

# Who is Covered by Unemployment Insurance?

Leslie Hodges<sup>1,\*</sup>

<sup>1</sup>Institute for Research on Poverty, University of Wisconsin – Madison, 3462 Sewell Social Sciences Bldg., Madison, WI 53706, USA

\*Correspondence: Institute for Research on Poverty, University of Wisconsin – Madison, 3462 Sewell Social Sciences Bldg., Madison, WI 53706, USA. Tel: 1-608-262-1927. E-mail: lbhodges@wisc.edu

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## Abstract

Although the Federal State Unemployment Compensation Program (UI) is designed to insure U.S. workers against the economic risk of job loss, there is little information available about the characteristics of employed workers who are covered by the program (i.e., who would be eligible for benefits if they became unemployed). Knowing more about these workers can improve current understanding of the extent to which the UI program is meeting the needs of workers in the modern economy and can help researchers and policymakers identify ways to make the program more effective. To contribute to research in this area, this paper uses data from the 2008 Survey of Income and Program Participation (SIPP) and probit regression analysis to document rates of UI coverage by major demographic and job groups. I find that 95 percent of employed workers with prior labor-force experience are covered by UI. However, consistent with prior literature on the characteristics of UI recipients, I find gaps in UI coverage for women, younger workers, less-educated workers, part-time workers, and workers in some service-related industries and occupations.

**Keywords:** unemployment insurance, social insurance, employment, unemployment, gender, part-time work, industry, occupation

## 1. Introduction

In January 2016, the official unemployment rate dropped below five percent for the first time since the start of the Great Recession, indicating that the U.S. labor market was once again nearing full employment (BLS, 2016b). Although the unemployment rate has remained low, long-term trends in wage growth and employment stability suggest that the United States continues to face challenges to employment, especially for individuals in the bottom half of the wage distribution (Gabe, Abel, & Florida, 2018). In response to these trends, many researchers have argued that social policies rather than market reforms are needed to make employment more secure. As a result, there is considerable interest in examining the extent to which social programs, such as Unemployment Insurance (UI), are meeting the needs of workers in the modern economy.

The purpose of the Federal State Unemployment Compensation Program, better known as unemployment insurance (UI), is to protect U.S. workers against the loss of economic resources due to job loss. In 2016, a year of relatively low unemployment, state programs within the UI system paid \$32 billion in benefits to 6.2 million displaced workers, who received an average of \$348 a week for 15 weeks as they searched for new jobs (DOL, 2017). Most studies of the program's effectiveness have examined the characteristics of UI recipients, often comparing them to the characteristics of the unemployed or the characteristics of the UI-eligible unemployed (Chan, Michaelides, & Zhang, 2014; Gould-Werth & Shaefer, 2012; Michaelides & Mueser, 2012, 2013). Recent research in this area has identified important barriers that unemployed workers face in accessing UI benefits and has informed policy on ways to increase program participation among more disadvantaged groups (Gould-Werth & Shaefer, 2012; Shaefer, 2010; Vroman, 2009).

While there is a good deal of research on the characteristics of unemployed workers who receive UI benefits, there is little information available about the characteristics of employed workers who are covered by the program (Note 1). Information about the characteristics of individuals who would be eligible to receive UI benefits if they were to become unemployed can provide insights into the program's responsiveness to changes in the structure and composition of the U.S. labor force, and can improve current understanding of whether the program is functioning as intended for workers in the modern economy. Additionally, if the availability of unemployment insurance changes the behavior of workers and the value that they place on current employment, as much of the theoretical literature on the labor-supply effects of UI suggests (Anderson & Meyer, 1997; Krueger & Meyer, 2002), then it is important to document rates of UI coverage. Assuming full information, individuals covered by UI may be willing to make riskier employment decisions, whereas individuals not covered by UI may act strategically to avoid unemployment.

This paper uses data from the 2008 Survey of Income and Program Participation to examine patterns in UI coverage by major demographic and job groups. In order to be consistent with federal guidelines that limit the scope of the program, the sample focuses on UI coverage of employed individuals with prior labor-force experience. An alternative analysis that included all employed workers—such as new entrants and those marginally attached to the labor

force—would likely result in lower estimates of coverage. However, the estimates would be less policy relevant given that how states interpret and implement federal guidelines ultimately determines which workers are covered by UI, and given that policymakers are likely to target state eligibility criteria rather than federal guidelines for programmatic expansions (Wandner & Stengle, 1997).

Workers in the sample are covered by UI if they meet their states' monetary criteria for UI eligibility. Probit regression analysis is used to predict UI coverage as a function of gender, race and ethnicity, age, marital status, parentage, part-time work, occupation, and industry. The main findings suggest that over 95 percent of employed workers with prior labor-force experience are covered by UI (i.e., they would be monetarily eligible for benefits if they became unemployed). However, the findings also reveal gaps in coverage for key demographic and job groups, including female workers, younger workers, less-educated workers, part-time workers, and workers in some service-related industries and occupations.

The paper begins with background about the UI program and the monetary criteria used by states to determine benefit eligibility (Section 2), followed by a discussion of the data and models used to document rates of UI coverage in Section 3. The main findings and sensitivity analyses are presented in Section 4, followed by a discussion of implications for UI policy and directions for future research in Section 5.

## **2. Background**

The federal-state unemployment compensation (UI) program is a complex system that includes programs in 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. The program is designed to protect workers against the loss of economic resources in the event of unintended job loss and to help stabilize the macro-economy during economic downturns (Nicholson & Needels, 2006; Shaefer, 2010). In order to meet these goals, state programs within the UI system provide cash benefits to unemployed workers while they search for new jobs. Qualifying workers receive benefits on a weekly basis, with the amount determined by the worker's prior earnings, the state method for calculating the benefit amount, and the state's minimum and maximum benefit levels.

There is general consensus that in order to operate effectively, the UI program needs to have a broad reach across the labor force, especially during periods of economic crisis. However, there are also concerns that the availability of benefits changes the behavior of workers in ways that may increase the incidence and duration of unemployment. For example, the availability of UI benefits might increase exits from employment among workers who would otherwise stay at their jobs (Krueger & Meyer, 2002). Take-up of benefits might also increase the length of time that unemployed workers take to find new jobs. Meyer (1990) finds that a 10 percent increase in benefits leads to a nine percent decrease in exiting unemployment and Moffitt (1985) and Meyer (1990) find that exits from unemployment increase in the weeks leading up to the exhaustion of benefits. However, more recent work by Chetty (2008) suggests that the effects of UI benefits on unemployment duration are strongly influenced by

whether a worker has other cash resources available to buffer the income shock of job loss.

In order to strike a balance between reducing financial hardship suffered by those who experience unemployment and limiting unnecessary exits from employment and lengthy employment spells, all state UI programs require that workers meet certain criteria in order to receive benefits. Monetary criteria stipulate the employment history and earnings requirements needed to qualify for benefits. Non-monetary criteria stipulate the situations that qualify as involuntary exits from employment. Individuals receiving benefits must also meet criteria for continuing eligibility. Broadly, these criteria require the UI recipient to be available for work, actively seeking work, and willing to accept reasonable employment offers (Nicholson & Needels, 2006).

In this paper, I use states' monetary criteria to identify employed workers with prior labor-force experience who are covered by the UI program (i.e., who would qualify for UI benefits if they became unemployed). Typically, states use one of four monetary formulas to determine whether an individual's work hours and earnings during a specific timeframe, called a base period, are sufficient to qualify for UI benefits. Most states define the standard base period as the first four of the five quarters prior to unemployment (Note 2).

Most states use the "multiple of high quarter wages" method to determine monetary eligibility. This method requires that claimants (1) have total earnings during the base period that are greater than some multiple of their highest quarterly earnings in the base period, and (2) have total earnings during the base period that are sufficient to qualify them to receive the state's minimum weekly benefit amount. For example, an individual working in Missouri in 2010 would be monetarily eligible for UI if her highest quarterly earnings were greater than \$1,500 and her total base period earnings were greater than or equal to \$2,250. \$1,500 and \$2,250 correspond to the amounts needed in Missouri to qualify for the minimum weekly benefit amount.

A second method, used by about 10 states, is the "multiple of the weekly benefit amount" method. In these states, claimants must have wages in more than one quarter of the base period, and have base period earnings greater than or equal to some multiple of the state's minimum weekly benefit amount. For instance, Kansas requires individuals to have wages in two quarters and base period earnings greater than 30 times the minimum weekly benefit amount (\$114 in 2013). This means that an individual working in Kansas in 2013 must have earnings greater than \$2,683 in one quarter of the base period and earnings greater than \$3,420 in the base period in order to be monetarily eligible for UI.

A much smaller group of states require claimants to have base period earnings greater than or equal to a set amount, such as a multiple of the state average weekly wage, state minimum wage, or a flat amount. Like the states using the first two methods, state programs using the flat amount method typically require that workers have earnings in more than one quarter of the base period. For instance, Illinois requires that workers have earnings greater than \$1,600 in the base period with at least \$440 of these earnings outside the worker's highest earning quarter. Finally, there is a fourth method for calculating eligibility that is used only by the state of Washington. This method assesses workers' labor-force attachments through work

hours only. Specifically, claimants must have a minimum of 680 hours of employment and wages in the base period. With this method, there are no additional minimum earnings requirements.

Although monetary criteria help to balance program inclusivity with program size and costs, they may create barriers for some groups of workers. Existing studies of access to UI among the unemployed find lower rates of UI receipt among women (Chan, et al., 2014; Michaelides & Mueser, 2012), Hispanic and non-white workers (Chan, et al., 2014; Michaelides & Mueser, 2012), younger workers (Chan, et al., 2014; Michaelides & Mueser, 2012; Vroman, 2009), less-educated low-wage workers (Chan, et al., 2014; GAO, 2000; Shaefer, 2010), former welfare recipients (Shaefer & Wu, 2011; Turner, Danziger, & Seefeldt, 2006), non-citizens (Gould-Werth & Shaefer, 2012), and part-time workers (Chan, et al., 2014; GAO, 2000; Vroman, 1998, 2002).

There is good reason to expect that rates of UI coverage may vary in similar ways. For example, female and male workers' labor-force attachments may differ in ways that make female workers less likely to meet states' monetary criteria and therefore less likely to be covered by UI than male workers. In 2015 female workers were more likely to work part time, less likely to work overtime, and more likely to be absent from work than male workers (Note 3). Similarly, part-time work may reduce the likelihood that a worker is covered by UI since fewer hours often translates into fewer earnings. Additionally, in most states part-time workers are subject to the same earnings and work history requirements as full-time workers (NELP, 2004).

To my knowledge, this is the first study to document socioeconomic patterns in UI coverage. In the following section, I use data from the 2008 panel of the Survey of Income and Program Participation (SIPP) to estimate rates of UI coverage among employed workers with prior labor-force experience by gender, race and ethnicity, age, marital status, parentage, part-time work, occupation, and industry.

### **3. Data and Methods**

#### *3.1 Data*

The SIPP is a longitudinal survey of a nationally representative sample of over 100,000 individuals living in approximately 42,000 households in the United States, conducted by the Census Bureau and the Bureau of Labor Statistics. Participants in the 2008 panel responded to interviews either in person or by telephone every four months over the course of five years beginning in September 2008. In each wave of the interview, individuals ages 15 and older were asked a set of core questions on labor-force participation, income, public-program participation, and demographics. The sample for this analysis is constructed from the first 14 waves of the 2008 panel.

The SIPP is an ideal dataset for measuring rates of UI coverage for two reasons. First, the longitudinal structure makes it possible to observe employment behaviors such as hours

worked, wages earned, and entries and exits from employment over a period of five quarters, which is the minimum amount of time needed to determine whether someone qualifies for UI benefits. Second, the sampling structure and the repetition of core interview questions over the duration of the survey makes it possible to treat the monthly person-level observations from the SIPP as a series of repeated cross sections (Sundukchi & Westra, 2015). Because states determine monetary eligibility for UI based on individuals' quarterly work history and earnings, I aggregate monthly observations from the SIPP into a series of quarterly cross sections. In addition to allowing me to estimate quarterly rates of UI coverage of employed workers with prior labor-force experience, this approach may help to minimize problems of attrition and seam bias that are well-known limitations of longitudinal survey data (Note 4,5).

Each quarterly cross section includes individuals ages 25 to 55 who meet the following criteria:

- 1) Employment in each month of the quarter ( $q_t$ ) (Note 6),
- 2) Employment or unemployment in any month of the first four of five prior quarters ( $q_{t-2}$  to  $q_{t-5}$ ),
- 3) Continuous participation in the SIPP in the five prior quarters ( $q_{t-1}$  to  $q_{t-5}$ ).

New entrants to the labor market, e.g., individuals employed in the current quarter ( $q_t$ ) who did not participate in the labor force during the first four of the five prior quarters ( $q_{t-2}$  to  $q_{t-5}$ ), and individuals with marginal attachments to the labor force, e.g., individuals employed in one but not all months of the current quarter ( $q_t$ ) are excluded (Note 7).

The cross-sectional samples begin with the fourth quarter of 2009 (the first quarter where five quarters of employment history is available for SIPP participants) and continue through the second quarter of 2013. On average, there are 12,430 person observations per cross section. Pooling the cross sections results in 186,454 total person-quarter observations, with 25,500 individuals contributing a minimum of one, a maximum of fifteen, and a median of seven observations to the pooled sample.

Descriptive statistics for the main sample of employed workers with prior labor-force experience are reported in Table 1. The percentages reported for each demographic group are the unweighted averages across the quarters. On average, half of the workers in each quarter are female, more than two-thirds are non-Hispanic white, 12.3 percent are Hispanic, and 9.8 percent are non-Hispanic black. More than one-fourth are ages 25 to 34, 32.7 percent are ages 35 to 44, and 40.4 percent are ages 45 to 55. Most are college graduates (36.9%) or have some college education (34.4%). Slightly more than one-fifth are high school graduates with no further education, and fewer than seven percent do not have a high school diploma. Almost two-thirds are married, 21.2 percent have never been married, and less than 14 percent are divorced or separated. More than half (52.1%) live in a household with children under the age of 18.

**Table 1.** Characteristics of Employed Workers with Prior Labor-force Experience

	Sample Characteristics (%)	Not Covered by UI (%)
Sex		
Male	50.50	3.20
Female	49.50	5.35
Race & Ethnicity		
White Non-Hispanic	70.81	4.22 <sup>+</sup>
Hispanic of Any Race	12.30	4.04 <sup>+</sup>
Black Non-Hispanic	9.83	4.81
Asian	4.53	3.65
Other Race	2.52	5.56
Age		
45 to 55	40.43	4.04
35 to 44	32.73	3.83
25 to 34	26.81	5.14
Education		
Less than High School Diploma	6.79	6.78
Graduated High School	21.96	5.54
Some College	34.37	4.39 <sup>+</sup>
Bachelor's Degree or Higher	36.89	2.93
Marital Status		
Married	64.26	3.75
Never Married	21.18	5.44
Divorced/Separated	13.48	4.61
Widow	1.07	5.89
Children under 18 in Household		
No	47.91	4.24 <sup>+</sup>
Yes	52.09	4.29 <sup>+</sup>
Observations (Avg. N)	12,430	530

Notes: Quarterly averages from October 2009–June 2013. Pooled sample includes workers ages 25 to 55 who were employed in each month of the quarter ( $q_t$ ), who were employed or unemployed in any month of the first four of the five prior quarters ( $q_{t-2} - q_{t-5}$ ), and who participated continuously in the SIPP in the five prior quarters. T-tests were used to examine differences in the proportion of workers not covered by UI for each category within a demographic group (i.e., t-tests were conducted for differences in the proportion of workers with less than a high school diploma who were not covered by UI relative to the proportion of workers at all other education levels). <sup>+</sup> Indicates *not* statistically significant ( $p > .05$ ).

Because the main sample excludes new entrants to the labor force and marginally attached workers, descriptive statistics are reported for a broader sample of all employed workers in Appendix 1. As expected, the characteristics of employed workers with prior labor-force experience differ slightly from the characteristics of all employed workers. In particular, the

percentages of white workers, workers ages 45 to 55, workers with bachelor's degrees, and married workers are higher for the sample of employed workers with prior labor-force experience than for the sample of all employed workers.

### 3.2 Methods

In order to identify whether workers in the sample are covered by UI, I compare their quarterly work histories from their primary jobs and their quarterly earnings from all jobs (Note 8) in the first four of the five prior quarters ( $q_{t-2}$ - $q_{t-5}$ ) to the monetary eligibility formulas used by each state in a given year. States' monetary formulas are available in the *Significant Provisions of State UI Laws*, published online and updated annually by the U.S. Department of Labor (DOL, 2015).

I follow each of the states' primary formulas for determining monetary eligibility as closely as possible and rely on the minimum wage amounts needed to qualify for benefits provided in the monetary entitlement tables from the *Significant Provision of State UI Laws* to verify the calculations (Notes 9, 10).

Then, I predict UI coverage as a function of workers' demographic characteristics, controlling for calendar quarter and state of residence:

$$\Pr(UIC_{ijt} = 1|\mathbf{X}) = \Phi(\alpha + \mathbf{W}_{it}\beta + \boldsymbol{\pi}_j + \mathbf{q}_t) \quad (1).$$

In model 1,  $UIC_{ijt}$  is an indicator equal to 1 if a current worker ( $i$ ) residing in state ( $j$ ) at quarter ( $t$ ) is covered by UI,  $\mathbf{X}$  represents all independent variables included in the model, and  $\Phi$  is the standard normal cumulative distribution function (probit link). In the argument,  $\mathbf{W}_{it}$  is a vector of individual demographic characteristics,  $\boldsymbol{\pi}_j$  is a vector of binary indicators for each state, and  $\mathbf{q}_t$  is a vector of binary indicators for each quarter.

The vector of demographic groups  $\mathbf{W}_{it}$  includes binary indicators of sex (female = 1), race and ethnicity (non-Hispanic white, non-Hispanic black, Asian, Other Race, or Hispanic of any race), education (less than a high school diploma; a high school diploma and no further education; a high school diploma and some college, including vocational training; or a four-year college degree or higher), marital status (never married, married, divorced or separated, or widowed), children in the household under 18 (yes = 1), and age (25 to 34, 35 to 44, 45 to 55) (Note 11).

There is good reason to expect that work histories and earnings are strongly influenced by job characteristics such as part-time work, industry, and occupation. Therefore, in model 2, I predict UI coverage as a function of workers' demographic characteristics and job characteristics, controlling for calendar quarter and state of residence:

$$\Pr(UIE_{ijt} = 1|\mathbf{X}) = F(\alpha + \mathbf{W}_{it}\beta + \mathbf{Z}_{it}\boldsymbol{\gamma} + \boldsymbol{\pi}_j + \mathbf{q}_t) \quad (2).$$

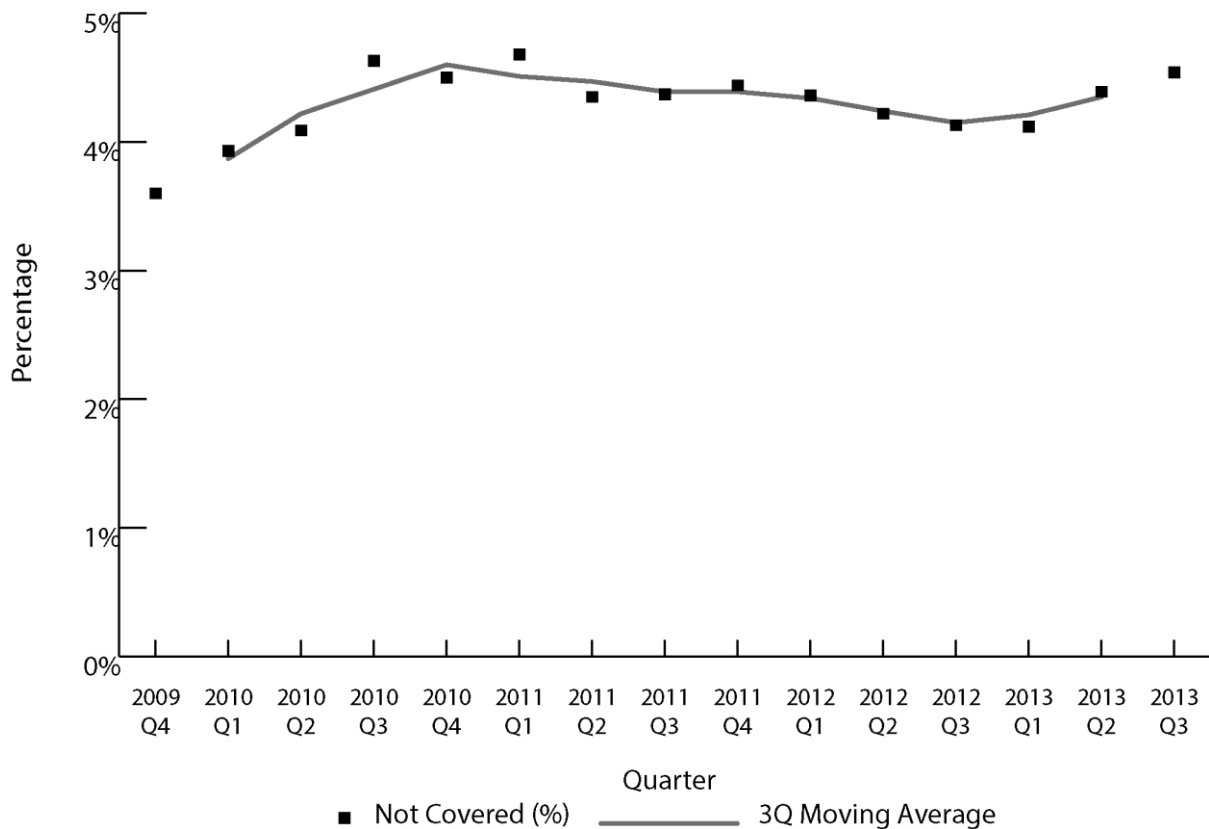
The vector of job characteristics,  $\mathbf{Z}_{it}$  includes a binary indicator for part-time work (yes = 1) if a worker reports working less than 35 hours a week at their primary job at any time during the



quarter. It also includes binary indicators for the industry (13 industries) and occupational classifications (23 occupations) of individuals' primary jobs. Industry and occupational groups are listed in Appendix 2.

#### 4. Results

Basic descriptive statistics suggest that on average 95 percent of workers with prior labor-force experience are covered by UI. Figure 1 shows a three-quarter moving average of the percentage of workers not covered. Overall, the percentage not covered remains fairly stable during the period (between four and five percent), increasing in the first three quarters of 2010, a period of peak unemployment following the Great Recession, and again in 2012.



**Figure 1.** Employed Workers Not Covered by UI by Quarter

Source: Author's own calculations, using data from the 2008 SIPP.

The percentages of employed workers with prior labor-force experience who are not covered by UI are shown in Table 1 by demographic groups. The percentages reported for each group are the unweighted averages across the fifteen quarterly cross sections. These unadjusted estimates suggest that female workers are nearly twice as likely as male workers to lack coverage: 5.4 percent of female workers are not covered by UI compared to 3.2 percent of males. With regard to race and ethnicity, Hispanic workers are less likely than non-Hispanic

white workers to lack UI coverage, and non-Hispanic black workers are slightly more likely than non-Hispanic white workers to lack coverage. The estimates also indicate that rates of UI coverage are lower at lower levels of educational attainment, are lower for younger workers compared to older workers, are lower for non-married workers compared to married workers, and are similar for workers with children under the age of 18 in their households and those without children in their households.

#### *4.1 Regression Analysis*

Next, in Table 2, I report marginal effects from regression-adjusted estimates of UI coverage for employed workers with prior labor-force experience. In Model 1, I predict UI coverage as a function of workers' demographic characteristics. In Model 2, I predict UI coverage as a function of workers demographic and job characteristics. I include state and quarterly time dummies in both models and cluster standard errors at the individual level to account for within-person autocorrelation that occurs due to repeated observations for individuals across the quarterly cross-sections (Note 12). The person-level weights used in the regression are the within-person averages of the person-level monthly weights that correspond with each month of a given quarter (Note 13). No longitudinal weights were used for the analysis (Note 14). The marginal effects can be interpreted as the expected change in the predicted probability of UI coverage due to a discrete change in the category of the independent variable, holding all other variables at their means.

Similar to the unadjusted estimates, the regression-adjusted results indicate that there are small but statistically significant differences in rates of UI coverage for key demographic groups (shown in Table 2, Model 1). Relative to male workers with prior labor-force experience, female workers with prior labor-force experience are 2.4 percentage points less likely to be covered by UI. Relative to non-Hispanic white workers, Hispanic workers are 1.5 percentage points more likely to be covered by UI. Relative to workers with bachelor's degrees or higher, workers with less than a high school diploma are 4.4 percentage points less likely to be covered by UI, workers with high school diplomas are three percentage points less likely to be covered, and workers with some college are 1.7 percentage points less likely to be covered. Additionally, workers ages 25 to 34 are less likely to be covered by UI than workers ages 45 to 55, and workers in households with children under the age of 18 are less likely to be covered than workers without children in the household.

The regression results also indicate that workers' job characteristics are important determinants of patterns in UI coverage (Table 2, Model 2). Compared to full-time workers, part-time workers are 5.3 percentage points less likely to be covered by UI. Industry (manufacturing sector omitted) and occupation (production occupations omitted) are also important determinants of patterns in UI coverage. Although workers in most other industries do not appear to have statistically significant higher rates of eligibility than workers in the manufacturing sector, workers in the three service industry groups (professional, scientific, management, and administrative services; arts, entertainment, and recreation services; and other services) have rates of UI coverage about two percentage points lower than workers in manufacturing. Additionally, I find that relative to workers in production occupations,

workers in personal care and service occupations and installation, maintenance, and repair occupations have lower rates of UI coverage.

**Table 2.** Change in Predicted Probability of UI Coverage for Employed Workers with Prior Labor-force Experience

Variables		Model 1		Model 2	
		Marginal Effects	SE	Marginal Effects	SE
Sex ( <i>Male</i> )	Female	-0.024 ***	0.002	-0.011 ***	0.002
Race/Ethnicity ( <i>White Non-Hispanic</i> )					
	Hispanic	0.015 ***	0.003	0.008 *	0.003
	Black Non-Hispanic	0.004	0.003	0.000	0.003
	Asian	0.002	0.005	-0.008	0.005
	Other Race/Ethnicity	-0.008	0.005	-0.005	0.005
Age ( <i>45 to 55</i> )					
	35 to 44	0.003	0.002	0.006 *	0.002
	25 to 34	-0.008 ***	0.002	-0.004	0.002
Education ( <i>BA or Higher</i> )					
	Less than High School Diploma	-0.044 ***	0.004	-0.013 **	0.005
	High School Diploma	-0.03 ***	0.003	-0.01 **	0.003
	Some College	-0.017 ***	0.002	-0.004	0.003
Marital Status ( <i>Married</i> )					
	Never Married	-0.016 ***	0.003	-0.012 ***	0.002
	Divorced/Separated	-0.006	0.003	-0.001	0.003
	Widowed	-0.013	0.009	-0.012	0.009
Children ( <i>No</i> )	Yes	-0.006 **	0.002	-0.005 *	0.002
Part-time Work ( <i>No</i> )	Yes			-0.053 ***	0.002
Industry ( <i>Manufacturing</i> )					
	Educational Services, Health Care & Social Assistance			-0.008	0.005
	Retail Trade			-0.019 ***	0.005
	Professional, Scientific & Admin. Services			-0.024 ***	0.005
	Arts, Entertainment & Recreation Services			-0.019 ***	0.005
	Finance, Insurance & Real Estate			-0.009	0.005
	Public Administration			0.007	0.007
	Construction			-0.021 **	0.008
	Transportation/ Warehousing & Utilities			-0.003	0.005
	Other Services			-0.022 ***	0.006
	Wholesale Trade			-0.002	0.007
	Information			0.002	0.007

Variables	Model 1		Model 2	
	Marginal Effects	SE	Marginal Effects	SE
Agriculture, Forestry, Fishing/Hunting & Mining			-0.063 ***	0.009
Occupation ( <i>Production</i> )				
Office & Admin. Support			0.002	0.005
Sales			-0.003	0.005
Management			0.019 **	0.006
Education, Training & Library			0.004	0.006
Food Preparation & Serving			-0.006	0.007
Healthcare Practitioners			0.026 ***	0.007
Construction & Extraction			0.009	0.008
Building/Grounds Cleaning & Maintenance			-0.007	0.006
Business & Financial			0.023 ***	0.006
Transportation			-0.001	0.006
Installation, Maintenance & Repair			0.009	0.007
Personal Care & Services			-0.024 ***	0.006
Material Moving			-0.016 *	0.007
Healthcare Support			-0.007	0.007
Computer & Mathematical			0.031 **	0.01
Protective Service			-0.004	0.008
Architecture & Engineering			0.037 ***	0.008
Community & Social Service			0.021 *	0.008
Arts, Design, Entertainment, Sports & Media			0.015	0.008
Farming, Fishing & Forestry			0.006	0.013
Life, Physical & Social Sciences			0.044 ***	0.011
Legal			0.018	0.01
Observations (Clusters)	186,454 (25,500)		186,454 (25,500)	

Notes: Quarter and state dummies included in regression analysis, but not shown. Marginal effects shown with robust standard errors. Pooled sample includes workers ages 25 to 55 who were employed in each month of the current quarter ( $q_t$ ), who were employed or unemployed in any month of the first four of the five prior quarters ( $q_{t-2} - q_{t-5}$ ), and who participated continuously in the SIPP in the five prior quarters.

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

Table 2, Model 2 also shows the extent to which demographic differences in UI coverage are explained by differences in workers' job characteristics. After accounting for part-time work status, occupation, and industry, the gap in UI coverage for female workers relative to male workers shrinks to 1.1 percentage points, and the gap in coverage for workers without a high school diploma relative to college graduates shrinks to 1.3 percentage points. Additionally, the gap in coverage is no longer statistically significant between younger and older workers.

#### 4.2 Sensitivity Analysis

Because I require only that currently employed workers in the sample have participated in the labor force at any time in the five prior quarters, the main sample may contain workers that some policymakers and analysts would consider outside of the UI program's target population. Therefore, as a sensitivity test, I replicate the analysis for a subsample of employed workers who participated continuously in the labor force during each quarter of the standard base period (first four of the prior five quarters) (Note 15). Because this is a more stringent attachment to the labor force than most states in the UI system require, I expect to find little or no systematic variation in coverage. The pooled sample of employed workers with continuous labor-force participation in the base period includes 176,123 person-quarters for 24,129 persons. Summary statistics for these workers are reported in Appendix 1.

The results shown in Table 3 indicate that once the sample is restricted to workers with stronger labor-force attachments, female workers are not less likely to be covered by UI than male workers (Model 2). Additionally, the age group coefficients change direction with workers ages 25 to 34 more likely to be covered by UI than workers ages 45 to 55 (Model 2).

On the other hand, Hispanic workers continue to be more likely to be covered than non-Hispanic white workers; and less educated workers (those with a high school diploma or less than a high school diploma) continue to be less likely to be covered than workers with a bachelor's degree or higher. Furthermore, part-time work status continues to depress rates of UI coverage for workers with continuous labor-force participation. The difference in coverage relative to full-time workers is 3.6 percentage points.

**Table 3.** Change in Predicted Probability of UI Coverage for Employed Workers with Continuous Labor-force Participation in the Base Period

Variables		Model 1		Model 2	
		Marginal Effects	SE	Marginal Effects	SE
Sex ( <i>Male</i> )	Female	-0.009 ***	0.002	-0.003	0.002
Race/Ethnicity ( <i>White Non-Hispanic</i> )	Hispanic	0.009 **	0.003	0.009 **	0.003
	Black Non-Hispanic	0.003	0.003	0.003	0.003
	Asian	-0.002	0.005	-0.003	0.005
	Other Race/Ethnicity	0.003	0.005	-0.003	0.004
	Age ( <i>45 to 55</i> )	35 to 44	0.007 *	0.002	0.007 ***
	25 to 34	0.005	0.002	0.007 **	0.002
Education ( <i>BA or Higher</i> )	Less than High School Diploma	-0.027 ***	0.004	-0.008 *	0.004
	High School Diploma	-0.019 ***	0.003	-0.007 **	0.003
	Some College	-0.01 ***	0.002	-0.003	0.002
Marital Status ( <i>Married</i> )					

Variables	Model 1		Model 2		
	Marginal Effects	SE	Marginal Effects	SE	
	Never Married	-0.016 ***	0.003	-0.012 ***	0.002
	Divorced/Separated	-0.006	0.003	-0.004	0.003
	Widowed	-0.011	0.008	-0.011	0.008
Children ( <i>No</i> )	Yes	-0.004 *	0.002	-0.003	0.002
Part-time Work ( <i>No</i> )	Yes			-0.036 ***	0.002
Industry ( <i>Manufacturing</i> )					
	Educational Services, Health Care & Social Assistance			-0.006	0.004
	Retail Trade			-0.014 ***	0.004
	Professional, Scientific & Admin. Services			-0.019 ***	0.004
	Arts, Entertainment & Recreation Services			-0.011 *	0.005
	Finance, Insurance & Real Estate			-0.012 *	0.005
	Public Administration			-0.001	0.006
	Construction			-0.014 *	0.007
	Transportation/Warehousing & Utilities			-0.003	0.004
	Other Services			-0.014 **	0.005
	Wholesale Trade			-0.004	0.006
	Information			0.001	0.006
	Agriculture, Forestry, Fishing/Hunting & Mining			-0.049 ***	0.007
Occupation ( <i>Production</i> )					
	Office & Admin. Support			0.005	0.004
	Sales			-0.001	0.005
	Management			0.013 *	0.005
	Education, Training & Library			0.006	0.006
	Food Preparation & Serving			-0.003	0.006
	Healthcare Practitioners			0.03 ***	0.007
	Construction & Extraction			0.005	0.007
	Building/Grounds Cleaning & Maintenance			0.001	0.005
	Business & Financial			0.02 ***	0.006
	Transportation			0.003	0.005
	Installation, Maintenance & Repair			0.005	0.006
	Personal Care & Services			-0.014 *	0.006
	Material Moving			-0.009	0.006
	Healthcare Support			0.000	0.007
	Computer & Mathematical			0.02 **	0.007
	Protective Service			-0.001	0.007
	Architecture & Engineering			0.024 ***	0.007
	Community & Social Service			0.021 **	0.007
	Arts, Design, Entertainment, Sports & Media			0.011	0.007

Variables	Model 1		Model 2	
	Marginal Effects	SE	Marginal Effects	SE
Farming, Fishing & Forestry			0.011	0.011
Life, Physical & Social Sciences			0.05 ***	0.009
Legal			0.016 *	0.008
Observations (Clusters)	176,123 (24,129)		176,123 (24,129)	

Notes: Quarter and state dummies included in regression analysis but not shown. Marginal effects shown with robust standard errors. Pooled sample includes workers ages 25 to 55 who were employed in each month of the current quarter ( $q_t$ ) and who were employed or unemployed in each month of the first four of the five prior quarters ( $q_{t-2} - q_{t-5}$ ). \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

In Table 4, I further restrict the sample to individuals with continuous employment in the base period (i.e., workers who were employed in each month of the first four of the five prior quarters). The pooled sample includes 136,422 person-quarter observations for 20,271 individuals. Descriptive statistics for workers with continuous employment in the base period are reported in Appendix 1. Although the sample changes slightly in composition, this exercise is useful for isolating the extent to which earnings requirements contribute to variation in UI coverage, since workers are constrained to meet states' work history criteria but not states' earnings criteria.

The results suggest that among workers with continuous employment in the base period, female workers are slightly less likely to be covered by UI than male workers, Hispanic workers are slightly more likely to be covered by UI than non-Hispanic white workers, and younger workers (ages 25 to 34 and 35 to 44) are slightly more likely to be covered by UI than older workers (ages 45 to 55). Notably, there is no statistically significant difference in the likelihood of coverage among workers with different levels of education. However, part-time workers remain three percentage points less likely to be covered.

**Table 4.** Change in Predicted Probability of UI Coverage for Employed Workers with Continuous Employment in the Base Period

Variables		Model 1		Model 2	
		Marginal Effects	SE	Marginal Effects	SE
Sex ( <i>Male</i> )	Female	-0.011 ***	0.002	-0.005 *	0.002
Race/Ethnicity ( <i>White Non-Hispanic</i> )	Hispanic	0.014 ***	0.004	0.008 *	0.004
	Black Non-Hispanic	0.009 **	0.003	0.006	0.003
	Asian	0.004	0.005	0.002	0.005
	Other Race/Ethnicity	-0.003	0.006	-0.002	0.005
Age ( <i>45 to 55</i> )					

Variables	Model 1		Model 2		
	Marginal Effects	SE	Marginal Effects	SE	
	35 to 44	0.007 ***	0.002	0.008 ***	0.002
	25 to 34	0.006 **	0.002	0.008 ***	0.002
Education ( <i>BA or Higher</i> )					
	Less than High School Diploma	-0.019 ***	0.004	-0.005	0.004
	High School Diploma	-0.014 ***	0.003	-0.005	0.003
	Some College	-0.006 *	0.002	0.0004	0.002
Marital Status ( <i>Married</i> )					
	Never Married	-0.009 ***	0.002	-0.007 **	0.003
	Divorced/Separated	-0.001	0.003	0.001	0.003
	Widowed	-0.0003	0.009	-0.003	0.008
Children ( <i>No</i> )					
	Yes	-0.002	0.002	-0.001	0.002
Part-time Work ( <i>No</i> )					
	Yes			-0.029 ***	0.002
Industry ( <i>Manufacturing</i> )					
	Educational Services, Health Care & Social Assistance			-0.003	0.005
	Retail Trade			-0.01 *	0.004
	Professional, Scientific & Admin. Services			-0.007	0.005
	Arts, Entertainment & Recreation Services			-0.007	0.005
	Finance, Insurance & Real Estate			-0.007	0.005
	Public Administration			0.0002	0.006
	Construction			-0.014	0.007
	Transportation & Warehousing & Utilities			0.003	0.005
	Other Services			-0.011 *	0.005
	Wholesale Trade			0.002	0.008
	Information			0.013	0.008
	Agriculture, Forestry, Fishing/Hunting & Mining			-0.038 ***	0.006
Occupation ( <i>Production</i> )					
	Office & Admin. Support			-0.002	0.005
	Sales			-0.009	0.005
	Management			0.0003	0.005
	Education, Training & Library			-0.005	0.006
	Food Preparation & Serving			-0.009	0.007
	Healthcare Practitioners			0.018 *	0.007
	Construction & Extraction			0.006	0.008
	Building/Grounds Cleaning & Maintenance			-0.007	0.006
	Business & Financial			0.013	0.007
	Transportation			0.002	0.006
	Installation, Maintenance & Repair			0.001	0.007
	Personal Care & Services			-0.016 **	0.006



Variables	Model 1		Model 2	
	Marginal Effects	SE	Marginal Effects	SE
Material Moving			-0.015 *	0.006
Healthcare Support			0.0005	0.007
Computer & Mathematical			0.005	0.008
Protective Service			-0.012	0.008
Architecture & Engineering			0.017 *	0.008
Community & Social Service			0.012	0.007
Arts, Design, Entertainment, Sports & Media			0.002	0.007
Farming, Fishing & Forestry			-0.003	0.01
Life, Physical & Social Sciences			0.027 **	0.009
Legal			0.021 *	0.009
Observations (Clusters)	136,422 (20,271)		136,422 (20,271)	

Notes: Quarter and state dummies included in regression analysis, but not shown. Marginal effects shown with robust standard errors. Pooled sample includes workers ages 25 to 55 who were employed in each month of the quarter ( $q_t$ ) and employed in each month of the first four of the five prior quarters ( $q_{t-2} - q_{t-5}$ ).

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

## 5. Discussion

The risk of experiencing at least one spell of involuntary unemployment while working is nearly universal for Americans (Marmor, Mashaw, & Pakutka, 2013), and loss of employment is a strong predictor of movements into poverty (McKernan & Ratcliffe, 2005). The UI program is the primary source of income support available to workers when they lose their jobs. Most prior studies have examined the effectiveness of the UI program by documenting rates of UI receipt among the unemployed. Recent research in this area has been critically important for identifying ways in which the UI program can better meet the needs of unemployed workers. Yet one limitation of such an approach is that focusing on rates of UI receipt among the unemployed is a bit like focusing on rates of health insurance coverage only among the sick.

By shifting the focus from UI receipt to UI coverage, this study documented the extent to which the UI program acts as insurance against the economic risk of unemployment. The main findings demonstrate the breadth of UI coverage. Over 95 percent of employed workers with prior labor-force experience would be monetarily eligible for UI benefits if they were to become unemployed. However, the findings also indicate that rates of UI coverage are lower for key demographic groups including female workers, less-educated workers, part-time workers, and workers in some service-producing occupations and industries.

When considered alongside patterns in UI receipt, these findings indicate that some workers face multiple barriers when accessing the program. For example, in addition to being less likely to meet monetary eligibility criteria, as demonstrated in this paper, prior studies have shown that female workers, less-educated workers, and part-time workers are less likely to

meet non-monetary criteria (Shaefer, 2010; Shaefer & Wu, 2011). Female workers may be excluded from UI at higher rates because their reasons for exiting employment do not qualify as good cause (e.g., quitting a job to take up family care responsibilities) (Um'rani & Lovell, 2000). Like female workers, less-educated workers may be excluded because their reasons for exiting employment do not qualify as good cause, and they may be excluded because they lack information about the UI program. Gould-Werth and Shaefer (2013) find that the criteria of being a job leaver versus a job loser and lack of knowledge about the availability of benefits both contribute to lower rates of UI receipt for less-educated workers. Finally, part-time workers may be excluded because of requirements that UI recipients seek full-time work (NELP, 2004). O'Leary (2011) estimated that provisions allowing individuals receiving UI benefits to seek part-time work increases state UI benefit payment costs by about 0.6 percent (19).

When it comes to the program's responsiveness to structural changes in the economy, the larger gaps in coverage for part-time workers and the modest gaps in UI coverage for workers in service-producing occupations and industries indicate areas where the program could be expanded. Of course, one could argue that requiring part-time workers to meet the same eligibility criteria as full-time workers is consistent with the intentions of UI policy makers to limit the availability of benefits to workers with strong labor-force attachments and any policy changes that reduced monetary eligibility thresholds for part-time workers would increase benefit payment costs in ways that may not be feasible under the current financing structures of UI programs in many states. On the other hand, recent labor-force trends suggest that the number of workers employed part-time due to labor market conditions has not decreased appreciably since the Great Recession (Valletta & Van Der List, 2015). Additionally, the results from Table 4, where the sample is limited to employed workers with continuous employment in the labor force, suggest that earnings, not just work history, are important factors in part-time workers' lower rates of coverage. For workers who are constrained by the labor market to work part-time, relaxing monetary criteria could make employment more secure. Unfortunately, this study is not able to distinguish between individuals who are working part-time due to labor market conditions and individuals who are working part-time by choice.

Relaxing monetary criteria might also increase coverage of workers in some service industries and occupations. Similar to the question of whether part-time work reflects worker preferences or labor market constraints, one could argue that workers choose certain occupations because they offer flexibility. Although flexible scheduling strategies can have important benefits for both employers and employees (Joyce, Pabayo, Critchley, & Bamba, 2010), in many employment situations workers lack control over their work hours and earnings. Lambert, Haley-Lock, and Henly (2012) report that more than one-fourth of female workers and nearly two-thirds of male workers in hourly wage jobs would prefer to have more hours at work. It is not clear that excluding workers from UI because of employer rather than employee behaviors is in keeping with what policy makers have intended in their efforts to limit access to the UI program. Nor is it clear that these workers would not benefit from the protective effects of UI coverage while employed and the protective effects of UI receipt in the event of job loss.

Of course, it is difficult for policymakers to implement strategies for making the program more

effective without a better understanding of what aspects of monetary eligibility criteria contribute to these gaps. By examining differences in rates of UI coverage for workers' with different degrees of labor-force attachment, I found that for some groups, such as part-time workers, earnings are a significant factor in reducing the likelihood of UI coverage. For other groups, such as less-educated workers, more varied employment patterns appeared to be a stronger factor in reducing the likelihood of coverage (either by lowering total earnings or by affecting the distribution of earnings over the base period). Future research in this area will want to continue to unpack the processes through which individual preferences, labor market conditions, and state's eligibility criteria combine to determine who is covered by UI.

It is also difficult for policymakers to implement strategies for making the program more effective without a better understanding of how UI coverage changes the behaviors of workers and employers. The literature on the behavioral effects of UI suggests that, at least in theory, the availability of benefits should increase labor supply, particularly in sectors where the risk of unemployment is greater (Kruger and Meyer, 2004). Although to date there has been little empirical work to support this notion, Hendren (2016) provides some evidence that workers have information about their future job loss and make adjustments in household consumption patterns and spousal employment prior to becoming unemployed. A future study could further investigate the value of UI coverage to employed workers by examining how workers incorporate their knowledge of the availability of UI benefits into their decision-making when they have information about their future job loss.

Although this paper makes an important contribution to the current literature, it is not free from limitations. First, it is well known that non-random attrition is a limitation of using longitudinal survey data. To the extent that more advantaged workers (those with higher earnings and more stable employment) remain in the sample for longer than less advantaged workers do, it is possible that the findings may overstate rates of UI coverage. However, it is also important to stress that the analytic sample is not intended to be representative of the full population of employed workers in the U.S. labor force. Instead, in keeping with federal guidelines that limit the scope the program, the sample focuses on employed workers with prior labor-force experience, who are likely to be a more advantaged group of workers.

Second, because the estimates of UI coverage in the paper are drawn from data collected during and after a major economic recession, the findings may be less applicable to periods of economic expansion and growth. A future study that replicated these findings for non-recessionary period could shed light onto how rates of UI coverage and the characteristics of workers in the UI program's target population differ over the business cycle.

## **6. Conclusion**

Despite more than two years of relatively low national unemployment rates, trends in wages and employment patterns, especially among individuals in the bottom half of the wage distribution, continue to indicate long-term challenges to employment. If social policies rather than market solutions are to play a role in making employment more secure, then it is important

to understand the extent to which social programs, such as Unemployment Insurance (UI), are meeting the needs of workers in the modern economy. In this paper, I used workers' employment histories and earnings reports from the 2008 SIPP and state UI monetary eligibility rules to identify the characteristics of employed workers with prior labor-force experience who are covered by UI (i.e., who would be monetarily eligibility to receive UI benefits if they became unemployed). Although I found that over 95 percent of workers are covered by UI, I also found gaps in UI coverage for female workers, part-time workers, and workers in some service-related occupations and industries. This information should be of use to researchers and policymakers in understanding how the program is meeting the needs of workers in the modern economy and identifying ways to improve the effectiveness of the program.

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## Notes

Note 1. UI coverage is distinct from the concept of covered employment, which is an employment arrangement where the employer pays unemployment insurance tax on employee wages.

Note 2. Two states, Massachusetts and Minnesota, define the base period as the four quarters prior to unemployment (DOL, 2014).

Note 3. In 2015, females comprised 71.9 percent of part-time workers; females ages 25 to 54 worked less hours per week than males of the same ages, 37.5 hours compared to 42.4 hours (BLS, 2016d); and twice as many females reported an absence from work in a given week, 1.6 percent compared to 2.2 percent (BLS, 2016a). On average in 2015 females over the age of 25 had weekly wages of \$752 compared to \$922 for males of the same ages (BLS, 2016c).

Note 4. Non-random attrition occurs when certain groups, such as low-income individuals, drop out of a survey at higher rates than others (Czajka, Mabli, & Cody, 2008; Vaughan & Scheuren, 2002). For the present analysis, this means that if more advantaged workers remain

in the SIPP for longer than less advantaged workers do, they may be overrepresented in the cross-sectional samples, which could lead to overestimates of UI coverage.

Note 5. Seam bias occurs when changes over time, such as transitions in employment, earnings, and program participation appear with greater frequency between the reporting month of an interview and the earliest reference month of the subsequent interview. One approach to correcting for seam bias is to collapse monthly observations into observations by wave, keeping only the information from the reporting month (Ham, Li, & Shore-Sheppard, 2009). Because individuals' quarterly earnings and quarterly work histories are used by states to determine benefit eligibility, I collapse monthly observations into three-month periods rather than four-month periods.

Note 6. This includes individuals who were employed but absent from work with or without pay in any month of a quarter.

Note 7. Many policymakers and policy analysts would consider new entrants and marginally attached workers to be outside the scope of the UI program. Including these workers in the analysis would likely lead to smaller estimates of the percentage of workers covered by UI.

Note 8. The measure of total monthly earnings from all jobs is obtained from the SIPP variable TPEARN: total of person's earned income for the reference month.

Note 9. Individuals in Washington State were excluded from the analysis. During the time period covered by the 2008 SIPP panel, Washington used only hours of employment to determine monetary eligibility, and a minimum of 680 hours of employment during the base period was required to qualify for benefits. At 40 hours per week, 680 hours amounts to 17 weeks of employment. A calendar quarter is approximately 13 weeks, so 680 hours implies at least two quarters of employment in the base period for full-time workers.

Note 10. For states that base eligibility on a flat amount, statewide average weekly wages available from the Quarterly Census of Employment (BLS, 2016e) and state minimum wages (DOL, 2016) were used in calculations. For states that use a worker's own average weekly wage to determine benefit eligibility, such as New Jersey, benefit eligibility was determined based on the minimum earnings amounts needed to qualify for benefits provided in the *Significant Provision of State UI Laws*.

Note 11. I categorize age into three groups in order to compare prime-aged workers at the early stages of their work tenures with mid-career and late-career workers.

Note 12. For sensitivity analysis, I estimated model 1 and model 2 using Stata's svy commands to ensure that I had properly accounted for the complex sampling structure of the SIPP. The results (point estimates and standard errors) were nearly identical for both models. The results are available from the author upon request.

Note 13. Correlations between the person-level weights for each quarter ( $q_t$ ) and the prior quarter ( $q_{t-1}$ ) showed that the weights did not differ significantly from one quarter to the next. Additionally, correlations between the percentage female workers, percentage black workers,



and percentage Hispanic workers for each quarter ( $q_t$ ) and the prior quarter ( $q_{t-1}$ ) indicated that the cross-sectional samples were similar in composition from one quarter to the next.

Note 14. For more on using weights with quarterly estimates from the SIPP survey data see Chapter 8 of the *2008 SIPP Users' Guide* (U.S. Census Bureau, 2008).

Note 15. I define continuous labor-force participation as reporting employment or unemployment in each month of a quarter.

## Appendix

### Appendix 1. Characteristics of Employed Workers

	All Employed Workers		Employed with Continuous Labor-force Participation in Base Period		Employed with Continuous Employment in Base Period	
	Sample	Not Covered by UI	Sample	Not Covered by UI	Sample	Not Covered by UI
	%	%	%	%	%	%
<b>Sex</b>						
Male	50.33	7.22	51.16	2.26	50.78	1.35
Female	49.67	10.25	48.84	3.17	49.22	2.35
<b>Race &amp; Ethnicity</b>						
White	69.14	8.25	71.17	2.80	72.38	1.99
Non-Hispanic						
Hispanic	12.89	9.08	12.07	2.15	11.85	1.21
Black						
Non-Hispanic	10.65	10.94	9.74	2.74 <sup>+</sup>	9.07	1.46
Asian	4.61	8.01	4.52	2.03	4.40	1.44
Other	2.71	11.69	2.51	3.63	2.33	2.52
Race/Ethnicity						
<b>Age</b>						
45 to 55	38.44	7.35	41.16	2.95	43.05	2.22
34 to 44	32.49	7.96	32.88	2.38	33.21	1.46
25 to 34	29.08	11.39	25.95	2.72 <sup>+</sup>	23.73	1.68
<b>Education</b>						
Less than High						
School	6.88	12.56	6.59	4.07	6.36	2.67
Diploma						
Graduated	22.86	10.93	21.83	3.71	21.44	2.63

	All Employed Workers		Employed with Continuous Labor-force Participation in Base Period		Employed with Continuous Employment in Base Period	
	Sample	Not Covered by UI	Sample	Not Covered by UI	Sample	Not Covered by UI
<b>High School</b>						
Some College	34.69	9.10	34.41	2.79 <sup>+</sup>	34.08	1.77 <sup>+</sup>
Bachelor's Degree	35.52	6.19	37.17	1.79	38.13	1.32
<b>Marital Status</b>						
Married	62.58	7.45	64.59	2.31	66.02	1.68
Never Married	22.35	11.61	20.81	3.54	19.95	2.30
Divorced/ Separated	14.01	9.68	13.51	3.22	12.96	1.93 <sup>+</sup>
Widow	1.05	10.74	1.09	3.87	1.09	2.14 <sup>+</sup>
<b>Children in Household</b>						
No	47.99	9.33 <sup>+</sup>	47.99	2.89	47.99	2.01
Yes	52.01	9.17 <sup>+</sup>	52.01	2.53	52.01	1.68
<b>Observations (Avg. N)</b>						
	18,812	1,641	11,742	317	9,095	167

Notes: Quarterly averages from October 2009–June 2013. All employed workers: workers ages 25 to 55 who were employed in any month of the quarter ( $q_t$ ). Employed workers with continuous labor-force participation in the base period: workers ages 25 to 55 who were employed in each month of the quarter ( $q_t$ ) and who were employed or unemployed in each month of the first four of the five prior quarters ( $q_{t-2} - q_{t-5}$ ). Employed workers with continuous employment in the base period: workers ages 25 to 55 who were employed in each month of the quarter ( $q_t$ ) and who were employed in each month of the first four of the five prior quarters ( $q_{t-2} - q_{t-5}$ ). T-tests were used to examine differences in the proportion of workers not covered by UI within each category of a demographic group. <sup>+</sup> Indicates *not* statistically significant ( $p > .05$ ).

**Appendix 2. Percentages of Employed Workers with Prior Labor-force Experience Not Covered by UI by Job Group**

Worked Part Time		Occupation		
	No	2.30	Office & Admin. Support	4.56
	Yes	10.03	Sales & Related	5.68
<b>Industry</b>			Management	2.43
Educational Services, Health Care & Social Assistance	4.25 <sup>+</sup>		Education, Training, & Library	4.29 <sup>+</sup>
Retail Trade	6.16		Production	3.47
Manufacturing	2.18		Food Preparation & Serving Related	8.23
Professional, Scientific, Mgmt. & Admin. Services	4.67		Healthcare Practitioners & Technical	2.00
Arts, Entertainment & Recreation Services	7.71		Construction & Extraction	4.31 <sup>+</sup>
Finance, Insurance & Real Estate	2.93		Building & Grounds Cleaning & Maintenance	7.26
Public Administration	1.90		Business & Financial	2.26
Construction	4.24 <sup>+</sup>		Transportation	3.94
Transportation & Warehousing & Utilities	3.23		Installation, Maintenance, & Repair	2.64
Other services	7.23		Personal Care & Service	12.58
Wholesale Trade	2.51		Material Moving	7.06
Information	2.05		Healthcare Support	6.60
Agriculture, Forestry & Mining	12.07		Computer & Mathematical	1.22
			Protective Service	3.24
			Architecture & Engineering	1.18
			Community & Social Service	2.79
			Arts, Design, Entertainment, Sports & Media	3.49
			Life, Physical & Social Science	1.07
			Legal	2.78
			Farming, Fishing & Forestry	12.63

Notes: Quarterly averages from October 2009–June 2013. Each quarterly cross section includes workers ages 25 to 55 who were employed in each month of the quarter ( $q_t$ ), who were employed or unemployed in any month of the first four of the five prior quarters ( $q_{t-2} - q_{t-5}$ ), and who participated continuously in the SIPP in the five prior quarters. T-tests were used to examine differences in the proportion of workers not covered by UI for each category within a demographic group. <sup>+</sup> Indicates not statistically significant ( $p > .05$ ).

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