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# Feminist Economics

Publication details, including instructions for authors and subscription information: http://www.tandfonline.com/loi/rfec20

# Double Trouble: US Low-Wage and Low-Income Workers, 1979-2011

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To cite this article: Randy Albelda & Michael Carr (2014) Double Trouble: US Low-Wage and Low-Income Workers, 1979-2011, Feminist Economics, 20:2, 1-28, DOI: 10.1080/13545701.2014.886125

To link to this article: <u>http://dx.doi.org/10.1080/13545701.2014.886125</u>

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## DOUBLE TROUBLE: US LOW-WAGE AND LOW-INCOME WORKERS, 1979–2011

Randy Albelda and Michael Carr

## ABSTRACT

There is research on low-wage earners and on low-income adults, yet little that looks specifically at workers who are both. Changes in antipoverty programs and job structure in the United States suggest a rise in this group of workers, but not necessarily an accompanying change in the set of social protections that might cover them. We track the share of low-wage and low-income (LW/LI) workers and their access to a subset of employer benefits and antipoverty programs from 1979–2011. We explore changes by worker's gender and family status based on feminist labor market and welfare state regime research that argues jobs and social protection programs are shaped by a heteronormative male-breadwinner model. We find increased shares of LW/LI workers; that LW/LI workers are least likely to receive antipoverty supports and employer benefits; and evidence for a male-breadwinner model in US social protection programs.

### **KEYWORDS**

Low wage, low income, gender, antipoverty policies, employment policies

JEL Codes: J31, J12, I38

## INTRODUCTION

There is considerable research on earners with low wages as well as on lowincome families, yet few look specifically at low-wage workers who live in low-income families. While there is a sense that this group of workers has increased over time, no one has looked closely at which workers are most likely to be both low-wage and low-income (LW/LI) nor at the trends over time. Given the reversal of fortunes in the United States for labor market opportunities for men without college degrees coupled with employmentpromoting antipoverty programs for single mothers that impelled heads of families with children and no reported earnings into employment, it is likely that the share of individuals who are employed for a low wage and also live in a low-income family has increased over time, and that the share as well as rate of increase varies with family structure and gender.

Being either a low-wage worker or living in a low-income family in the US can create its own set of difficulties; however, the combination can be particularly troublesome. Low-wage work in the US carries with it the likelihood of not only low levels of earnings, but as discussed in the following section, it also provides a smaller likelihood of receiving employer-based benefits such as health insurance, paid time off, and retirement plans. Further, many antipoverty programs (these include separate programs that provide cash, food, housing, healthcare, and childcare assistance) are still typically available only to those with very low incomes, structured for those with little or no earnings, and targeted primarily toward families with children. Over time, despite dramatic changes in family structure (especially increases in single-adult households) as well as increases in the employment rate of mothers, the employment-based policies that cover low-income workers and antipoverty policies that support low-wage employment have been slow to adjust to these new realities. As a result, many low-wage earners that are also low-income have the potential to be uncovered by either set of protections.

Both the low-wage workforce and whether workers have employer or government supports available are, as feminist scholars have argued (and discussed below), shaped by gender, marital status, and presence of children. This suggests that married male-breadwinner workers, regardless of wage or family income, may have more access to employer-based protections than single adult workers, while single mothers may have more access to publicly provided protections.

Using gender and family status (marital status, presence of other adults, and presence of children) as our lens, we explore which types of workers are most likely to be LW/LI, the trends in the shares over time, and their access to a subset of employer-based benefits and antipoverty programs.

#### At the nexus of being low wage and low income

Examining LW/LI workers forces researchers to traverse two different income concepts and policy formations: those addressing individual earnings, and those addressing family income. Research on low wages typically falls under the purview of labor economists. The US-based literature includes the dynamics of labor supply and demand for lowwage workers (Barry Bluestone, William Murphy, and Mary Stevenson 1973; David Gordon, Richard Edwards, and Michael Reich 1982; Paul Osterman 2001; David Card and John DiNardo 2006); labor market institutions, including government and employer policies toward low-wage workers (John DiNardo, Nicole M. Fortin, and Thomas Lemieux 1996; Paul Osterman 2008; Jérôme Gautié, Niels Westergaard-Nielsen, and John Schmitt 2010); job mobility for low-wage workers (Gregory Acs and Pamela Loprest 2004; Fredrik Anderssen, Harry Holzer, and Julia Lane 2005; Brett Theodos and Robert Bednarzik 2006); as well as case studies of particular industries in which low-wage work is prevalent.<sup>1</sup>

In addition to the low levels of earnings, the literature points to several reasons to be concerned about the prevalence of low-wage work and the growth in numbers of low-wage workers. In the 1970s and 1980s, segmented labor market analysts (Peter Doeringer and Michael Piore 1971; Gordon, Edwards, and Reich 1982) identified a secondary job segment in which substantial portions of jobs are characterized by low pay, few job ladders or employment-related benefits, and often low job-specific skill requirements. Workers in the secondary sector face significant barriers to moving to better jobs in the primary labor segment, leaving adult workers in this segment in a structurally vulnerable position. More recently, concern over the well-being of low-wage workers is often framed within the context of loss of primary-sector manufacturing jobs and growing earnings inequality over the last thirty years (Stephen Machin 2008; Thomas Lemieux 2008). Much of the literature focuses on the earnings of men, especially those working full time and year round, because their earnings have stagnated or fallen the most.

The quality of work, in particular the lack of employment-based protections available and the lack of employee flexibility over work schedule, also make low-wage work a concern. Key employment protections that are mandatory in other countries are voluntary in the United States, such as paid time off (sick days and extended leave for own health and to care for family members) and health insurance.<sup>2</sup> Workers in low-wage jobs are the least likely to receive these employer-sponsored benefits (Lisa Clemans-Cope and Bowen Garrett 2006; Gregory Acs and Austin Nichols 2007; Elise Gould, Kai Filion, and Andrew Green 2011). Many low-wage jobs – especially those in retail, as well as hospitality, custodial, and food services – have irregular and nonstandard hours, which create particular difficulties for parents, which in turn can have adverse educational and health impacts for children (Lisa Dodson and Randy Albelda 2012).

Studies of the determinants of and changes in family income among poor and low-income families with workers are largely under the purview of public policy analysts in various disciplines.<sup>3</sup> Family income includes earnings of all family members as well as other family income, such as dividends, interest, rent, and government transfer payments. For most low-income families, not surprisingly, it is the lack of sufficient earnings by adult members that is the main source of low family income. The causes of poverty are contested, and long debated; but it is generally accepted that low levels of family income lead to a host of negative impacts on children, adults, and neighborhoods.

US government antipoverty policies are intended to supplement family resources to levels needed to minimally sustain a family. We are most interested in the policies that provide direct support, either in the form of cash or in-kind assistance. The federal government started providing cash

assistance to poor families with children in the 1930s, and over the following fifty years established several large-scale in-kind assistance programs (health insurance and food and housing assistance) targeted mostly to poor older adults, disabled adults, and single parents taking care of dependents with no or little earnings (Randy Albelda 2011). States maintained the role of providing support for adults that were indigent and not eligible for federal programs through emergency or general assistance programs. However, in the 1980s, both federal and state governments aggressively pushed changes to cash and in-kind assistance programs to discourage usage of that assistance while encouraging, and in some cases requiring, employment as a pathway out of poverty for all but elder and disabled adults. Most prominent, however, were changes to the federal cash assistance programs for families with children and to food assistance programs in the late 1980s through the mid 1990s that legislated strong financial disincentives to those receiving assistance without any employment.

However, while antipoverty programs changed to promote employment, most have been slow to change to accommodate low-wage employment. Income eligibility, application, and reporting provisions remain much the same, making it difficult for low-income families with employment to access them. For example, Temporary Assistance for Needy Families (TANF, cash assistance for families with children), housing assistance, and Food Stamps start phasing out steeply with extremely low levels of income and still require time-consuming documentation to prove eligibility as well as to continue receipt (Albelda 2011). The refundable Earned Income Tax Credit (EITC) is a notable exception. In that program, eligibility and levels of benefits are tied to earnings, but are based on family income and family structure and for families with children phase out at higher levels of income. Appendix Table A.1 provides income eligibility rules for four major US antipoverty programs for adults

Given the nature of low-wage work and the changes to antipoverty policies, this intersection of being low wage and low income is often an implicit concern of labor or poverty policy researchers, advocates, and policymakers. But, much of the focus on changing wages has been on men while most of the poverty focus has been on single mothers, with little research that focuses on other LW/LI workers and their access to social protections.

#### Gender, family status, jobs, and social protection policies

A worker's gender and family status (which takes into account marital status, and presence of children and other adults in the household) have played a key role in the development of job structures, wages (including crowding into secondary labor markets), and the sets of policies that protect families without earnings. The ways gender segmentation develops in employment, labor market institutions, and social protection policies take specific forms in the US. Feminist historians and other scholars have traced the development of the male family wage and the construction of the ideal (male) worker who is free of care encumbrances (Hilary Land 1980; Joan Williams 2001; Deborah Figart, Ellen Mutari, and Marilyn Power 2002). These arguments make a compelling case for the existence of job hierarchies based on gender (and race) where higher wages and employment-based benefits were mostly afforded to main breadwinners, which until relatively recently consisted primarily of white married men.

In terms of the social protection policies that insulate families from destitution during periods of nonemployment, the US market-based welfare state relies heavily on means-tested or employment-based benefits rather than universal programs (Gøsta Esping-Andersen 1990). Complementing labor market stratification, this two-tiered social protection scheme of employment-based benefits and means-tested antipoverty policies also cleave along gender and race lines. Breadwinners, and through them their wives, historically have been in jobs most often covered by employmentbased government-mandated supports such as Old Age Insurance (commonly called Social Security) and Unemployment Insurance, as well as employer-sponsored programs (notably health insurance and paid time off). People of color and unmarried women were often excluded from these types of protections because they were in occupations not covered by these supports, had too little earnings to qualify (in the case of Unemployment Insurance), or because of explicit exclusionary measures included in such programs (Suzanne Mettler 1998; Michael Brown 1999; Deborah Ward 2005). Instead, they were to rely on the other social protection track in the US of means-tested antipoverty programs. Two key antipoverty programs, TANF and Medicaid, have eligibility requirements that primarily assist families with children, particularly single-mother families. This leaves poor, non-elder childless adults with far fewer sets of antipoverty protections than single or married parents.

Because gender, marital status, and presence of children (as well as other adults in families) matter in terms of individual earnings, family income and earnings capacity as well as access (including notions of deservedness) to social protection policies, we stratify our sample of workers by these traits. First, we explore the level and growth in the share of LW/LI workers by gender and family status. Second, we test for whether LW/LI workers are less likely to receive a subset of employer benefits compared to other workers, and if LW/LI workers are less likely to receive a subset of government antipoverty programs compared to other low-income adults. Third, using a limited number of social protections, we empirically test the male-breadwinner model to see when holding demographic, job, and human capital characteristics as well as being LW/LI fixed if married

parents are more likely to receive employer benefits than other workers. And if among low-income adults, single mothers are most likely to receive government assistance.

#### **Data and definitions**

The data come from the Annual Social and Economic Supplement of the Current Population Survey (CPS) for the years 1980–2012 (corresponding to employment and income statistics for 1979–2011). We use the uniform extracts developed and made available by the Center for Economic and Policy Research (2013). In addition to standard income, employment, and demographic information, the CPS Supplement also contains detailed data on relationships between household and family members.<sup>4</sup>

The sample is limited to individuals 18 and older with positive earnings, and who have non-missing observations for race/ethnicity, education, class of job (self-employed or employed in the private or government sector), age, metropolitan status, and the variables used to construct family status discussed below. The key variable of the analysis is whether an individual both earns a low wage and is a member of a low-income family (LW/LI). The sample has 2,706,874 observations.

There is no universally accepted definition of low wages. We considered three different approaches. The first applies a relative measure, used by Jérôme Gautié and John Schmitt (2010) and the International Labour Organization (2010), defined as having a wage no larger than two-thirds of the median wage of all employees. The second approach is based on the value of the US minimum wage, a level set by federal legislative action at irregular intervals. For example, Acs and Nichols (2007) use 150 percent of the federal minimum wage. A third way to measure low wages uses an absolute measure based on US poverty income thresholds (Peter Schochet and Anu Rangarajan 2004; Gregory Acs, Pamela Loprest, and Caroline Ratcliffe 2010), calculating a low wage based on the hourly wage equivalent to the federal poverty annual income threshold for a family of four divided by 2,080 hours (a full-time, year-round job). We use the relative measure commonly employed by those with a labor market focus and one more consistent with comparisons in other countries by considering a worker low wage if she or he has nonzero hourly earnings less than or equal to two-thirds of the state median hourly earnings. However, we peg our measure of low wages to the state median, as there is considerable variation in earnings as well as in the legal minimum wage levels across the states and the District of Columbia.<sup>5</sup> Real hourly earnings are calculated for all wage, salary, and self-employed workers with positive earnings who worked for at least one week by dividing annual earnings by annual hours worked.<sup>6</sup> In 2011, the low-wage cut-off level ranged from \$9.62 (Montana) to \$16.40 (District of Columbia), with a median of \$11.22 per hour.

Income includes all sources of pretax money income, including cash transfers such as TANF and Supplemental Security Income (governmentprovided old age and disability income assistance). It does not include the cash value of Food Stamps, housing assistance, or health insurance. Because the EITC has grown in real-dollar value and coverage considerably over the period and is considered an important antipoverty program for workers, we estimate these amounts using the National Bureau of Economic Research TAXSIM program available at http://www.nber.org/taxsim/ (Daniel Richard Feenberg and Elizabeth Coutts 1993) and assign that amount in each year to each filing unit, which we then include in total family income. Both the federal and state EITC are calculated. By assuming that all eligible individuals receive the credit, we overestimate income from this source.

There is also no official US definition of being low income. There is a federal definition of poverty, based on meeting minimum budget standards developed in the 1960s (using family budgets from the 1950s) and indexed every year for inflation. Supplemental Table 1 includes 2011 US federal poverty income thresholds by family type and size.<sup>7</sup>

These federal poverty income thresholds are considered too low to meet basic needs, especially for workers (Constance Citro and Robert T. Michael 1995; Rebecca Blank 2008), which is why US poverty researchers have moved from talking about those who are officially poor to those who are low income. We adopt the definition that many poverty policy researchers use, such as those at the Urban Institute and the National Center for Children in Poverty. An individual earner is designated as low income if he or she is a member of a family with income at or below 200 percent of the federal poverty income threshold for a family of that size and type (poverty income thresholds vary by family size and age of householder).

We use the CPS definition of families (two or more persons related by blood, marriage, or adoption living in the housing unit) and add to it "families of one" (single individuals residing in a household who are unrelated to anyone in that household). The CPS defines all persons in a household by relationship to the householder, who is the self-identified person holding the lease or mortgage. Households may contain several unrelated individuals and/or families. We assume that family members, including what the CPS refers to as "subfamilies," share resources only with other family members living in their household.8 Cohabiters are identified beginning in 1996, which precludes us from estimating a consistent series across the entire period. To maintain a consistent measure, we do not consider them family members throughout the time period. However, we are able to estimate shares of LW/LI of cohabiting workers as "married" men and women from 1996 to 2011. The differences we find are very small; but they do get larger over the period, especially with the onset of the Great Recession, corresponding with a rise in the percentage of cohabiting couples over this



Figure 1 Share of low-wage, low-income, and low-wage and low-income (LW/LI) earners: 1979-2011

*Notes*: Based on authors' calculations using CPS data from 1980 to 2012 for all earners age 18 and over.

period. Including cohabiter's income slightly reduces overall LW/LI shares for single men and women while increases shares for married men and women.<sup>9</sup>

From 1979 to 2011, the number of positive wage earners grew 42.3 percent from 107.1 million to 152.4 million, while the number of low-wage and lowincome workers has grown 94.0 percent from 10.8 million to 20.9 million. Figure 1 depicts the percentage of positive earners 18 years and older who are low wage, low income and both low wage and low income (LW/LI), respectively. The percentage of adult workers who are LW/LI is between 10.0 and 13.7 percent, hovering between 12 and 13 percent for most of the period, rising in the 1980s and again starting in 2007. Low-wage earners increased in the early 1980s, stabilizing at about 27 percent in the early 1990s. Conversely, the percentage of workers who are low income has dropped from a high of 23.9 percent in 1982 to a low of 18.4 percent in 2007, but has risen again to 20.9 percent in 2011.

Not all low-wage workers are in low-income families. In 2011, 49 percent of all low-wage earners were also in a low-income family. The other 51 percent either had family members with other forms of income or worked so many hours that family income was lifted above 200 percent of the poverty threshold. An even smaller fraction of adults in low-income families earn low wages. Twenty-nine percent of all low-income adults were low-wage earners in 2011. Most low-income adults (56 percent) had no employment income at

#### US LOW-WAGE AND LOW-INCOME WORKERS

	Not LW/LI	LW/LI	Total
Age	40.2	35.3	39.6
	[13.4]	[13.7]	[13.6]
Family income	\$78,410	\$20,312	\$69,151
	[94, 355]	[13,115]	[91,645]
Hourly earnings	\$18.4	\$4.8	\$16.7
	[294.9]	[3.1]	[377.2]
Full-time/full-year	67.6	43.0	64.5
Women	45.2	54.4	46.4
White	77.7	56.6	75.0
Black	9.6	18.2	10.7
Hispanic	8.4	20.8	10.0
Other	4.3	4.5	4.3
Less than high school	9.8	29.0	12.2
High school	32.9	39.8	33.7
Some college	28.6	23.3	28.0
College	19.0	6.2	17.4
Advanced	9.7	1.7	8.7
Private sector	74.1	80.8	74.9
Federal government	3.4	1.3	3.2
State government	4.3	2.5	4.1
Local government	8.6	4.5	8.1
Self-employed	9.6	10.7	9.7
N	2,364,420	342,454	2,706,874

Table 1 Descriptive statistics by LW/LI status: 1979-2011

*Notes*: Based on authors' calculations using CPS data from 1980 to 2012 for all earners over the age of 18. Standard deviations are in brackets.

all. The remaining 15 percent were employed, but at wages above two-thirds median wage in their state.

Table 1 provides basic descriptive statistics of the entire sample and the LW/LI subsample. The patterns in the data reflect what one might expect: women comprise 46.4 percent of the sample, but 54.4 percent of LW/LI workers. Similar disparities exist for black and Hispanic workers who represent, respectively, 10.7 and 10.0 percent of the sample but 18.2 and 20.8 percent of LW/LI workers. For white workers, the opposite pattern holds. They comprise 75.0 percent of the sample, but only 56.6 percent of LW/LI workers. Similar patterns hold for educational attainment, where lower levels of education are overrepresented among LW/LI workers and high-education workers are underrepresented. Fulltime, full-year and government workers are less likely to be represented among LW/LI workers who work part time or part year and private-sector workers.

Gender and family status	ID	1980	2012	Change
Single women, children	SW, C	3.5	4.5	1.0
Single men, children	SM, C	0.6	1.4	0.8
Married women, children	MW, C	14.1	11.5	-2.6
Married men, children	MM, C	20.7	15.1	-5.6
Single women, no children	SW, no C	7.1	10.0	2.9
Single men, no children	SM, no C	8.6	12.4	3.8
Married women, no children	MW, no C	11.1	12.3	1.2
Married men, no children	MM, no C	14.7	14.0	-0.7
Single women with related adult	SW, RA	1.7	2.3	0.6
Single men with related adult	SM, RA	0.8	1.3	0.5
Related women	RW	7.1	6.7	-0.4
Related men	RM	10.2	8.5	-1.7

Table 2 Distribution of earners by gender and family status: March 1980 and March 2012

*Notes*: Based on authors' calculations using CPS data from 1980 and 2012 for all earners over the age of 18. Demographic questions in the CPS refer to the month when the survey is conducted.

Family status is defined by each earner's relationship to other family members in a household and by the presence of children under age 18. We identify six mutually exclusive family relationships for all positive earners age 18 and older for each gender. This generates twelve gender and family statuses: single woman/man adult with any children under age 18, married woman/man adult with any children under age 18, single woman/man adult without any children under age 18, single (unmarried) woman/man adult householder living with other related adults, and related adult woman/man who are not householders nor a spouse of the householder.<sup>10</sup>

Table 2 provides a sense of the relative size of each gender and familystatus type and changes over the period by depicting the percentage of earners by gender and family status in March 1980 and March 2012 and the percentage-point change.<sup>11</sup> Earners in seven gender and family statuses saw an increase in their share among all statuses, while five saw a decrease. The largest increase was among single men with no children, who experienced a 3.8 percentage-point increase, followed by single women without children, married women without children, and single women with children. The largest decreases were among married men and women with children at 5.6 and 2.6 percentage points, respectively.

As expected, in addition to the large differences in representation in the population as a whole seen in Table 2, there is considerable variation in the shares of workers who are LW/LI earners by gender and family status.

#### US LOW-WAGE AND LOW-INCOME WORKERS

Family status	Earners	LW/LI Earners	% LW/LI
Single women, children	4.2	11.6	35.1
Single men, children	1.0	1.5	18.6
Married women, children	13.6	12.5	11.6
Married men, children	18.0	12.0	8.4
Single women, no children	8.6	16.7	23.8
Single men, no children	10.8	17.1	20.0
Married women, no children	11.6	4.4	4.7
Married men, no children	13.8	4.8	4.4
Single women with related adult	1.9	2.5	16.6
Single men with related adult	1.0	0.9	11.5
Related women	6.4	7.0	13.8
Related men	9.1	9.3	12.8
Total	100	100	12.6
Men	53.7	45.6	10.7
Women	46.3	54.4	14.7

*Table 3* Percentage of LW/LI and percentage of all and LW/LI earners by gender and family status for all years (1980–2012)

*Notes*: Based on authors' calculations using CPS data from 1980 to 2012 for all earners over the age of 18. Demographic questions in the CPS refer to the month when the survey is conducted, while employment and income questions refer to the previous calendar year.

This is depicted in Table 3, which displays the percentage of each gender and family status in total employment (column 1) as an overall benchmark, the share of LW/LI workers who fall into a given gender and family status group (column 2), and the percentage of earners who are LW/LI within each status (column 3) for all years. Single women with children are the most overrepresented family status in the LW/LI subsample, comprising 4.2 percent of all employment but 11.6 percent of the LW/LI sample. Married men with and without children, and married women without children, are very underrepresented in the LW/LI subsample. The discrepancy between the percentage of married men with children who are LW/LI (12.0 percent) and the percentage of married women with children who are LW/LI (12.5 percent) is driven by the much larger share of women who are low wage.

Of course, the gender and family statuses that are overrepresented in LW/LI compared to their share in employment also have the highest overall rates of LW/LI. Over one-third (35.1 percent) of single women with children are LW/LI, by far the highest rate among all groups, followed by single women without children at 23.8 percent. The statuses with the lowest rates of LW/LI are married men without children (4.4 percent) and married women without children (4.7 percent).

#### Changes across time

Demographic and human capital differences between LW/LI and non-LW/LI individuals, considerable variation in patterns of change across family statuses between 1980 and 2012, and changing distribution of these demographic characteristics over time, suggest that any analysis of time trends must account for changes through time, especially those that are likely intertwined with LW/LI status. This will be accomplished with regression analysis.

We use a pooled cross-section regression strategy with a large set of dummies and interactions to estimate a time trend for each family status. We begin with no additional controls for demographic, job, and human capital characteristics in the regression (see Equation 1 below). This estimation technique generates identical results to calculating the percentage of all workers who have a low wage and live in a low-income family in each year. This information provides an indication of the size and growth in LW/LI workers by each gender and family status over time. Next, we add demographic, job, and human capital controls. These include each earner's race/ethnicity, education level, age, age squared, metropolitan status (urban versus nonurban), and job class. These controls are related to both the level and distribution of earnings (David H. Autor, Lawrence F. Katz, and Melissa S. Kearney 2008). The share of LW/LI workers by gender and family status for each year is recalculated holding these characteristics fixed (Equation 2 below).<sup>12</sup> This specification is a modified version of a standard earnings equation, where the dependent variable represents a combination of both wage and family income level. The importance of controlling for determinants of wages and income aside from family status is twofold. First, a number of the demographic and human capital variables are correlated with family status (single mothers are disproportionately young, African American, and have lower levels of education). To better understand the association between LW/LI status and gender and family status, we must remove the correlation between gender and family status and these other characteristics that would otherwise operate through them. Second, both the demographic and human capital characteristics have changed significantly over the last forty years. Failure to account for these trends, in particular education, will result is a sizable downward bias in the estimated likelihood of being LW/LI, given that an individual is a member of a particular gender and family status.

First, we estimate a linear probability model of the form given in Equation 1,<sup>13</sup>

$$pr(LW/LI)_{ift} = \alpha + \delta_f + \tau_t + \omega_{ft} + u_{ift}$$
(1)

where i indexes individuals, f indexes family status, t indexes time,  $\delta_f$  is a family-status fixed effect,  $\tau_t$  is a year fixed effect, and  $\omega_{ft}$  is an interaction between  $\delta_f$  and  $\tau_t$ . Second, a linear combination of coefficients is calculated

for each family status in each year, for a total of 396 linear combinations (twelve gender and family statuses over thirty-three years). The linear combinations provide the estimated share of individuals who are LW/LI for each status in each year.

To see how this works, consider Equation 1, where the excluded status category is single women with children and the excluded year is 1979. In this case,  $\alpha$  (the constant term) is the share of single women with children who are LW/LI in 1979 because  $\delta_f$ ,  $\tau_t$ , and  $\omega_{ft}$  are zero. To find the share of single women with children in any given year, simply sum  $\alpha$  with  $\tau_t$  for the corresponding year. For any of the other family statuses,  $\alpha$ ,  $\delta_f$ ,  $\tau_t$ , and  $\omega_{ft}$  must be used. For example, to find the share of single men with children (SM, no C) who are LW/LI in 1993, calculate the sum  $\alpha + \delta_f$ [SM, noC] +  $\tau_t$ [1993]+  $\omega_{ft}$ [1993 x SM, no C].

When the demographic, job, and human capital controls are added, as in Equation 2, the logic of the time-trend estimation process is the same, but the method to estimate the yearly means must be modified slightly. Without controls,  $\alpha$  is the share of single women with children (the excluded category) who are LW/LI in 1979. With controls  $\alpha$  no longer has this interpretation, but the share of single women with children who are LW/LI is still the baseline quantity that is used to calculate the shares of all other groups in all other years. Instead of building on  $\alpha$  directly, the marginal effect of being a single mother in 1979 is evaluated, holding the controls at their respective means. The marginal effect replaces  $\alpha$  in the calculations described earlier.

$$pr(LW/LI)_{ift} = \alpha + \delta_f + \tau_t + \omega_{ft} + \gamma \mathbf{X}_{ift} + u_{ift}$$
(2)

This estimation strategy is infrequently used for analyzing changes through time; but it has several advantages over the more familiar quasi-panel approach.<sup>14</sup> In the quasi-panel approach, cross-section data is used to create group level statistics for each year, which can then be analyzed using conventional panel data methods. For the present purposes, the approach used here has a distinct advantage over the quasi-panel approach: it allows for more powerful tests of the significance of trends over time. The quasi-panel approach would transform a dataset with roughly 2.7 million observations into one with 396 observations (twelve gender and family statuses times thirty-three years). This relatively small number of observations, combined with family status fixed effects, makes tests of significance of trends between groups far less powerful. It would be possible to test whether the overall trend for the entire period is significant, but it would not be possible to break this down into smaller segments. As will be seen, there is significant variation in growth of LW/LI by time period. This information would be lost using a quasi-panel approach.

The estimated share of a particular gender and family status in a given year is actually the sum of three coefficients. In order to determine whether

the share of LW/LI has increased or decreased over time, we must first determine a set of reference years (in our case, trough years of the business cycle) and perform the auxiliary *t*-tests described above. So instead, we test for the time trend by comparing trough years in the business cycle. While this technique has the advantage of being a more flexible functional form, it has the disadvantage of being potentially sensitive to the start and end dates of the period of evaluation. The advantage of being able to perform more precise significance tests, as well as being able to articulate both overall and subperiod trends, outweighs any disadvantages this approach may have.

Panel A of Figure 2 gives the results of estimating Equation 1, while Panel B shows the results of estimating Equation 2. There are four gender and family statuses that show an overall upward trend in the share who are LW/LI without regression controls: single women with children (SW, C), single men with children (SM, C), married men with no children (MM, no C), and single men with no children (SM, no C). There are three gender and family statuses that show a downward trend beginning in 1982 in share who are LW/LI: married women with children (MW, C), married women with no children (MM, no C). The remaining statuses show little discernible trend.

Panel B in Figure 2 repeats the same exercise as panel A, but includes the regression controls mentioned above. Two major changes are apparent. First every family status shows a clear upward trend over the time period. That is, the share of all earners, regardless of gender and family status and adjusting for various human capital, demographic, and job characteristics who are LW/LI is increasing over time. Second, three groupings by level of the share of LW/LI emerge in Panel B of Figure 2 by the end of the time period under study. The first two groupings are comprised of single-adult householders. Single mothers (SW, C) remain the group with the highest levels by far, followed by single women with no children (SW, no C). Three gender and family statuses emerge as a second cluster in the middle: single fathers (SM, C), single men with no children (SM, no C), and single women heads of household living with related adults (SW, RA). The remaining workers are clustered at the bottom, with married women with children (MW, C) being the highest of this group and other related male adults (RM) the lowest of the group and overall.

The tests of linear combination of coefficients with and without controls, reported in Table 4, supports the results observed in Panel B of Figure 2. The full time period is divided into three periods corresponding to the troughs of major business cycles: 1983–91, 1991–2002, and 2002–09.<sup>15</sup> These years are chosen to coincide as closely as possible with the trough of recessions identified by the National Bureau of Economic Research (2013) since the early 1980s. Choosing trough rather than peak years allows for the inclusion of possible changes as a result of the Great Recession.

There is considerable variation in growth by time period both within and across family statuses. Without regression controls, across the entire time period there is an even split between groups where LW/LI increases and groups where LW/LI decreases. The group with the largest decrease



*Figure 2* Estimated share of LW/LI earners by gender and family status: 1979–2011 *Notes:* Based on authors' calculations using CPS data from 1980 to 2012 for all earners over the age of 18. Graphs depict linear combinations of the coefficients from Equation 1 (Panel A) and Equation 2 (Panel B). All regressions include year fixed effects, family status fixed effects, and the interaction between year and family status fixed effects. Additional regression controls in Panel B include race/ethnicity, education level, age (and age squared), job class of worker, and metropolitan status. See Table 2 for unabbreviated family-status description.

is married women with children at 5.3 percentage points, most of which occurs during the 1990s. The group with the largest increase is single men with children at 6.8 percentage points, most of which occurs during the 1980s.

When controls are added, as seen in Panel B of Figure 2, almost all gender and family statuses experience an increase in LW/LI both across the entire period, and within each subperiod. Importantly, once we control for age, aged squared, education level, metropolitan status, and class of worker, there is still variation in the magnitude of the increase in LW/LI status; but every family status except one experiences a statistically significant increase in percent LW/LI between 1983 and 2009. Single fathers fared the worst, with an overall increase of 9.9 percentage points, followed by single women with children (5.6 percentage points), single men without children (5.4 percentage points), and single men with a related adult (5.2 percentage points). The groups with slow growth are married mothers (0.5 percentage points), related men (0.9 percentage points), related women (2.0 percentage points), and married men without children (2.0 percentage points).

## Government and employer supports for LW/LI workers

As demonstrated, the share of LW/LI workers is growing among all workers. That the share of LW/LI men, including married men (those thought to be traditional breadwinners), is increasing is consistent with the earnings literature that finds wage stagnation of male earners at the bottom of the wage ladder. But the fastest growing and among the highest levels of LW/LI workers are those who are considered to be less traditional but nonetheless main breadwinners, namely single adult heads of household with and without children. We now turn to the question of whether those with low wages and low family income are able to supplement their earning through access to social protections in the form of voluntary employer benefits and/or noncash government supports or, if not, which types of workers are more likely to slip through the cracks of these sets of social protection.

To the degree that both government antipoverty and employer benefit policies are shaped by gender, family and earning status, as suggested earlier, we would expect to see two distinct patterns. First, that married male breadwinners (and through them their wives) are more likely to receive employer benefits, even after controlling for LW/LI status. Second, that as targets of antipoverty programs we expect that single mothers are more likely to receive those government benefits, even while controlling for low levels of income.

The first three columns of Table 5 provide the results of linear probability regressions that explore the level of two employer supports available and used by LW/LI workers compared to other workers. Column 1 estimates the

ŀ	Regression type	Fam. Stat.	1983	1991	2002	2009	1991–1983	2002–1991	2009–2002	2009–1983	
N	No Controls	SW, C	0.326	0.347	0.336	0.348	0.021**	-0.011	0.012*	0.022***	
N	No Controls	SM, C	0.137	0.177	0.185	0.206	$0.040^{*}$	0.008	$0.020^{*}$	$0.068^{***}$	
N	No Controls	MW, C	0.154	0.139	0.094	0.100	$-0.015^{***}$	$-0.045^{***}$	$0.007^{*}$	$-0.053^{***}$	C
Ν	No Controls	MM, C	0.089	0.094	0.081	0.086	0.005	$-0.013^{***}$	$0.005^{*}$	-0.004	S
Ν	No Controls	SW, no C	0.247	0.245	0.245	0.254	-0.002	0.000	$0.009^{*}$	0.007	Ľ
N	No Controls	SM, no C	0.186	0.202	0.197	0.224	0.016***	-0.005	$0.027^{***}$	0.038***	M
Ν	No Controls	MW, no C	0.067	0.053	0.039	0.044	$-0.014^{***}$	$-0.013^{***}$	0.005	$-0.023^{***}$	LOW-WAGE
N	No Controls	MM, no C	0.060	0.049	0.040	0.037	$-0.011^{**}$	$-0.009^{**}$	-0.003	$-0.023^{***}$	VA
N	No Controls	SW, RA	0.175	0.162	0.175	0.190	-0.013	0.013	0.016	0.015	G
N	No Controls	SM, RA	0.091	0.110	0.118	0.122	0.019	0.008	0.005	0.032**	
Ν	No Controls	RW	0.151	0.140	0.125	0.147	$-0.011^{*}$	$-0.015^{**}$	0.022***	-0.004	AND
Ν	No Controls	RM	0.147	0.142	0.125	0.141	-0.005	$-0.017^{***}$	0.016***	-0.006	D
_ C	Controls	SW, C	0.285	0.319	0.325	0.341	0.034***	0.006	0.016***	0.056***	Ľ
-1 C	Controls	SM, C	0.100	0.148	0.169	0.199	0.048**	0.021	0.031***	$0.099^{***}$	OW-
C	Controls	MW, C	0.134	0.142	0.124	0.139	$0.008^{*}$	$-0.018^{***}$	$0.015^{***}$	0.005	
C	Controls	MM, C	0.074	0.099	0.106	0.116	0.025***	$0.007^{**}$	0.010***	0.042***	NC
C	Controls	SW, no C	0.239	0.257	0.262	0.274	$0.018^{***}$	0.004	$0.013^{***}$	$0.035^{***}$	2
C	Controls	SM, no C	0.169	0.196	0.192	0.223	$0.027^{***}$	-0.004	0.032***	$0.054^{***}$	OME
C	Controls	MW, no C	0.068	0.080	0.085	0.097	0.012**	0.005	0.012***	0.029***	Ε
C	Controls	MM, no C	0.061	0.072	0.080	0.082	0.010**	$0.008^{*}$	0.002	0.020***	×
C	Controls	SW, RA	0.165	0.168	0.186	0.197	0.003	$0.018^{*}$	0.011	0.032***	
C	Controls	SM, RA	0.046	0.083	0.085	0.097	0.037**	0.002	0.013	0.052***	RK
C	Controls	RW	0.074	0.080	0.061	0.094	0.007	$-0.019^{***}$	$0.033^{***}$	0.020***	ORKERS
C	Controls	RM	0.054	0.061	0.039	0.064	0.006	$-0.022^{***}$	0.025***	$0.009^{*}$	RS

Table 4 Estimated means of LW/LI earners and significance tests across business cycles by gender and family status

*Notes:* Based on authors' calculations using CPS data from 1980 to 2012 for all earners over the age of 18. Reports *t*-tests of the equality of linear combinations of coefficients from the results of estimating Equation 1 in the top panel, and Equation 2 in the bottom panel, depicted in Figure 2. These are tests for the equality of means at two points in time using point estimates represented in Figure 2. Years correspond as closely as possible to business cycle troughs. See Table 2 for unabbreviated gender and family-status descriptions. \*\*\*, \*\*, \* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

		Full sample			Low income <sup>e</sup>		
Variables	Insurance <sup>a</sup>	Emp. Ins <sup>b</sup>	Pension <sup>c</sup>	Food St. <sup>d</sup>	Public Ins		
LWLI	-0.203***	$-0.315^{***}$	$-0.181^{***}$				
	[0.001]	[0.001]	[0.001]				
Alt. LWLI <sup>f</sup>				$-0.041^{***}$	$-0.144^{**}$		
				[0.001]	[0.001]		
SM, C	$-0.086^{***}$	$0.015^{***}$	$0.022^{***}$	$-0.193^{***}$	$-0.241^{**}$		
	[0.002]	[0.002]	[0.003]	[0.003]	[0.003]		
MW, C	$0.058^{***}$	$0.192^{***}$	$0.012^{***}$	$-0.257^{***}$	$-0.239^{**}$		
	[0.001]	[0.001]	[0.001]	[0.002]	[0.002]		
MM, C	$0.013^{***}$	$0.126^{***}$	$0.073^{***}$	$-0.258^{***}$	$-0.267^{**}$		
	[0.001]	[0.001]	[0.001]	[0.002]	[0.002]		
SW, no C	$-0.052^{***}$	$0.045^{***}$	$0.018^{***}$	$-0.280^{***}$	$-0.202^{**}$		
	[0.001]	[0.001]	[0.002]	[0.002]	[0.002]		
SM, no C	$-0.107^{***}$	$0.009^{***}$	$0.010^{***}$	$-0.302^{***}$	$-0.231^{**}$		
	[0.001]	[0.001]	[0.001]	[0.002]	[0.002]		
MW, no C	0.009***	$0.150^{***}$	0.009***	$-0.346^{***}$	$-0.234^{**}$		
	[0.001]	[0.001]	[0.001]	[0.002]	[0.002]		
MM, no C	$-0.006^{***}$	$0.135^{***}$	$0.067^{***}$	$-0.339^{***}$	$-0.198^{**}$		
	[0.001]	[0.001]	[0.001]	[0.002]	[0.002]		
SW, RA	$-0.067^{***}$	0.040***	0.006***	$-0.152^{***}$	$-0.205^{**}$		
	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]		
SM, RA	$-0.134^{***}$	$-0.011^{***}$	0.004	$-0.267^{***}$	$-0.255^{**}$		
	[0.002]	[0.003]	[0.003]	[0.004]	[0.004]		
RW	$-0.074^{***}$	0.061***	$-0.045^{***}$	$-0.197^{***}$	$-0.187^{**}$		
	[0.001]	[0.002]	[0.002]	[0.002]	[0.002]		
RM	$-0.133^{***}$	0.020***	$-0.041^{***}$	$-0.244^{***}$	$-0.235^{**}$		
	[0.001]	[0.001]	[0.002]	[0.002]	[0.002]		
Constant	0.953***	0.267***	-0.323***	0.503***	0.789***		
	[0.002]	[0.003]	[0.003]	[0.003]	[0.003]		
Ν	2,706,874	2,706,874	2,706,874	1,182,911	1,182,911		

Table 5 Regressions for receipt of employer and government benefits

*Notes:* Based on authors' calculations using CPS data from 1980 to 2012 for all earners over the age of 18. All regressions include year fixed effects and family status fixed effects. Additional regression controls include race/ethnicity, education level, age (and age squared), job class of worker, and metropolitan status. Regressions for full sample also include full-time, full-year employment. Standard errors are in brackets and are clustered on the state and year. \*\*\*, \*\*, \*\* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

<sup>a</sup>Covered by any health insurance, including government sponsored.

<sup>b</sup>Covered by employer-sponsored health insurance.

<sup>c</sup>Eligible for, but not necessarily participating in, employer-sponsored pension plan.

<sup>d</sup>Presence of Food Stamps in the household.

<sup>e</sup>Low-income subsample includes individuals with zero, but not negative, earned income.

<sup>f</sup>Alt. LW/LI = 1 if individual is LW/LI with positive income, Alt. LW/LI = 0 if individual is low income but not low wage, including those with zero earnings.

probability of being covered by any health insurance, including government provided;<sup>16</sup> column 2 estimates the probability of being covered by employer-provided health insurance (either directly or through a spouse); and column 3 estimates the probability of being eligible to participate in an employer-provided pension plan. Of the variables available in the CPS, the latter two are the only ones that measure employer-provided benefits. All regressions include race/ethnicity, education level, age and age squared, metropolitan status, job class of worker, year fixed effects, and gender and family status fixed effects. Regressions in columns 1, 2, and 3 also include full-time/full-year employment status.<sup>17</sup>

Beginning with employer-provided benefits, compared with all non-LW/LI workers, LW/LI workers are 20.3 percentage points less likely to be covered by any health insurance plan (including a government-sponsored plan), 31.5 percentage points less likely to be covered by an employerprovided health-insurance plan, and 18.1 percentage points less likely to be eligible to participate in an employer-provided pension plan.

As expected, there is considerable variation in receipt of benefits across gender and family statuses. In all regressions, the excluded status is single women with children. There are far too many coefficients to fully discuss all family statuses, so we will limit attention to a few interesting results. First, as suggested earlier, there is a clear distinction between the experiences of married versus unmarried individuals. Considering employer-provided benefits, the relative magnitudes of the coefficients on the dummy variables indicate that coverage rates among married individuals are considerably higher than they are among unmarried individuals. These findings provide substantial support for the arguments that gender and family status shapes the types of jobs individuals wind up in, which in turn shapes the types of employer benefits they receive.

Column 1 indicates that, all else equal, single women with children have the fourth highest health insurance coverage rate, behind married women with children, married men with children, and married women without children. But this includes receipt of government insurance, which is consistent with the development of the antipoverty health insurance (Medicaid) program in the United States. Results in column 2, however, indicate that with the exception of single men living with related adult family members, single women with children are the least likely to be covered by an employer-sponsored health insurance plan. This result complements the finding of the higher degree of either eligibility or take-up of public health insurance among single women with children. Single women with children are also among the least likely groups to be eligible for an employer-provided pension, while married women and men with and without children have by far the highest probability of being covered.

Low-wage workers, especially those whose income falls between 100 and 200 percent of the federal poverty income threshold, often make too much

to be eligible for most government means-tested supports. Just over 60 percent of all LW/LI workers fell into this range from 1979 to 2011. The CPS data have limited information on public supports and since the data are not longitudinal, we cannot easily test for the loss of government supports as earnings change. However, we can compare LW/LI workers to other low-income adults, including those with no earnings.

In columns 4 and 5 of Table 5, we look at the probability of using two government supports that might be available to low-income adults and for which we have information. One widely used benefit with uniform income eligibility thresholds across the states is the food assistance program, Food Stamps (currently called SNAP). Regressions for the presence of Food Stamps in the household show that LW/LI workers are indeed less likely than other low-income adults to have Food Stamps in the household. The other government support we explore is government-sponsored health insurance, which includes Medicare (health insurance program for persons 65 and older), Medicaid, and the health insurance program for military veterans. LW/LI earners are 14.4 percentage points less likely to be covered by public health insurance than those with low income but who are not low wage. Appendix Table A.1 provides eligibility information about Food Stamps/SNAP and Medicaid.

As predicted, single mothers with children are by far the most likely gender and family status to have Food Stamps in the household and the most likely to be covered by public health insurance. To some extent, this is because singlemother earners have lower family income than other low-income groups. But to some extent this is the result of explicit public policy. Families with children are more likely to qualify for Food Stamps at higher levels of income than those in families without children because net income eligibility rules allow for deductions of childcare costs. States determine income eligibility rules for Medicaid; and while these vary considerably for adults (and have varied over time), in most states employed adults in families without children are not eligible. Regardless, married men and women with children and married men with children are among the least likely family statuses to be covered by public health insurance. While low-income married men and women with children are more likely than adults without children to be eligible to receive Food Stamps, they are almost 26 percent less likely to get them than single mothers. Married men and married women without children are the least likely to have Food Stamps in the household.

The much lower incidence of employer-sponsored health insurance and pension plan coverage among LW/LI workers, coupled with the lower incidence of public supports, are the strongest indicators that LW/LI workers can and do fall through the cracks of publicly and privately provided benefits, leaving them in a precarious economic position. Further, both sets of benefits are differentially accessed by gender and family status, even among LW/LI individuals, providing some empirical support for the existence and perpetuation of a male-breadwinner model when it comes to this limited set of social protections.

## CONCLUSION

The share of LW/LI earners has increased over time, but the level and changes over time vary considerably by gender and family status. When estimating shares holding a range of human capital, demographic, and job characteristics constant, all gender and family status groups have seen their shares rise. The groups seeing the largest increases include traditional (married men with children) and less traditional breadwinners (single-adult head-of-household families). The changes in the levels are consistent with what one would expect from US earnings inequality trends, particularly among male earners and with the employment promotion policies directed toward single mothers over this period. The gender and family statuses that experience the highest levels of being LW/LI are single heads of household, including those without children. Even though the CPS data offer limited ways to measure the availability and use of employer-based and governmentprovided benefits, we find unequivocally that LW/LI workers are caught without those protections. Further, gender and family status plays a role in determining which type of social protection a LW/LI earner is likely to receive. Employer-based benefits are more likely to go to traditional breadwinners and their families, while antipoverty programs are still more likely to aid single mothers. Single adults without children are among those with the highest levels of LW/LI workers, yet are the least protected by government antipoverty policies and less likely to get employer-based supports than married adults. This is occurring as we witness the rise of single-adult families and breakdown of the traditional breadwinner model, the decline in male earnings, and the rise of wives' earning contributions to families.

Being employed but low income is a problem that many single mothers face; but, as we have shown, it is a growing problem for many other adults – especially those who are unmarried. The trends uncovered here provide empirical evidence of the gendered and heteronormative nature of US social protection polices, especially as their regard low-wage earners. Compared to other developed countries, the US stands out as an outlier in terms of its reliance on voluntary employment-based supports. Despite pursuing antipoverty policies that promote employment, the US sorely lacks the sets of employer-based and government policies that form the foundation of minimum employment and living standards. The US could easily look to other countries that provide much more extensive employment and universal policy options for measures to adopt that would help solidify its social protection system; but even marginal measures would help. For example, the extension of the current set of employer-based benefits, such

as paid time off or health insurance to all workers;<sup>18</sup> revamping antipoverty programs to better accommodate earnings and reach further up the income ladder (as the EITC already does); and extending antipoverty program coverage to more single adults would all likely reduce the hardships faced by LW/LI workers.

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## ACKNOWLEDGMENTS

We thank the anonymous reviewers for their helpful feedback and suggestions.

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#### NOTES

<sup>&</sup>lt;sup>1</sup> Many of the chapters of the edited volumes by Eileen Appelbaum, Annette Bernhardt, and Richard J. Murnane (2003) and Jérôme Gautié and John Schmitt (2010) are devoted to case studies of workers in low-income industries.

<sup>&</sup>lt;sup>2</sup> Beginning in 2015, employers with 100 or more full-time employees will be assessed a fine if they do not provide adequate healthcare insurance to their employees.

- <sup>3</sup> Recent review articles, reports, and books addressing trends in poverty, including poor and low-income workers, are Sheldon H. Danziger and Peter Gottschalk (2004); Rebecca M. Blank, Sheldon H. Danziger, and Robert F. Schoeni (2006); Acs and Nichols (2007); and Gregory Acs, Pamela Loprest, and Caroline Ratcliffe (2010).
- <sup>4</sup> The US Census Bureau's Survey of Income and Program Participation data provide better and more detailed information on the use of government benefits; but the survey starts later (1984), has many fewer observations, and is serially longitudinal for unequal intervals of time.
- <sup>5</sup> Typically, when using the hourly wage in the Current Population Survey, outliers are a problem because the hourly wage must be calculated for salaried workers. Because we are using a ratio of the wage to the median wage by state, there is less concern about the presence of very high wages. We believe that leaving the abnormally high wages in the sample is preferable to removing them, which would potentially overestimate the number of low-wage workers.
- <sup>6</sup> Annual hours worked are calculated by weeks worked last year divided by usual hours worked last year. Since we are most interested in a typical hourly wage, this measure works well for our purposes, even though usual weeks worked can vary considerably for some workers. Nominal wages and income are converted to real wages and income using the CPI-U-RS.
- <sup>7</sup> Supplemental Table 1 is available online at the publisher's website at http://dx.doi.org/ 10.1080/13545701.2014.886125.
- <sup>8</sup> While this may not be a good assumption in households with complicated living arrangements, any alternative assumptions create more problems.
- <sup>9</sup> From 1996 to 2011, the average share of single mothers that are LW/LI workers falls by 0.007, single fathers share declines by 0.04, single women without children LW/LI share falls by 0.015, single men without children falls by 0.002, married mothers share increases by 0.009, married fathers share increases by 0.008, married women without children share increases by 0.006, and married men without children share increases by 0.005.
- <sup>10</sup> For single-parent family status designations, there must be no other related adults living in the household other than adult children of the head (single grandparents are included when no adult parent is present). In married male/female, there may be other adults (including adult children) living in the family, and those designated as single unmarried head with other family members may include children under 18.
- <sup>11</sup> Income and employment questions in the CPS are retrospective, while the demographic questions are not. Thus, income and employment data range from 1979 to 2011, while demographic data range from 1980 to 2012.
- <sup>12</sup> This process is similar to the nonparametric approach used in DiNardo, Fortin, and Lemieux (1996), with three distinct differences: the estimation technique is parametric (ordinary least squared [OLS]), the variable of interest is dichotomous instead of continuous, and all years of data are used rather than two points in time.
- <sup>13</sup> We use a linear probability model for two reasons. First, as William Greene (2004) suggests, probit and logit models may be inconsistent when estimating a large number of coefficients on binary variables, as we do here. Second, as Jorn-Steffen Pischke and Joshua Angrist (2008) suggest, linear probability models and nonlinear limited dependent-variable models result in almost identical coefficient magnitudes when the dependent variable is not a very low probability event. But, because a linear probability model is an OLS regression, the coefficients are directly interpretable; and importantly, one does not need to make arbitrary decisions about what values of the independent variables to estimate marginal effects. Standard errors in the regressions are clustered on the state and year to adjust for correlation in outcomes within a given state and

year (state specific unobserved shocks are common to all individuals in a state). This procedure also adjusts for heteroscedasticity. Autocorrelation is not a concern, as this is pooled cross-section data.

- <sup>14</sup> See Autor, Katz, and Kearney (2008) for examples of the quasi-panel approach.
- <sup>15</sup> We perform a similar analysis using NBER peak years instead (1980, 1990, 2001, and 2007). The results are qualitatively very similar, but with two exceptions: the increase in the respective shares of single women without children, and single women with a related adult, are not statistically significant across the entire time period (1980–2007). This reflects the impact of the Great Recession on this group, which is entirely missed by using peak years.
- <sup>16</sup> The CPS has revised the health insurance variable several times between their surveys conducted in 1980 and 2012. The revisions make it very difficult, if not impossible, to compare coverage rates through time. However, because the regressions include year dummies, the lack of comparability is not a problem for interpretation of the results.
- <sup>17</sup> Full regression results are available from authors upon request.
- <sup>18</sup> "Obamacare," or the Affordable Care Act, passed in 2009, provides incentives for employers to provide health insurance for all workers, but it does not require it.

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Program: eligible groups	Government level setting income eligibility rules	Income eligibility thresholds	Phase-out scheme	
Food Stamps/SNAP: Individuals and families**	Federal	Gross income can be no more than 130% of the FPL and net income cannot exceed 100% FPL*	About 30 cents for every additional dollar of income	
TANF: Families with children**	State	Varies by state, usually based on some outmoded standard of need. In dollar amounts, they range from 18% to 102% of FPL. Only one state (Alaska) exceeds the FPL	Varies tremendously by state. Most states allow recipients to keep a flat monthly amount (\$90–250) and then reduce benefits by a percentage ranging from no reduction to 90 cents on every additional dollar of income	
Medicaid: Nondisabled adults without children***	State	Varies by state and by employment status (12–215% of FPL)	Ineligible once income reaches eligibility threshold	
Medicaid: Adults with dependents***	State	Only eight states and the District of Columbia provided full benefits. Thresholds vary by state and employment status (55–211% of FPL)	Ineligible once income reaches eligibility threshold	

## Table A.1 Eligibility provisions for four key antipoverty programs

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(Continued).

US LOW-WAGE AND LOW-INCOME WORKERS

Table A.1 Continued.

Program: eligible groups	Government level setting income eligibility rules	Income eligibility thresholds	Phase-out scheme
EITC: Single and married tax filers with and without children**	Federal (states can add separate programs, which are usually some percentage of the federal EITC)	Varies by filer type and number of children, ranging from about 120% FPL for childless files to as much as 230% of the FPL for families with one child	Levels vary by filer type and number of children. Credit increases when earnings start and then flatten out. For filers with children, the credit starts to decrease at income of about 100 of FPL at rate of 16–21 cents (depending on the number of children) per additional dollar of income

FPL, Federal poverty level.

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\*Net income allows for deductions for housing and childcare costs.

\*\*Applies to levels in 2011.

\*\*\*Applies to levels for 2013. In 2014, the Affordable Care Act will expand coverage for all adults up to 138% of the FPL through Medicaid. However, states do not have to opt into the program if they do not wish to do so. Levels differ for pregnant women.

*Notes:* This table greatly simplifies the provisions. Income eligibility rules for nontax programs are complicated and often vary for particular classes of recipients (pregnant women, immigrants). There are other eligibility rules for all programs, including work requirements, asset limits, student status, and citizenship status. *Sources:* David Kassabian, Anne Whitsell, and Erika Huber (2012); Center for Budget and Policy Priorities (2013); Kaiser Family Foundation (2013); Christine Scott (2013).