reference period. The first SIPP measure corresponds to the job with the longest tenure (i.e., listed in the tables as "SIPP (longest tenure)") while the second SIPP measure corresponds to the job with the highest "total hours" worked during 2013 (i.e., listed in the tables as "SIPP (most hours worked)").[9] By definition, these two SIPP measures

[8] A job-spell refers to a period of consecutive employment or non-employment in a respondent's life.
[9] Additional SIPP configurations for *primary occupation* were considered as possible measures, such as respondents' most recent occupation, respondents' highest paying occupation, and the occupation first entered on the SIPP EHC.

are more likely to correspond with definite work arrangements such as employment or self-employment, rather than less formal work arrangements such as on-call work or one-time jobs.

CHARACTERISTICS OF EMPLOYED WORKERS BY SURVEY AND BY PRIMARY JOB DEFINITION

Tables 1 and 2 show selected sociodemographic and employment characteristics of workers by survey and job definition. In the ACS, more workers were male (52.5 percent) than female. Workers were mainly ages 25 to 44 (43.1 percent) or 45 to 64 (38.9 percent). They were primarily White, non-Hispanic (65.7 percent). Concerning education, workers most often had attended some college, or had an associate's degree (32.7 percent). Respondents largely worked full-time (77.7 percent), and were private wage and salary workers (76.5 percent).

In the ACS, the workers included in this analysis resembled the overall civilian labor force in terms of both sociodemographic and employment characteristics.[10,11] However, there were small but significant differences between the included workers and the broader labor force. Included workers skewed older than the overall civilian labor force, as there was a significantly lower percentage of individuals ages 16 to 24 (13.0 and 14.4 percent) and a higher percentage ages 25 or older (87.0 and 85.6 percent). While a majority of individuals identified as White, non-Hispanic among the workers included in this analysis (65.7 percent) and in the overall labor force (64.5 percent), there was less variation by race or ethnicity among the analytic group. Specifically, there was a higher percentage of individuals identifying as Black alone (11.6 percent), some other race alone (2.5 percent), or Hispanic (16.1 percent) in the

[10] The ACS workers examined in this paper consist only of those individuals currently employed, while the overall civilian labor force consists of both the employed (including unpaid family workers) and the unemployed.
[11] See Appendix C for the sociodemographic and employment characteristics of the overall civilian labor force.

civilian labor force compared with the analytic group. Educational attainment was higher among included workers – with about 1.5 percentage points more individuals reporting a bachelor's degree or more. Regarding differences in employment status between study workers and the civilian labor force, more individuals worked full-time (77.7 compared with 71.1 percent) or part-time (22.3 compared with 20.5 percent). An additional 8.4 percent of individuals in the civilian labor force were unemployed.

While demographics were not statistically different between SIPP primary job definitions, employment characteristic were different (Table 2).[12] Specifically, part-time employment status was significantly different between the two job definitions.[13] There was a higher percentage of part-time workers when the primary job was defined as the job with the longest tenure rather than the job with the most hours worked (26.0 compared with 24.3 percent).

There were small differences in workers' demographic characteristics between the ACS and the SIPP (Table 1).[14] For instance, there was little difference in workers' sex, race, and Hispanic origin by survey.[15] Concerning age, the SIPP age profile was slightly younger than the ACS as there was a higher percentage of workers 16 to 24 years (15.6 percent compared with 13.0 percent). In contrast, the ACS had a higher percentage of workers ages 25 to 44 and 45 to

[12] In the SIPP, sociodemographic characteristics were drawn from the full sample of workers and did not differ by primary occupation. However, employment characteristics varied depending on the job definition used to determine primary occupation.
[13] In this study, SIPP respondents were considered to be employed part-time if they usually worked fewer than 35 hours per week at their primary job. For those respondents with one or more changes in usual hours worked, part-time status was based on the hours associated with the longest employment spell at their primary job.
[14] Differences identified between the ACS and the SIPP were partly due to how the working population was defined for this analysis and how respondents answered questions concerning their labor force participation.
[15] There were no statistical differences among the following groups: White alone, Asian alone, and Some other race alone.

64 (43.1 percent compared with 42.0 percent, and 38.9 percent compared with 37.5 percent). Educational attainment also varied by survey, as the ACS had a higher percentage of workers with some college-level education compared with the SIPP, but a lower percentage with a Bachelor's degree or higher.

Concerning employment characteristics, there were minor differences by class of worker and much larger differences by part-time or full-time status when comparing the ACS and the SIPP estimates (Table 2). The ACS estimates differed from the SIPP by about 1 percentage point for class of worker, with more government workers in the ACS data and more self-employed workers in the SIPP universes. Differences ranged from 2 to 3.7 percentage points when comparing the percentage of part-time workers. Compared with both SIPP estimates, the ACS had a smaller percentage of part-time employees (22.3 percent compared with 26.0 percent and 24.3 percent in the SIPP).

Table 1. Selected Sociodemographic Characteristics of Workers by Survey: 2013[1]

Characteristic	ACS[2]		SIPP[3]	
	Estimate	MOE	Estimate	MOE
Total (in thousands)	144,900	124	156,400	841.1
Age				
Ages 16 to 24	13	0	15.6	0.2
Ages 25 to 44	43.1	0	42	0.3
Ages 45 to 64	38.9	0	37.5	0.3
Ages 65 and older	5	0	5	0.2
Sex				
Men	52.5	0	52.2	0.2
Women	47.5	0	47.9	0.2
Race/Ethnicity				
Hispanic, any race	15.8	0	15.6	0.2
White alone, not Hispanic	65.7	0	65.5	0.3
Black alone, not Hispanic	10.8	0	11.2	0.2
Asian alone, not Hispanic	5.4	0	5.3	0.2
Some other race alone, not Hispanic	2.4	0	2.4	0.2
Educational Attainment				
Less than a high school diploma	9.7	0.1	9.2	0.3
High school diploma or GED	24.9	0.1	26.5	0.4
Some college credit, associates degree	32.7	0.1	30.2	0.5
Bachelor's degree	20.8	0.1	21.7	0.5
Graduate or professional degree	12	0.1	12.4	0.3

Source: U.S. Census Bureau, 2013 American Community Survey, 1-year estimates; U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Notes:

[1]Excludes armed forces

[2]Current or most recent job activity - the one worked the most hours

[3]Job with the longest tenure or job with the highest “total hours” worked during 2013

Table 2. Selected Employment Characteristics of Workers by Survey: 2013[1]

Characteristic	ACS[2]		SIPP			
			(longest tenure)[3]		(most hours worked)[4]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Part- or Full-time Employment[5]						
Full-time	77.7	0.1	74	0.5	75.7	0.4
Part-time	22.3	0.1	26	0.5	24.3	0.4
Class of Worker						
Private wage and salary workers	76.5	0.1	75.8	0.5	76	0.5
Government workers	14.2	0.1	13.3	0.4	13.5	0.4
Self-employed workers	9.4	0	10.9	0.4	10.5	0.4

Source: U.S. Census Bureau, 2013 American Community Survey, 1-year estimates; U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Notes:

[1]Excludes armed forces

[2]Current or most recent job activity - the one worked the most hours

[3]Job with the longest tenure

[4]Job with the highest "total hours" worked during 2013

[5]Full-time employment is defined as working 35 hours or more, and part-time employment is defined as working less than 35 hours per week.

Table 3 shows the percentage of SIPP workers that would have a different primary occupation assigned if the selection criteria for respondents' primary job were changed between longest tenure and most hours worked. Respondents were considered single job holders if they had only one job throughout the reference period, or if they had two or more jobs with non-overlapping employment spells. Respondents were considered multiple jobs holders if they had two or more jobs throughout the reference period and at least one pair of overlapping employment spells between jobs. In total, 96.8 percent of SIPP workers had the same primary occupation assigned regardless of the criteria used to identify their primary job. This result is consistent with the fact that a majority of SIPP workers – about 85 percent – were single job holders and held only one job during the reference period. Fewer SIPP workers (3.2

percent) would have had a different primary occupation assigned if the criteria for selecting respondents' primary job were changed from longest tenure to most hours worked (or vice versa). However, only workers with two or more jobs during the reference year were eligible to have a change in primary occupation. Multiple job holders, compared with single job holders with two or more jobs, were more likely to have a different primary occupation assigned when the criteria were changed (23.7 percent compared with 20.6 percent).

Table 3. Percentage of SIPP Workers with a Change in Primary Occupation by Assignment Criteria[1]

Change in Primary Occupation	All Workers		Single Job Holders, 1 Job[2]		Single Job Holders, 2+ Jobs[3]		Multiple Job Holders, 2+ Jobs[4]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE	Estimate	MOE
Total (in thousands)	156,400	841.1	133,800	880.5	9,553	329.8	12,970	464.3
No occupation change	96.8	0.2	100.0	0.0	79.4	1.6	76.3	1.5
Occupation change	3.2	0.2	-	-	20.6	1.6	23.7	1.5

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Notes:

[1]Excludes armed forces

[2]SIPP workers with a single job throughout the year

[3]SIPP workers with two or more jobs throughout the year, but holding only one job at a time

[4]SIPP workers with two or more jobs throughout the year, and also holding multiple jobs at a time

Estimates may not add to the total due to rounding. For information on confidentiality protection, sampling error, nonsampling error, and definitions, for the SIPP see < https://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html>.

PRIMARY OCCUPATION IN THE ACS AND THE SIPP

Table 4 reports the distribution of 23 occupational groups by survey and primary job definition. Regardless of the primary job definition used, in the ACS and the SIPP more than 30 percent of all workers were in three occupational groups – office and administrative support, management, and sales and related. More specifically, in the ACS 13.4 percent of all workers were in office and administrative support occupations, 9.8 percent in management occupations, and 10.8 percent in sales and related occupations. Within the SIPP, there were no differences by primary job definition (Table 4).

When comparing major occupation groups by survey, there were either no differences or minor differences between the ACS and SIPP estimates (Table 4). For example, there were no significant differences for legal occupations (1.2 percent each), and only a small difference between management occupations (9.8 percent compared with 10.3 percent and 10.3 percent). There was a higher percentage of persons in the ACS than the SIPP for office and administrative support occupations (13.4 percent compared with 11.8 percent and 11.8 percent). The SIPP, in contrast, had a higher percentage of workers in arts, designs, entertainment, sports, and media occupations, compared with the ACS (2.4 percent and 2.3 percent compared with 1.9 percent).

Table 4. Percentage Employed in each Major Occupational Group by Survey and by Primary Job Definition: 2013[1]

Occupational Group[2]	ACS[3]		SIPP (longest tenure)[4]		SIPP (most hours worked)[5]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Total (in thousands)	144,900	124	156,400	841	156,400	841
Management	9.8	0.2	10.3	0.3	10.3	0.3
Business and financial operations	4.8	0.1	5.1	0.3	5.1	0.3
Computer and mathematical	2.7	0.1	3.0	0.2	3.1	0.2
Architecture and engineering	1.8	0.1	2.0	0.1	2.1	0.1
Life, physical, and social science	0.9	0.1	1.0	0.1	1.0	0.1
Community and social service	1.6	0.1	1.8	0.1	1.8	0.1
Legal	1.2	0.1	1.2	0.1	1.2	0.1
Education, training, and library	6.1	0.1	6.3	0.3	6.2	0.3
Arts, design, entertainment, sports, and media	1.9	0.1	2.4	0.1	2.3	0.1
Healthcare practitioners and technical	5.6	0.1	5.4	0.2	5.4	0.2
Healthcare Support	2.6	0.1	2.4	0.1	2.4	0.1
Protective Service	2.2	0.1	2.2	0.2	2.2	0.2
Food preparation and serving related	5.8	0.1	6.0	0.3	6.0	0.3
Personal Care and Service	3.7	0.1	4.0	0.2	4.0	0.2
Sales and related	10.8	0.2	10.7	0.3	10.6	0.3
Office and administrative support	13.4	0.2	11.8	0.4	11.8	0.4
Farming, Fishing, and Forestry	0.7	0.1	0.9	0.1	1.0	0.1
Construction and extraction	5.0	0.1	4.9	0.2	5.0	0.2
Installation, maintenance, and repair	3.2	0.1	3.3	0.2	3.3	0.2
Production	6.0	0.1	5.7	0.2	5.7	0.2

Table 4. Continued

Occupational Group[2]	ACS[3]		SIPP (longest tenure)[4]		SIPP (most hours worked)[5]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Transportation	3.6	0.1	3.4	0.2	3.5	0.2
Material moving	2.6	0.1	2.5	0.2	2.6	0.2

Sources: U.S. Census Bureau, 2013 American Community Survey, 1-year estimates; U.S. Census Bureau, 2014 Survey of Income and Program Participation, 2014 Panel, Wave 1

Notes:

[1]Excludes armed forces

[2]Occupation codes are based on the 2010 Standard Occupational Classification (SOC) system

[3]Current or most recent job activity - the one worked the most hours

[4]Job with the longest tenure

[5]Job with the highest "total hours" worked during 2013

Estimates may not add to the total due to rounding. For information on confidentiality protection, sampling error, nonsampling error, and definitions, for the ACS see < https://www2.census.gov/programs-surveys/acs/tech_docs/accuracy/ACS_Accuracy_of_Data_2013.pdf? > and for the SIPP see < https://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html>.

In the ACS, among occupation groups, between 48 percent and 94 percent of all workers worked full-time (Table 5). In some occupation groups (including management; installation, maintenance, and repair; computer and mathematical; and architecture and engineering occupations), over 90 percent worked full-time. In other occupations, there was a relatively high percentage of workers who worked part-time (Table 6), such as in food preparation and serving related occupations (51.8 percent), personal care and service occupations (45.0 percent), and healthcare support occupations (32.5 percent).

Overall, there was a higher percentage of part-time workers in the SIPP when primary occupation was defined as the job with the "longest tenure" compared with the job with the highest "total hours" worked, but these differences were not statistically significant except for two major occupation groups (Table 2; Table 6). One of these two occupation groups was arts, design, entertainment, sports, and media, where 41.9 percent of workers were part-time when occupation was defined as the job with the longest tenure and 35.2 percent with occupation defined as the job with the most hours worked. Education, training, and library occupations also showed significant differences between SIPP estimates with 31.8 percent part-time workers for occupation when defined as the job with the longest tenure, compared with 28.7 percent for the job with the most hours worked.

Table 5. Percentage of Occupation Group Employed Full-time by Survey and Primary Job: 2013[1]

Occupational Group[2]	Full-time Employment[3]					
	ACS[4]		SIPP (longest tenure)[5]		SIPP (most hours worked)[6]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Total (in thousands)	112,500	99.12	115,700	883.7	118,300	870.6
Management	92.1	0.1	88.0	1.0	89.3	1.0
Business and financial operations	88.8	0.2	85.1	1.8	86.7	1.8
Computer and mathematical	93.2	0.2	92.2	1.7	92.8	1.6
Architecture and engineering	94.0	0.3	92.0	2.0	91.4	2.1
Life, physical, and social science	84.7	0.6	85.3	4.1	86.6	3.8
Community and Social Service	82.0	0.4	79.6	3.2	81.9	3.0
Legal	88.4	0.4	83.5	3.4	85.3	3.1
Education, training, and library	74.8	0.2	68.2	1.8	71.3	1.8
Arts, design, entertainment, sports, and media	68.8	0.4	58.1	3.5	64.8	3.5
Healthcare practitioners and technical	78.6	0.2	72.9	2.1	75.3	2.0
Healthcare support	67.5	0.4	62.3	3.4	62.7	3.3
Protective service	84.9	0.3	81.0	2.5	82.7	2.5
Food preparation and serving related	48.2	0.3	45.6	2.0	46.8	1.9
Building and grounds cleaning and maintenance	67.2	0.4	61.8	2.0	63.9	2.0
Personal care and service	55.0	0.3	50.6	2.5	52.2	2.6
Sales and related	68.6	0.2	63.3	1.5	65.1	1.5
Office and administrative support	75.9	0.2	74.5	1.4	76.0	1.4
Farming, fishing, and forestry	84.4	0.6	80.6	3.9	82.1	3.9
Construction and extraction	86.4	0.2	84.9	1.8	85.8	1.8
Installation, maintenance, and repair	91.3	0.3	89.3	1.7	89.6	1.6
Production	89.6	0.2	86.5	1.3	87.3	1.2

Table 5. Continued

Occupational Group[2]	Full-time Employment[3]					
	ACS[4]		SIPP (longest tenure)[5]		SIPP (most hours worked)[6]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Transportation	80.1	0.3	76.3	2.0	77.4	2.0
Material moving	75.6	0.4	74.2	2.8	75.1	2.8

Source: U.S. Census Bureau, 2013 American Community Survey, 1-year estimates; U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Notes:

[1]Excludes armed forces

[2]Occupation codes are based on the 2010 Standard Occupational Classification (SOC) system

[3]Full-time employment is defined as working 35 hours or more, and part-time employment is defined as working less than 35 hours per week

[4]Current or most recent job activity - the one worked the most hours

[5]Job with the longest tenure

[6]Job with the highest "total hours" worked during 2013

Table 6. Percentage of Occupation Group Employed Part-time by Survey and Primary Job Definition: 2013[1]

Occupational Group[2]	Part-time Employment[3]					
	ACS[4]		SIPP (longest tenure)[5]		SIPP (most hours worked)[6]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Total (in thousands)	32,370	89.01	40,630	772.5	38,050	736.6
Management	7.9	0.1	12.0	1.0	10.7	1.0
Business and financial operations	11.2	0.2	14.9	1.8	13.3	1.8
Computer and mathematical	6.8	0.2	7.8	1.7	7.2	1.6
Architecture and engineering	6.0	0.3	8.0	2.0	8.6	2.1
Life, physical, and social science	15.3	0.6	N	N	N	N
Community and social service	18.0	0.4	20.4	3.2	18.1	3.0
Legal	11.6	0.4	16.5	3.4	14.7	3.1
Education, training, and library	25.2	0.2	31.8	1.8	28.7	1.8
Arts, design, entertainment, sports, and media	31.2	0.4	41.9	3.5	35.2	3.5
Healthcare practitioners and technical	21.4	0.2	27.1	2.1	24.7	2.0
Healthcare support	32.5	0.4	37.7	3.4	37.4	3.3
Protective service	15.1	0.3	19.0	2.5	17.3	2.5
Food preparation and serving related	51.8	0.3	54.5	2.0	53.2	1.9
Building and grounds cleaning and maintenance	32.8	0.4	38.2	2.0	36.1	2.0
Personal care and service	45.0	0.3	49.4	2.5	47.8	2.6
Sales and related	31.4	0.2	36.7	1.5	34.9	1.5
Office and administrative support	24.4	0.2	25.5	1.4	24.0	1.4
Farming, fishing, and forestry	15.6	0.6	19.4	3.9	17.9	3.9
Construction and extraction	13.6	0.2	15.1	1.8	14.2	1.8
Installation, maintenance, and repair	8.7	0.3	10.7	1.7	10.4	1.6
Production	10.4	0.2	13.5	1.3	12.7	1.2

Table 6. Continued

Occupational Group[2]	Part-time Employment[3]					
	ACS[4]		SIPP (longest tenure)[5]		SIPP (most hours worked)[6]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Transportation	19.9	0.3	23.7	2.0	22.6	2.0
Material moving	24.4	0.4	25.8	2.8	24.9	2.8

Source: U.S. Census Bureau, 2013 American Community Survey, 1-year estimates; U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Notes:

[1]Excludes armed forces

[2]Occupation codes are based on the 2010 Standard Occupational Classification (SOC) system

[3]Full-time employment is defined as working 35 hours or more, and part-time employment is defined as working less than 35 hours per week

[4]Current or most recent job activity - the one worked the most hours

[5]Job with the longest tenure

[6]Job with the highest "total hours" worked during 2013

N Not available or not comparable

The ACS had a lower percentage of part-time workers compared with the SIPP for all workers. (Table 2). When occupation groups had significant differences, the percentage of part-time workers in the ACS was lower than both SIPP estimates (Table 6). For example, in the ACS, 7.9 percent of workers in management occupations worked part-time, compared with 12 percent for SIPP with occupation defined as the job with the longest tenure and 10.7 percent with the job with the most hours worked. Also, for production occupations 10.4 percent worked part-time in the ACS, compared with 13.5 percent and 12.7 percent in the SIPP.

Table 7 includes the number of workers in twenty detailed occupations by survey and primary job definition. In the ACS, there were over 3.4 million people estimated to have worked in the following four occupations: elementary and middle school teachers; cashiers; secretaries and administrative assistants; and retail sales persons. Between 3.4 million and 2.5 million workers were employed in five occupations: driver/sales workers and truck drivers; first-line supervisors of retail sales workers; registered nurses; customer service representatives, and janitors and building cleaners. Between 2.5 million and 2 million workers were employed in four occupations: nursing, psychiatric, and home health aides; cooks; waiters and waitresses; and laborers and freight, stock, and material movers (hand). About 2 million worked as accountants and auditors.

Differences were not statistically significant when comparing SIPP job definitions. The majority of differences also were not statistically significant when comparing the ACS and the SIPP.

While the ACS and the SIPP mainly were not statistically different among the 20 selected occupations examined, there were significant differences between the surveys for 5 detailed

occupations. There was a higher number of secretaries and administrative assistants in the ACS compared with both SIPP estimates (3,427,000 compared with 3,024,000 and 3,070,000). In contrast, the SIPP had more waiters and waitresses than the ACS (2,485,000 and 2,504,000 compared with 2,195,000). Both SIPP estimates also were larger than the ACS for postsecondary school teachers and first-line supervisors of retail sales workers. For retail salespeople, the ACS had a lower number of retail salespersons than in the SIPP when occupation was defined by the job with the longest tenure (3,421,000 compared with 3,799,000). However, while differences were statistically significant, the overall magnitude of such differences were small and often within 1 percentage point. As a result, differences between surveys' estimates also could be considered reasonable.

CONCLUSION

This paper presents evidence that the SIPP and the ACS capture occupation similarly, even when the criteria for selecting primary occupation are different in the two surveys. Large occupation groups and detailed occupations were comparable across surveys, with differences either not statistically significant or only minor. These results are comparable to the 2003 ACS and CPS comparison study where there was less than a 1 percentage point difference in the distribution of occupations between the surveys (Downs, Tegler, and Weismantle 2003). Additionally, among SIPP respondents with two or more jobs, over 75 percent were assigned the same occupation when primary job was assigned by longest tenure or most hours worked. Findings also indicated differences in the percentage of part-time workers by job definition and by survey. For instance, in the SIPP the percentage of part-time workers varied using two job

definitions for primary occupation. Specifically, a larger percentage of part-time workers were identified when defining occupation as the job with the longest tenure rather than the job with the most amount of hours worked. However, these differences between SIPP job definitions were not statistically significant for the vast majority of occupation groups. Concerning differences in the percentage of part-time workers by survey, the ACS and SIPP estimates differed significantly. The ACS consistently estimated a lower percentage of people working part-time by occupation group compared with both SIPP estimates when differences were statistically significant.

There are many possible reasons for differences between ACS and SIPP estimates of part-time workers in occupational groups. For instance, differences may be due to how primary occupation was defined in each survey. In the ACS, a primary occupation was defined by the job worked the last week. In the event that respondents worked more than one job, data were collected only for the job with the most hours worked – a criteria that fits well with how part-time and full-time employment are defined by the hour threshold. Additionally, respondents were asked about the number of hours they usually worked each week in their job given all weeks worked in the past 12 months.

In the SIPP, a primary occupation is defined by other criteria (i.e., by tenure, or by total hours worked in 2013) that are less comparable and affect how part-time and full-time work are defined. For instance, the SIPP captures the number of hours usually worked per week for each job reported in the EHC and allows for up to three changes in job hours each year. As a result, how job hours are measured in the SIPP differs from the ACS. Additionally, multiple jobholding could also contribute to the differences in survey estimates since the SIPP allows

respondents to report information on up to seven jobs, while the ACS limits respondents to only one job. As a result, which job is reported by multiple jobholders in the ACS with two or more jobs cannot be determined – especially if jobs may have equal tenure or hours.

Another possible reason for the differences between the ACS and SIPP estimates could be due to each survey's mode of data collection. For instance, the ACS consists of four modes of data collection including internet and mailed self-response, and telephone and in-person interviewing (U.S. Census Bureau 2014). In 2013, about half of all ACS data were collected via self-response methods (Baumgardner et al. 2014). In contrast, SIPP interviews are administered by field representatives through computer-assisted personal interviewing (CAPI) and conducted in-person or by telephone. As a result, Census personnel are available to answer respondents' questions about the SIPP and provide additional explanation on survey items.

Differences between estimates could also stem from the underlying sample for each survey. The ACS's goal is to represent the entire workforce in the U.S. and therefore captures a representative sample. In contrast, one goal of the SIPP is to measure eligibility and participation in government programs. As a result, SIPP respondents may engage in certain kinds of occupations more frequently than ACS respondents. In addition, to be eligible for government benefits, workers in the SIPP may have jobs with fewer benefits or lower pay -- characteristics that are often associated with part-time work. In addition to differences in the composition of the survey samples, it is also possible that when you drill down to occupation groups and especially specific occupations, the overall small SIPP sample results in relatively large MOEs compared with the ACS survey, possibly masking some differences between the ACS and the SIPP. Future research should examine differences in the composition of the ACS

and SIPP survey samples to more fully understand the relationship between employment status and occupation.

Table 7. Persons Employed in 20 Select Detailed Occupations by Survey and by Primary Job Definition: 2013 (in thousands)[1]

Occupation[2]	ACS[3]		SIPP (longest tenure)[4]		SIPP (most hours worked)[5]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Total	144,900	124	156,400	841.1	156,400	841.1
Elementary and middle school teachers	3,504	30.08	3,420	248.2	3,456	255.5
Cashiers	3,487	29.14	3,731	260.1	3,638	265.6
Secretaries and administrative assistants	3,427	34.26	3,024	234.8	3,070	235.1
Retail salespersons	3,421	33.03	3,799	253.7	3,656	252.6
Driver/sales workers and truck drivers	3,309	31.35	3,392	238.9	3,419	233.9
First-line supervisors of retail sales workers	3,024	32.34	3,401	225.3	3,435	222.4
Registered nurses	2,858	24.66	3,013	212.4	3,011	215.1
Customer service representatives	2,566	29.62	2,347	230.5	2,335	231.3
Janitors and building cleaners	2,549	25.11	2,434	182.6	2,388	180.2
Nursing, psychiatric, and home health aides	2,361	27.62	2,231	162.4	2,217	159.5
Cooks	2,293	30.63	2,448	193.5	2,445	190.0
Waiters and waitresses	2,195	28.00	2,485	210.9	2,504	226.0
Laborers and freight, stock, and material movers, hand	2,060	25.48	2,190	173.0	2,219	177.7
Accountants and auditors	1,991	23.00	1,910	207.2	1,887	208.9
Construction laborers	1,634	23.27	1,651	139.1	1,640	136.2
Stock clerks and order fillers	1,541	22.37	1,670	178.1	1,623	165.7
Maids and housekeeping cleaners	1,540	25.50	1,525	150.4	1,542	148.8
Postsecondary teachers	1,453	18.83	1,746	176.0	1,632	162.2

Table 7. Continued

Occupation[2]	ACS[3]		SIPP (longest tenure)[4]		SIPP (most hours worked)[5]	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Sales representatives, wholesale and manufacturing	1,319	20.32	1,224	157.2	1,184	163.3
Grounds maintenance workers	1,305	26.21	1,394	128.4	1,390	129.3

Source: U.S. Census Bureau, 2013 American Community Survey, 1-year estimates; U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

[1]Excludes armed forces

[2]Occupation codes are based on the 2010 Standard Occupational Classification (SOC) system

[3]Current or most recent job activity - the one worked the most hours

[4]Job with the longest tenure

[5]Job with the highest "total hours" worked during 2013

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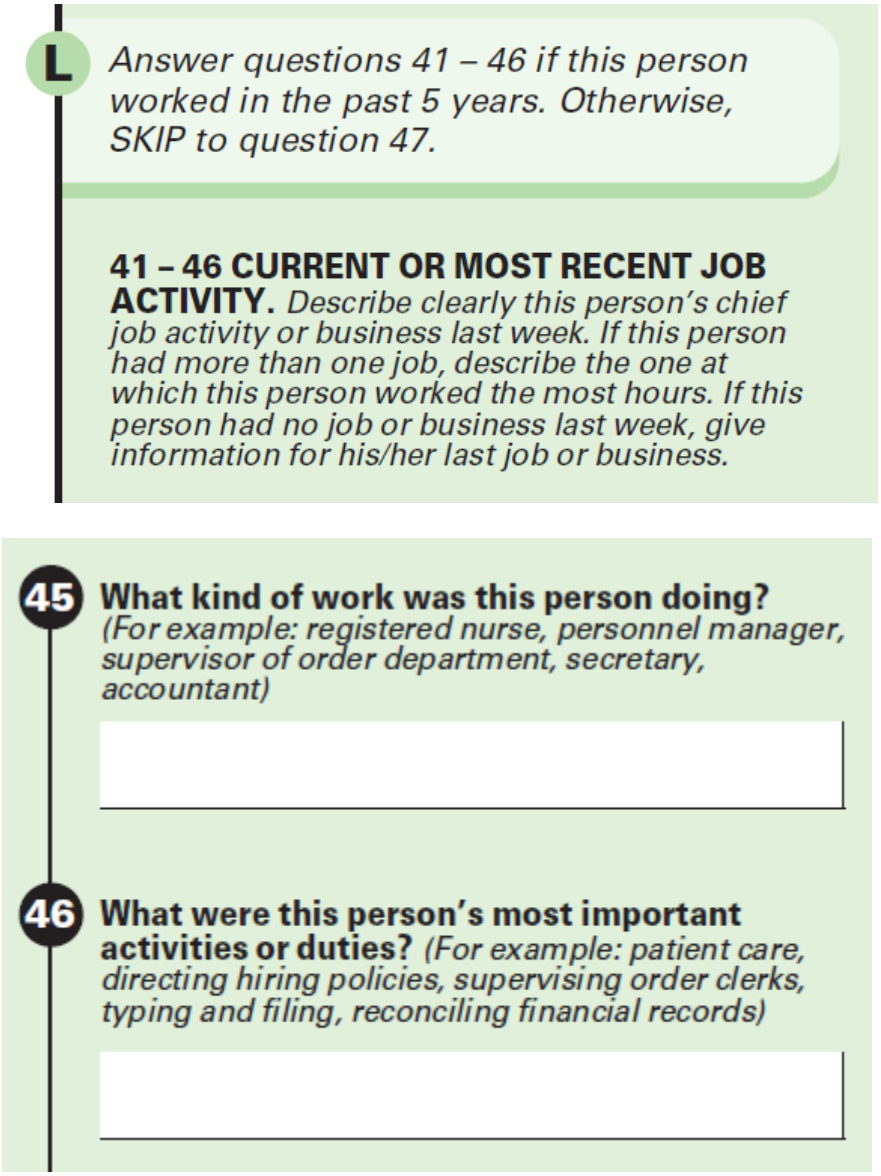
Appendix A. ACS Occupation Questions



L *Answer questions 41 – 46 if this person worked in the past 5 years. Otherwise, SKIP to question 47.*

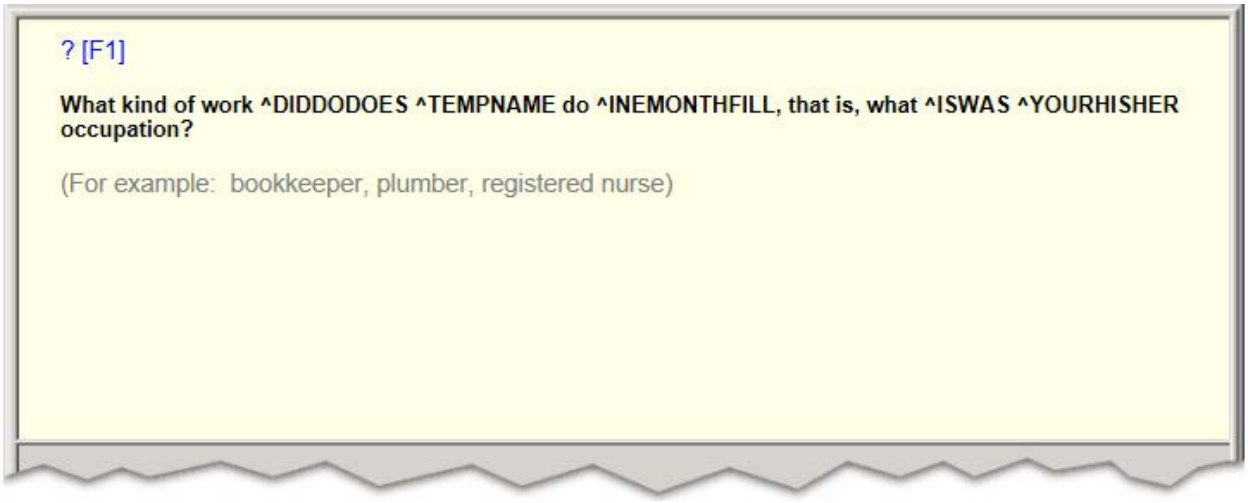
41 – 46 CURRENT OR MOST RECENT JOB ACTIVITY. *Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the most hours. If this person had no job or business last week, give information for his/her last job or business.*

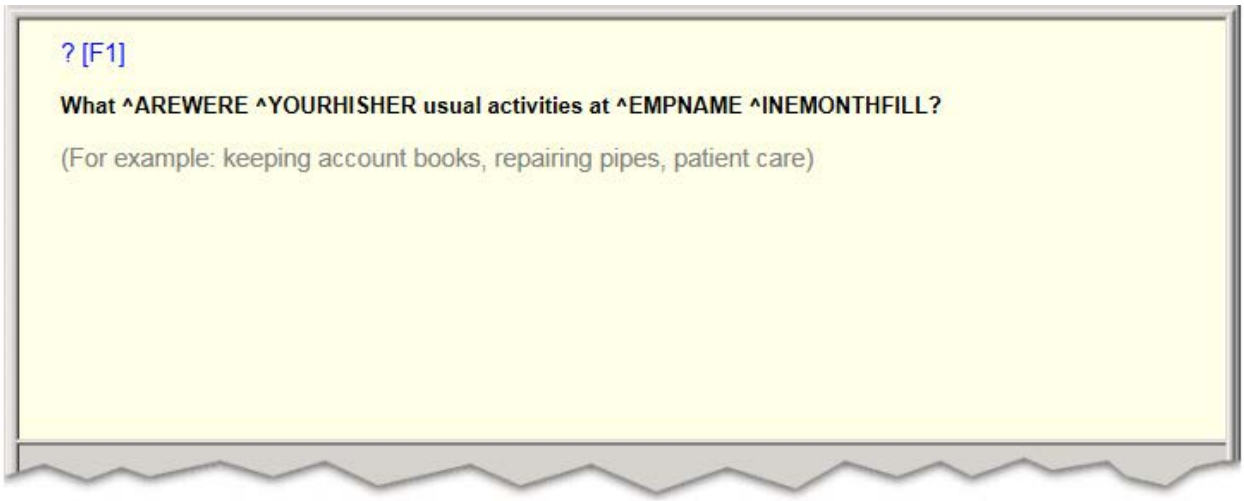
45 **What kind of work was this person doing?** *(For example: registered nurse, personnel manager, supervisor of order department, secretary, accountant)*

46 **What were this person's most important activities or duties?** *(For example: patient care, directing hiring policies, supervising order clerks, typing and filing, reconciling financial records)*

Source: U.S. Census Bureau, 2013 American Community Survey

Appendix B. SIPP Occupation Questions





Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Appendix C. Selected Sociodemographic and Employment Characteristics of the Overall Civilian Labor Force[1]

Characteristics	Estimate	MOE
Total (in thousands)	158,500	129.6
Age		
Ages 16 to 24	14.4	0.0
Ages 25 to 44	42.8	0.0
Ages 45 to 64	38.0	0.0
Ages 65 and older	4.8	0.0
Sex		
Men	52.6	0.0
Women	47.4	0.0
Race/Ethnicity		
Hispanic, any race	16.1	0.0
White alone, not Hispanic	64.5	0.0
Black alone, not Hispanic	11.6	0.0
Asian alone, not Hispanic	5.3	0.0
Some other race alone, not Hispanic	2.5	0.0
Educational Attainment		
Less than a high school diploma	10.6	0.0
High school diploma or GED	25.5	0.1
Some college credit, associates degree	32.6	0.1
Bachelor's degree	19.9	0.1
Graduate or professional degree	11.4	0.1
Part- or Full-time Employment[2]		
Full-time	71.1	0.1
Part-time	20.5	0.0
Unemployed	8.4	0.0
Class of Worker		
Private wage and salary workers	75.7	0.1
Government workers	13.5	0.1
Self-employed workers	9.0	0.0
Unpaid family workers	0.2	0.0
Unemployed	1.6	0.0

Source: U.S. Census Bureau, 2013 American Community Survey, 1-year estimates

Note: [1] Excludes Puerto Rico

[2] Full-time employment is defined as working 35 hours or more, and part-time employment is defined as working less than 35 hours per week