

Does Welfare Participation Affect Women's Wages?*

Mary C. Noonan, *University of Iowa*

Colleen M. Heflin, *University of Kentucky*

Objectives. This study examines how welfare participation and employment affect women's wages. *Methods.* We use longitudinal data from the 1996 Survey of Income and Program Participation and fixed-effects regression models to test our hypotheses. *Results.* Our results indicate that time spent on welfare while unemployed results in a wage penalty that is similar to the penalty associated with nonwelfare work breaks. Time spent on welfare while employed has no effect on wages, unlike the strong positive impact of nonwelfare work periods. *Conclusions.* Working while on welfare does appear to prevent further wage deterioration, but does not lead to substantial wage growth.

The 1996 Welfare Reform Act changed the orientation of welfare policy from an education and skill-building strategy toward a "work-first" approach, stressing rapid labor force attachment as the best avenue toward self-sufficiency. Work requirements, time limits, and an increased earnings disregard are all important aspects of welfare reform, intended to promote work and discourage nonwork among welfare recipients (reviewed in Corcoran et al., 2000). Implicit in this overall approach is an assumption that time out of the labor force—for any reason—is detrimental to the future economic prospects of women on welfare.

Standard economic theory predicts that women who leave the labor market will receive lower starting wages when they return to work because of job skill deterioration during the period of nonwork, job mismatch, and employer discrimination (Corcoran, 1979; Mincer and Polacheck, 1974). A large body of empirical work has found that prior employment breaks do indeed have a significant negative effect on women's earnings (Corcoran and Duncan, 1979; Felmlee, 1995; Mincer and Ofek, 1982; Mincer and Polacheck, 1974; Stratton, 1995). Like other types of employment breaks, prior

*Direct correspondence to Mary Noonan, Department of Sociology, University of Iowa, W140 Seashore Hall, Iowa City, IA 52242-1401 (mary-noonan-1@uiowa.edu). The authors will share all data and coding information with those wishing to replicate the study. The authors thank Chang Liu and Wie Yusuf for research assistance. They also thank Jim Ziliak and participants in the University of Kentucky's Center for Poverty Research seminar series for comments on an earlier draft of this article. This research was supported by the Northwestern University/University of Chicago Joint Center for Poverty Research.

welfare spells may negatively impact earnings if welfare recipients do not work during welfare spells and lose valuable labor market skills.

However, there are a number of reasons why time on welfare may have a different impact on wages compared to more general nonwork periods. First, time spent on welfare and out of work may not cause wages to decline because many welfare recipients earn close to the minimum wage and therefore their wages cannot decrease any further (Burtless, 1995; Loeb and Corcoran, 2001). Second, the earnings penalty associated with time on welfare may be even larger compared to the earnings decline associated with other unemployed periods if employers more heavily stigmatize welfare recipients, resulting in less desirable job opportunities and lower wages for recipients (Acs, 1990). Finally, for women who work during a welfare spell, time spent on welfare may actually have a positive effect on future earnings if the work experience accumulated during the spell leads to higher wages. Wages may also increase due to time on welfare if welfare recipients take part in programs designed to address barriers to employment and/or improve "soft skills" (e.g., how to dress for a job interview). These skills might help welfare recipients secure better jobs, leading to higher wages.

Using longitudinal data from the 1996 Survey of Income and Program Participation (SIPP), we conduct the first large-scale empirical test of the effect of welfare participation on women's wages using fixed-effects models correcting for time-invariant unmeasured heterogeneity. To incorporate the effects of important policy changes put into place in 1996, we differentiate between time spent unemployed and on welfare and time spent employed and on welfare. We then compare the effects of these two states to the effects of nonwork/nonwelfare periods and work/nonwelfare periods. This comparison allows us to implicitly test our theories of the impact of welfare participation on women's wages. The results from our analysis are robust to efforts to correct for endogeneity and nonrandom sample selection.

This article makes a number of important contributions to research in the area of welfare, women, and work. To begin, we provide another dimension from which policymakers can evaluate the effects of welfare receipt on women's labor market trajectories. For instance, if we find that time on welfare while unemployed hurts women's wage growth, then the new federally mandated work requirements might help bolster or at least stabilize women's future earnings by encouraging them to reenter the labor force more quickly. If, on the other hand, we find that time on welfare has a positive effect on wages, it may mean that the transitional support services are enabling recipients to improve their skills and earnings opportunities while on welfare. We examine the wages of women over the years 1996–1999, a time period when wages among less-skilled women were at their highest point and female unemployment rates were at their lowest point in several decades (Blank, 2002). Examining these relationships during a period of robust economic expansion offers us the best possible opportunity to observe wage growth for the low-skilled population of women on welfare.

Our study also extends earlier research in this area by utilizing a data set with precise month-by-month welfare and work histories. These histories allow us to differentiate the effects of various combinations of attachment to welfare and detachment from the labor market. In doing so, our study bridges literature examining the labor market outcomes of welfare recipients with that focusing on the economic consequences of work interruptions for women more generally. Finally, although the proportion of custodial mothers receiving AFDC/TANF has fallen over the 1990s, from 26 percent in 1993 to 6 percent in 2001 (Grail, 2003), women on welfare remain a significant proportion of the population—and are frequently the subject of policy debate—and thus warrant special study.

Background

Work Interruptions

Many studies have examined the role of work interruptions on earnings (Corcoran and Duncan, 1979; Felmlee, 1995; Mincer and Ofek, 1982; Mincer and Polachek, 1974; Stratton, 1995). This research consistently finds that periods of unemployment directly lower women's wages. Although point estimates range from 0.6 percent to over 5 percent per year, most are around 2 percent per year.

A number of explanations have been proposed for why work interruptions lead to wage depreciation, including the deterioration of relevant skills, job mismatch, and employer discrimination. Mincer and Polachek (1974) argue that dropping out of the labor force for long periods of time reduces women's wages because past skills acquired in school or on the job deteriorate, becoming rusty through lack of use. Others have argued that women re-entering the labor force may encounter problems finding work and may take jobs that are lower in status and pay than the ones held before leaving the workforce (Corcoran, 1979; Felmlee, 1995). Finally, employers may perceive a work interruption as indicating a lack of current skills and commitment to work. They may assume that further interruptions will occur, that conflicts will arise between work and home demands, or that the returning employee is not as dedicated a worker as employees who did not leave the workforce. This view may be reflected in reduced promotion possibilities, lower-status job assignments, and other actions that reduce wage earning potential (Jacobsen and Levin, 1995). The magnitude of wage depreciation is likely to vary depending on a variety of factors, including the duration of the break and a woman's education and occupation.

Welfare Participation

Wage and Skill Distribution. Time out of the labor force may have no effect on welfare women's wages because of their already low levels of human

capital and work skills. Many women on welfare work in low-wage jobs prior to their participation in the welfare program. As a result, the minimum wage floor may “protect” them from any further decline in wages (Burtless, 1995; Loeb and Corcoran, 2001). Similarly, if women on welfare possess few depreciable job skills before the begin welfare, they may not be adversely affected by periods of welfare participation (Loeb and Corcoran, 2001).

Welfare Stigma. Welfare participation combined with nonwork may depress wages even *more* than generic periods of unemployment if welfare stigma is widespread in the labor market. If employers systematically offer lower wages to welfare participants because they perceive participants to have personal attributes or family responsibilities that make them poor workers, employers are said to be engaging in statistical discrimination. Because welfare recipients are not required to inform employers that they are or have been welfare recipients, the employer may infer this from her marital status, number of children, or work history (Acs, 1990). Drawing on Goffman’s (1963) conceptualization of stigma, Besley and Coate formalize this argument by applying the economic concept of statistical discrimination to welfare participation.

Society is assumed to value particular individual characteristics, such as self-reliance and a willingness to work hard, and welfare claimants are perceived to lack them. Hence, if it is known that an individual is on welfare, other individuals will infer that this individual will likely possess some blemish of character. (1992:170)

In addition to the personal deficits attributed to women on welfare, employers may also believe that welfare recipients are unreliable employees because, as single mothers, they have full responsibility for child-related emergencies that could interfere with work—such as a sick child (Browne and Kennelly, 1999).

The few empirical studies that examine statistical discrimination based on welfare status do find evidence that it exists. Holzer (1996) reports that 82 percent of central-city and 84 percent of suburban employers interviewed in the Multi-City Study of Urban Inequality would “definitely accept” or “probably accept” an employee if they knew she was a welfare recipient. This can either be viewed as a high rate of acceptance or as evidence that over 15 percent of employers are unwilling to hire welfare recipients. The National Partnership for Women and Families (1999) surveyed the organizations that help low-income women find jobs to identify obstacles that low-income women face in securing paid work. Three out of five survey respondents say that employers are “often” reluctant to hire a welfare recipient (59 percent), and about one in four (23 percent) state that employers “often” do not want to pay welfare recipients the same wages as other workers doing the same job. Finally, based on a series of focus group

interviews with welfare mothers, Jarrett (1996) finds that welfare recipients report experiencing stigmatizing treatment from employers. In fact, some recipients describe trying to conceal their welfare status from employers in order to avoid discriminatory treatment.

Work Continuity. If women combine work and welfare they may improve their human capital, leading to higher wages. Since the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PROWRA), the percentage of women combining work and welfare has increased dramatically. For instance, from 1994 to 1998, the employment rate of adults on welfare rose threefold from 9.7 to 28.3 (Committee on Ways and Means, 2000). Two modifications to the welfare program were largely responsible for the increase in the number of women combining work and welfare: an increased earnings disregard and work requirements.

Before welfare reform, the average "earnings disregard" was less generous and thus made combining work and welfare economically unattractive. A small earnings disregard will offset increases in a welfare recipient's earned income with cuts to her welfare benefits, making her financially little better off by working than receiving welfare alone. However, since PROWRA was instituted, 36 states have increased the earnings disregard, allowing recipients to earn more money before their welfare benefits are reduced (Acs et al., 1998). This programmatic change has made combining work and welfare more sensible for many women.

The increase in the earnings disregard was designed to "pull" recipients into the labor force; work requirements were implemented to "push" recipients into the labor force. Under PROWRA, recipients must engage in work activities within 24 months of receiving assistance or at the time they are deemed work ready (Corcoran et al., 2000). As a result of these two programmatic changes, women are now more likely to combine welfare with paid employment, and thus a period on welfare no longer necessarily implies a period out of the labor force.

Does additional work experience increase wages for welfare participants, many of whom are likely in low-skill jobs? Past research examining the effect of work experience on wages for welfare recipients and low-skilled workers is mixed. Burtless (1995) and Pavetti and Acs (2001) find that wages grow very little with age (a proxy for work experience) for prior welfare mothers. Other analyses also show that ex-recipients' wage rates do not increase much over the first few years following a welfare exit (Cancian et al., 1999; Harris, 1996). Likewise, Connolly and Gottschalk (2000) find that less-educated workers experience little wage growth while working for the same employer and only limited growth when moving to a new employer. Others have found that returns to work experience are in fact similar for welfare recipients and nonrecipients, and for low- and medium-skilled workers (Acs, 1990; Gladden and Taber, 2000; Loeb and Corcoran, 2001). We expect that work experience while on welfare will have a positive effect on wages,

but the return may be small due to the low skill level of welfare participants. The return to additional work experience may also be smaller for welfare recipients, compared to nonrecipients, if they are discriminated against by employers. Employers may be less likely to train and promote welfare recipients because they deem them unreliable, and so forth, and this would lead to slower wage growth.

Services and Training. If recipients also receive services and training while on welfare, it is possible that time spent on welfare could increase women's wages. Given the growing attention to barriers to employment among the welfare population (e.g., domestic violence, physical and mental health problems, etc.), welfare participants may now be more likely than in the past to receive assistance designed to improve labor market prospects (Danziger et al., 2000). For example, a woman with an undiagnosed depression disorder who may have had difficulty with chronic absenteeism and tardiness may find it easier to arrive at work on time each day after receiving the appropriate treatment to deal with her depression. Assistance in applying for jobs may also help welfare recipients. For instance, the "work-first" curriculum typically includes training in "soft skills"—such as how to contact potential employers, fill out a job application, and conduct a job interview (Brown, 1997). Prior research examining barriers to employment for low-skilled workers has shown that such factors as physical appearance/neatness, politeness, and motivation are indeed important to getting a good job (Holzer, 1996). Consequently, even without accumulating additional work experience while on welfare, it is possible that women who receive these services may be able to command a higher wage as a result of being on welfare.¹

Prior Research

The only study to date to examine the effects of work experience *and* time out of the labor force for welfare recipients is by Loeb and Corcoran (2001).² The main goal of their paper is to document how welfare recip-

¹This, of course, is based on the assumption that these programs have the intended positive impact on women's labor market outcomes. Studies that have examined the effects of work and training programs on the earnings and employability of welfare recipients have mixed findings (Gueron and Pauly, 1991; Manski and Garfinkel, 1992). Some find that training programs do increase earnings and employability; others show that when proper counterfactuals are used in assessments, social programs such as these have little impact on labor market outcomes (Heckman et al., 1996).

²Two related studies have examined the more general question of whether welfare participation impacts women's wages (Acs, 1990; Moffitt and Rangarajan, 1989). Moffitt and Rangarajan (1989) find that women who have been on welfare suffer substantial short-term wage penalties relative to women who have not been on welfare, but the impact is nonexistent after six years of being off welfare. Acs (1990) examines a similar question—as well as controlling for time-invariant unobserved heterogeneity—and finds that the number of months on AFDC has no effect on wages.

ients' wages grow with additional work experience, and to compare these results with rates of wage growth for nonrecipients. As part of their analysis, the authors also examine how wages for recipients are affected by periods of unemployment. Results from fixed-effects models show that welfare recipients do *not* experience wage deterioration during periods of nonwork. The authors offer several possible explanations for this finding. One is the notion we discuss above, that the minimum wage acts as a barrier against further depreciation for low-skilled workers. They also suggest that recipients may be underreporting work while on welfare so that time on welfare may, in reality, not be time spent out of the labor force.

Although informative, Loeb and Corcoran's (2001) analysis has some limitations. First, welfare spells are not measured directly in the analysis. Instead, the authors use interactions between years of nonwork and a dummy variable indicating whether the respondent ever received welfare as a proxy for a welfare spell. Thus, it is not clear whether the periods of nonwork are welfare spells or simply other nonwork periods.

Second, the authors use data from the National Longitudinal Survey of Youth (NLSY), a nationally representative sample of youths between the ages of 14 and 21 in 1979. They pool data across survey years from 1979–1992, and so respondents are 27 to 34 years old by the end of the observation period. As a result, the majority of respondents are observed quite early in their labor market careers. Given that the current median age of an adult welfare recipient is 31 (Committee on Ways and Means, 2000), a substantial part of the older welfare population is excluded from their analysis. Thus, the use of the NLSY limits the generalizability of their findings to the entire welfare population.

Third, Loeb and Corcoran (2001) end their observation period in 1992 before welfare waivers were implemented in many states. There is ample reason to suspect that the impact of welfare participation on wages would be different in the post-reform era. For instance, as discussed earlier, the incentive structure surrounding welfare has changed dramatically from the early 1990s, making it more attractive to combine welfare with work (Danziger et al., 2002). Because the relative attractiveness of welfare combined with work has changed, the welfare population may now be more likely to be working while on welfare, and thus the wage impact associated with a welfare spell may have also changed over time. To be clear, we are not evaluating the impact of welfare reform on the welfare participation-wage relationship; instead, we are examining this relationship in the post-reform period only.

Our study estimating the effect of a welfare spell on wages improves and expands on this past research in several important ways. We use data from the 1996 SIPP, a nationally representative sample of women from all age groups. Using this data set allows us to generalize our results to the entire welfare population. Additionally, the comprehensive set of welfare and work history questions in this data set allows us to directly measure time out of the

labor market due to welfare spells and to differentiate periods of welfare receipt with work from those without work. Finally, although we are not examining the impact of welfare reform, the time period covered in the data set allows us to explore the wage effects of welfare participation in the current post-welfare-reform era.

Our objective is to examine how welfare participation and employment affect women's wages, after controlling for a set of variables associated with wages. As mentioned, one of the advantages of our data is that they offer precise measures of employment and welfare histories. These measures allow us to create four combinations of welfare and work status for each respondent on a monthly basis: (1) work/nonwelfare, (2) nonwork/nonwelfare, (3) work/welfare, and (4) nonwork/welfare. By examining how these different measures impact wages, we are able to indirectly test our hypotheses.

Data

Our data come from the 1996 SIPP. Once every four months, the sample households are asked questions on demographic characteristics, income sources and amounts, program participation and eligibility, and paid labor force information. Initially, there were 36,700 households in the sample, and they were interviewed 12 times beginning in April 1996 through March 2000. The 1996 SIPP panel is ideal for this study because it is a national survey that collects data on the same individuals over time, tracking both their income as well as participation in welfare programs and employment status. Questions on employment status and welfare participation are asked for all intervening months, providing us with a continuous 48-month welfare and work history for each respondent. Because the recall period at each wave is very short (four months), recall error is likely to be small. Finally, the SIPP oversamples low-income households and thus allows for reliable estimates of the welfare population in the United States.

Individual data records are converted into person-months of observation. Our base sample includes women between the ages of 18 and 55 at the first interview, and who have a child under the age of 18 at some point over the 48-month period. We also restrict our sample to those who completed all 12 surveys.³ This results in a base sample size of 9,303 respondents and includes women who have never received welfare as well as those who have been on welfare during the 48-month period. Because our dependent variable is

³Research suggests that sample loss from the SIPP is not random, but occurs disproportionately among poor households (Bavier, 2002). We believe that the advantages of the SIPP, however, far outweigh this potential drawback. To account for nonresponse sample attrition (and a complex sample design), we use the SIPP person-weights in our descriptive statistics. Furthermore, Ziliak and Kniesner (1998) argue that nonrandom panel attrition is of little concern when fixed-effects models (like ours) are used because any potential bias from the effect of nonrandom attrition is absorbed into the fixed effect.

hourly wage, only observations in which the respondent is working are included. To estimate our change models, we require that a woman be working during at least *two* of the 48 months. About 18 percent of the base sample was excluded due to this requirement (i.e., working only one time period or none at all). We discuss the implications of this restriction in the results section below.

To deal with measurement error in the calculation of hourly wage, we exclude extreme outlying cases in which a woman's hourly wage is less than \$3 or greater than \$250.⁴ Also omitted are a few respondents who report logically inconsistent results over the survey period (e.g., they became "never married" after divorcing). Finally, we exclude a small number of cases in which the time between the first and last wage observation is less than four months. Our final sample size is 7,339 persons; of these, 642 women have received welfare at some point during the 48-month period; 6,697 women have not.

Measures

We create a 48 month-by-month welfare and work history for each respondent, constructed from questions asked in each wave about the respondent's welfare and work status during the previous four months.⁵ Using these detailed histories, three types of welfare history measures are created for each woman in the sample. The first is the *cumulative number of months the respondent received welfare*, regardless of employment status during those months. The second is the *cumulative number of months the respondent received welfare and was working*. The third is the *cumulative number of months the respondent received welfare and was not working*. We also create two measures of employment history: *cumulative number of months the respondent is working and not receiving welfare* and *cumulative number of months the respondent is not working and not receiving welfare*. Months spent working is further categorized into *full-time* (35 or more hours per week) and *part-time* (less than 35 hours per week) experience. Prior research shows that returns to part-time work experience are lower than returns to full-time work experience (Corcoran and Duncan, 1979).

The dependent variable is the change in the *log of respondent's hourly wage* from the first to the last person-month. The hourly-wage measure is created

⁴We also reran our analysis after excluding those respondents whose absolute value of the change in wage exceeded \$20 (5 percent of the sample); this had little effect on the results and so we decided to keep these cases in the analysis.

⁵Respondents are identified as welfare recipients in a given month if they received AFDC during the reference period *and* they report a nonzero income from AFDC in the given month. Respondents are identified as working in a given month if they had a job during the reference period *and* they report working at least one week for pay in the given month. Number of weeks worked for pay are summed to calculate work experience, and then subtracted from the total number of weeks in a month to calculate the length of nonemployment.

by dividing the respondent's monthly income by monthly hours; monthly hours is calculated by multiplying the usual hours worked per week by the number of weeks with a paid job in the given month. Wages for each month are converted to 2000 dollars using the Consumer Price Index.

The main independent variables are the welfare and work history month variables. A number of control variables are also included in the model. *Log of first wage* is included because wage growth is expected to be related to the initial wage level. Human capital theory states that inexperienced workers give up present wages in return for wage growth; thus, we expect that the initial wage level will be negatively correlated with wage growth (Neumark and Taubman, 1995). *Current occupation* is split into five mutually exclusive categories: upper-white-collar occupations include professional and managerial occupations, lower-white-collar occupations include clerical and sales occupations, upper-blue-collar occupations include craftspeople and operatives, lower-blue-collar occupations include laborers and service workers, and farm occupations include farmers, foresters, and fishers. *Education* is the number of years completed at the time of the interview; education is split into four mutually exclusive categories, college graduate, some college, high school, and less than high school. Other controls include *marital status* and *number of children*. A *southern residence* dummy variable is included to capture the fact that earnings of women in the southern region of the United States are expected to be lower than those in other regions of the country. A variable indicating whether the respondent lives in an *urban* area is also included to account for the generally higher wages offered in urban areas compared to rural areas. *Race* and *ethnicity* are implicitly controlled for in the model because they are fixed variables.

Methods

Our basic econometric model is:

$$\begin{aligned} \text{LnWage}_{l,i} - \text{LnWage}_{f,i} = & \beta_0 + \beta_k(X_{l,ki} - X_{f,ki}) + \gamma \text{LnWage}_{f,i} \\ & + \delta(\text{Months}_{l,i} - \text{Months}_{f,i}) + (\varepsilon_{l,i} - \varepsilon_{f,i}), \end{aligned}$$

where l represents the last person-observation, f represents the first person-observation, k indexes the k th independent variable, i indexes the individual, ε is a random error term, and X is a vector of observable individual human capital and demographic characteristics expected to affect wages (e.g., experience, education, marital status, etc.).

In the first model, we include *work/nonwelfare months* and *nonwork/nonwelfare months*. We present this model as a baseline to see if our results are consistent with previous research examining the impact of work interruptions on wages. In the second model we add *total welfare months*, and in the

third model the total welfare months measure is replaced with two measures: *work/welfare months* and *nonwork/welfare months*. For each woman, the variables represent change over time; the first wage observation is subtracted from the last wage observation. The wage-change model estimated here is equivalent to a two-wave fixed-effects model. The sum of the four "months" measures (based on work and welfare status) equals the number of months that have elapsed from the first observation to the last; the minimum number of elapsed months is four and the maximum is 47.

The advantage of a change model—as opposed to a cross-sectional model—is that it controls for unmeasured factors that remain invariant over time. For example, there may exist certain unobserved characteristics, such as a woman's work ethic or innate ability, that are related to both a woman's wages and the likelihood that she has spent time on welfare or out of the labor market. If this type of selection is not controlled for in the model, then the estimates of the effect of a welfare spell or a work break on wages could be biased. Because the change model measures differences within each person, the time-invariant measured and unmeasured characteristics for a specific woman drop out of the model. By controlling for all individual-specific factors that are constant over time, it eliminates certain kinds of omitted variable biases in cross-sectional research (Green, 2000). However, on the downside, differencing may exacerbate measurement error bias in the independent variables by decreasing the signal-to-noise ratio (see Griliches and Hausman, 1986). We estimate our models using ordinary least squares regression.

Results

Descriptive Statistics

Cross-Sectional Statistics. Table 1 presents descriptive statistics, by welfare status. The first two columns show mean values of our variables for the sample that includes all person-month observations (before we difference the first and last wage observations). We present these descriptive statistics because it is useful to show absolute levels, not only changes, in the respondent's human capital and demographic characteristics. We use a *t* test to examine significant differences between the two groups; the test shows that nearly all descriptive statistics are significantly different between the welfare and nonwelfare groups at the 0.05 level. All statistics are weighted using the month-specific weight assigned to each respondent.

Women in the ever-welfare group earn a lower average hourly wage compared to the never-welfare women (approximately \$9 vs. \$14). Some of the difference in wages may be due to the differences in welfare and work history. Women in the ever-welfare group spend an average of 12 months on welfare; slightly less than half of that time on welfare is spent working (three months of part-time work and two months of full-time

TABLE 1
Descriptive Statistics by Welfare Status, 1996 SIPP

Variable	Pooled ^a		Change from First to Last ^b	
	Ever Welfare	Never Welfare	Ever Welfare	Never Welfare
Hourly wage (in 2000 \$)	\$9.12 (7.87)	\$14.21 (11.42)	\$0.33 (9.46)	\$1.92 (14.01)
Ln hourly wage	2.06 (0.49)	2.47 (0.58)	0.14 (0.67)	0.13 (0.61)
<i>Welfare and Work History</i>				
Total months on welfare	12.21 (10.54)	0.00 (0.00)	9.36 (10.78)	0.00 (0.00)
Months working full time	2.25 (4.93)	0.00 (0.00)	2.42 (5.84)	0.00 (0.00)
Months working part time	3.10 (5.60)	0.00 (0.00)	3.29 (6.38)	0.00 (0.00)
Months not working	6.86 (8.13)	0.00 (0.00)	3.65 (6.19)	0.00 (0.00)
Total months not on welfare	16.53 (12.41)	25.81 (13.84)	24.50 (13.83)	41.58 (10.85)
Months working full time	9.03 (9.99)	17.69 (14.14)	14.06 (13.01)	28.32 (18.13)
Months working part time	3.87 (6.16)	5.50 (9.21)	6.00 (8.22)	9.52 (13.37)
Months not working	3.63 (5.70)	2.62 (5.60)	4.44 (6.22)	3.74 (6.51)
<i>Human Capital</i>				
Occupation				
Farm	0.01 (0.11)	0.01 (0.09)	-0.01 (0.14)	0.00 (0.09)
Lower blue collar	0.36 (0.48)	0.16 (0.37)	-0.02 (0.47)	-0.01 (0.35)
Upper blue collar	0.13 (0.34)	0.08 (0.27)	0.01 (0.34)	-0.01 (0.22)
Lower white collar	0.36 (0.48)	0.41 (0.49)	-0.02 (0.50)	-0.01 (0.43)
Upper white collar	0.13 (0.33)	0.34 (0.47)	0.04 (0.31)	0.03 (0.37)
Education				
Less than high school	0.22 (0.42)	0.07 (0.26)	-0.04 (0.19)	-0.01 (0.10)
High school	0.39 (0.49)	0.29 (0.46)	-0.01 (0.25)	-0.02 (0.18)
Some college	0.34 (0.47)	0.36 (0.48)	0.03 (0.23)	0.00 (0.23)
College	0.05 (0.21)	0.28 (0.44)	0.02 (0.12)	0.03 (0.16)

continued

TABLE 1—continued

Variable	Pooled ^a		Change from First to Last ^b	
	Ever Welfare	Never Welfare	Ever Welfare	Never Welfare
<i>Demographics</i>				
<i>Ethnicity</i>				
White	0.57 (0.49)	0.83 (0.37)	—	—
African American	0.38 (0.48)	0.12 (0.33)	—	—
Other	0.05 (0.22)	0.05 (0.21)	—	—
Hispanic	0.09 (0.28)	0.07 (0.25)	—	—
<i>Marital status</i>				
Never married	0.42 (0.49)	0.11 (0.31)	− 0.06 (0.24)	− 0.03 (0.18)
Married	0.23 (0.44)	0.72 (0.45)	0.03 (0.36)	0.01 (0.31)
Widowed	0.00 (0.06)	0.01 (0.13)	− 0.00 (0.07)	0.00 (0.07)
Divorced	0.34 (0.48)	0.15 (0.37)	0.03 (0.29)	0.02 (0.26)
Number of children 0–18	2.07 (1.25)	1.51 (1.02)	− 0.04 (0.87)	− 0.13 (0.91)
Region (South = 1)	0.29 (0.46)	0.35 (0.48)	0.01 (0.10)	0.00 (0.11)
Urban	0.81 (0.40)	0.80 (0.41)	0.12 (0.34)	0.09 (0.31)
Number of months between first and last observation			33.85 (13.15)	41.58 (10.82)
<i>N</i>	16,834	255,990	642	6,697

^aEach respondent contributes multiple person-months to the sample (average = 41).

^bEach respondent contributes one observation to the sample.

NOTE: Sample includes women, age 18–55 at first interview, with children. These data are weighted using the month-specific weights; results using the “weight of the last survey” did not yield significantly different results and are available on request. Bolded values are significantly different between groups ($p < 0.05$). Standard deviations in parentheses.

work) and slightly more than half is spent not working (seven months).⁶ Women in the ever-welfare group spend significantly less time working and not on welfare compared to women in the never-welfare group (13 months vs. 23 months). Women in the ever-welfare group spend slightly more time

⁶In the larger sample—including women who worked during only one month or no months—almost all the time on welfare for the ever-welfare group was spent unemployed. Therefore, our analysis includes the most “work-ready” recipients.

not working and not on welfare compared to women in the never-welfare group.

The difference in wages between these two groups also likely stems from differences in other human capital characteristics. For instance, the welfare group has only about half the amount of work experience compared to the nonwelfare group at the initial Wave 1 survey (8 years vs. 15 years, statistics not shown in table); this is partially due to the fact that the welfare group is younger than the nonwelfare group (32 vs. 35 years old; statistics not shown in table). Not surprisingly, compared to the never-welfare group, a higher percentage of the ever-welfare group works in blue-collar occupations and a lower percentage works in white-collar occupations. The women in the welfare group have lower levels of education compared to the nonwelfare group; only 5 percent of the welfare group, compared to 28 percent of the nonwelfare group, has a college degree.

The welfare group is comprised of a larger proportion of African Americans (38 percent vs. 12 percent) and Hispanics (9 percent vs. 7 percent), and a smaller proportion of whites (57 percent vs. 83 percent). With respect to family characteristics, women in the welfare group have more children than the women in the nonwelfare group (2.07 vs. 1.51) and are more likely to be never married and divorced. The majority of never-welfare women are married. In sum, the ever-welfare women are younger, have more children, are less likely to be married, have fewer years of education and work experience, are more heavily represented in lower-paying occupations, and earn lower wages than the never-welfare group.

Change Statistics. The third and fourth columns in Table 1 show the descriptive statistics used in the change models. The average amount of time between the first and last wage observation is 34 months for the ever-welfare group and 42 months for the nonwelfare group (see last row of table). The nonwelfare group experienced a larger wage gain in absolute dollar amount over time than the welfare group (\$1.92 compared to \$0.33), but the average percentage increase, indicated by the average change in log wage, was similar for the two groups.

On average, women in the ever-welfare group accrued approximately 9 months on welfare, 5.7 of these months were spent working and 3.6 months were spent not working. Compared to the ever-welfare group, the never-welfare women spent twice as much time working full time and not on welfare in between wage observations (28 months compared to 14 months); number of months of part-time experience was also larger (10 months vs. 6 months). Time spent out of work (and not on welfare) was slightly higher for the ever-welfare group.

For the control variables that are measured as dummy variables, a value of -1 indicates that the respondent "exited" the given state/category over time, a value of 0 indicates that the respondent experienced no change with respect to the given category, and a value of $+1$ indicates that the respondent "entered" the given category over time. Two of the dummy variables, "less than high school

education" and "never married," cannot be "entered into" and so these variables will take only the values of 0 or -1 ; the "college degree" variable cannot be "exited out of" and so will take only the values of 0 or $+1$. Movement into and out of various occupational groups was minor and similar between the two groups. The same was generally true for changes in education. Women in the welfare group moved out of the "less than high school" category and into the "some college" category at slightly higher rates than the nonwelfare group, and women in the nonwelfare group moved into the "college educated" group at slightly higher rates.

With respect to the family characteristics, women in both groups moved out of the "never married" state and into the "married" and "divorced" state, but at higher rates in the welfare group. Both groups of women had slightly fewer children over time (children likely "aged" out of the 0–18 age category). It is not necessary to include race/ethnicity or pre-SIPP work experience variables in the analyses because these variables all remain stable over time.

Regression Results

Table 2 shows the results of the change models. Model 1 shows the effects of months working and months not working, Model 2 adds the months on welfare variable, and Model 3 distinguishes between months on welfare during which the respondent is working and not working. Model 1 shows that an increase in months spent working has a positive effect on the change in wages, and the increase is larger for full-time experience compared to part-time experience. Every additional month spent working in a full-time job and not on welfare increases wage growth by 0.8 percent and for each additional month of part-time work experience wage growth increases by 0.6 percent. An increase in months spent not working has a negative effect on the change in wages. For every additional month spent not working and not on welfare, wage growth tends to decline by 0.5 percentage points. These results support human capital theory and are generally consistent with prior research that has examined the effect of work experience and time out of the labor force on wage growth.

Model 2 incorporates months on welfare into the model. Time spent on welfare has a negative effect on the change in wage. Our finding does not support the hypothesis that welfare training and services may lead to wage increases for welfare recipients. We are unable to test this hypothesis further because we do not have an indicator of which participants used services and which ones did not.⁷

⁷Unfortunately, questions about program participation while on welfare were asked during only one wave of the SIPP. During this wave, approximately 15 percent of those receiving welfare at that time participated in training programs (these range from "self-esteem building" programs to "computer training" programs).

TABLE 2

Regression Results from Change Models Predicting Ln Wage, 1996 SIPP

Variable	Model 1	Model 2	Model 3
<i>Welfare and Work History</i>			
Months on welfare		-0.006*** (0.002)	
Working full time			-0.005 (0.003)
Working part time			-0.004 (0.003)
Not working			-0.008** (0.003)
Months not on welfare			
Working full time	0.008*** (0.001)	0.007*** (0.001)	0.007*** (0.001)
Working part time	0.006*** (0.001)	0.005*** (0.001)	0.005*** (0.001)
Not working	-0.005*** (0.001)	-0.006*** (0.001)	-0.006*** (0.001)
<i>Controls</i>			
Ln first wage	-0.551*** (0.010)	-0.552*** (0.010)	-0.552*** (0.010)
Occupation			
Farm	-0.018 (0.065)	-0.021 (0.066)	-0.021 (0.065)
Lower blue collar	-0.099*** (0.021)	-0.101*** (0.021)	-0.101*** (0.021)
Upper blue collar	-0.037 (0.030)	-0.038 (0.030)	-0.038 (0.030)
Lower white collar	-0.076*** (0.017)	-0.077*** (0.017)	-0.077*** (0.017)
Upper white collar	omitted	omitted	omitted
Education			
Less than high school	-0.137+ (0.073)	-0.155* (0.073)	-0.157* (0.073)
High school	-0.208*** (0.051)	-0.211*** (0.051)	-0.210*** (0.051)
Some college	-0.202*** (0.038)	-0.202*** (0.038)	-0.201*** (0.038)
College	omitted	omitted	omitted
Marital status			
Never married	0.002 (0.033)	0.000 (0.033)	0.001 (0.033)
Married	omitted	omitted	omitted
Widowed	0.091 (0.083)	0.089 (0.082)	0.088 (0.083)
Divorced	0.012 (0.023)	0.013 (0.023)	0.014 (0.023)

continued

TABLE 2—continued

Variable	Model 1	Model 2	Model 3
Number of children 0 – 18	0.018** (0.007)	0.018** (0.007)	0.018** (0.007)
Region (South = 1)	0.084 (0.054)	0.087 (0.055)	0.008 (0.055)
Urban	-0.060** (0.019)	-0.057** (0.019)	-0.057** (0.019)
Constant	1.149*** (0.029)	1.183*** (0.030)	1.183*** (0.030)
<i>N</i>	7,339	7,339	7,339
<i>R</i> ²	0.294	0.295	0.295

+Significant at 10%; *significant at 5%; **significant at 1%; ***significant at 0.1%.

NOTE: Sample includes women, age 18–55 at first interview, with children. Each respondent contributes one observation to the sample. These results are unweighted. Standard errors in parentheses.

In Model 3, we further categorize months on welfare into two groups: months on welfare/not working and months on welfare/working. Upon disaggregating the welfare-months measure we find that a month on welfare has a different effect on wages depending on the recipients' work status while on welfare. On average, each additional month of full-time work while on welfare has no significant effect on wage growth. The same is true for months of part-time work while on welfare. This is consistent with other research that finds little wage growth for additional work experience among low-skilled workers and welfare recipients (Burtless, 1995; Cancian et al., 1999; Connolly and Gottschalk, 2000; Pavetti and Acs, 2001), but contradicts research showing similar returns to work experience for welfare recipients compared to other workers (Acs, 1990; Gladden and Taber, 2000; Loeb and Corcoran, 2001). The difference in results between these studies and ours could be due to a difference in measurement; we explicitly identify months in which work and welfare were combined, while some of these studies examine the return to work experience for those who have "ever received" welfare. Our results further show that a month of nonwork/welfare has a significant negative effect on the change in wage; every additional month spent on welfare and not working depresses wage growth by 0.8 percent. Again, this result is inconsistent with the findings from the Loeb and Corcoran study (2001) and may simply be due to a difference in sample or measurement.

We ran a Wald test to examine whether the coefficients for work/welfare and work/nonwelfare (both part-time and full-time work) were equal. Results show that we can reject the hypothesis that the coefficients are equal at the 0.01 level. A month of work/welfare has a *smaller* effect than a month of work/nonwelfare. This result supports the notion that welfare stigma may be

operating in the labor market⁸ and/or that welfare recipients are on a flatter wage trajectory due to their low skill level or job placement.

We ran a similar test to examine whether the coefficients for nonwork/welfare and nonwork/nonwelfare were equal and were not able to reject the hypothesis that the two coefficients were equal at the 0.01 level. The penalty associated with a period of unemployment is similar for those who are on welfare and for those who are not on welfare. The fact that welfare women do incur a penalty for time out of the labor force supports the theory of human capital deterioration and suggests that welfare recipients experience the same difficulties reentering the labor force after an interruption as do other workers. These results also suggest that although women in the welfare group have lower initial wages than women in the nonwelfare group, time out of the labor force still depresses their wage growth.

The effects of the control variables are generally unsurprising. Compared to movement into an upper-white-collar occupation, movement into a lower-blue-collar or lower-white-collar occupation has a less positive effect on wage growth. Compared to those who become college educated, those who get their high school degree or “some college” experience less wage growth over time. Change in marital status has no significant effect on the change in wages, and an increase in young children has a positive effect on wages. This result is surprising in light of other research that finds a negative effect of children on women’s wages (Anderson, Binder, and Krause, 2003). The relatively short period over which we observe change (an average of three years) and the large number of respondents who experience no change in the number of children under age 18 (83 percent of the sample) may account for this unexpected result.

Sensitivity Analysis

Selection. Restricting the sample to employed women introduces the possibility of selection bias in the results. To address this issue, we perform the common two-stage correction procedure for selectivity, using a measure of *other family income* to distinguish the workers in our sample from the nonworkers (Heckman, 1979). These results do not differ substantively from those presented here and are available from the authors.

Endogeneity. Another potential problem with our model is endogeneity between the welfare-participation measure and the wage measure. Thus far we have argued that welfare participation may affect earnings, but it could also be the case that earnings predicts welfare participation. For example,

⁸In analyses not shown, we tested the hypothesis that African Americans may face higher levels of welfare stigma from employers by interacting race with the welfare/work and welfare/nonwork variables. Results provided no evidence of a racial difference in the effects of welfare participation.

women with low rates of return to work experience may choose to receive welfare instead of furthering their investment in human capital. Furthermore, since welfare receipt "requires" low earnings, hours, and wages, by definition, the work experience-wage trajectory of working recipients must remain relatively flat to remain in the welfare program. A woman whose wages grow enough to allow her to depart the program will no longer be accumulating "work/welfare months" but instead will begin accumulating "work/nonwelfare months" (Moffitt and Rangarajan, 1989). If not corrected, endogeneity between these variables would bias our results.

Employing instrumental variables (IV) is a common technique to correct for potential endogeneity. This procedure requires a variable (or instrument) that is related to welfare participation but not related to wages. The instrument is then substituted for the endogenous variable in the model. Because we have two potentially endogenous variables in our analysis (months of work/welfare and months of nonwork/welfare), we need to identify at least two unique instruments. Our instrument for months on welfare while unemployed is *welfare benefit amounts by state and year*. Descriptive statistics show that welfare recipients in our sample reside in states with slightly higher benefit amounts compared to nonrecipients. Our instruments for months on welfare while working are *income eligibility levels by state* and *severity of earnings disregard policy by state*. The income-eligibility variable measures the monthly earnings amount that ends eligibility for welfare and the earnings-disregard variable is a categorical variable identifying the percentage of earned income the state ignores when determining benefit amounts (Committee on Ways and Means, 2000). Compared to nonrecipients, the welfare recipients in our sample live in states with higher income-eligibility levels and with more generous earnings-disregard policies.

Upon examination, however, we found that the correlation between the instruments and welfare participation was very weak. Thus, we do not pursue IV estimation. Other research has shown that IV techniques provide notoriously poor estimates when inadequate instruments are used (Bound, Jaeger, and Baker, 1995). We do not think our inability to pursue instrumental variable analysis is a serious problem for two reasons. First, the fixed-effects technique is already controlling for time-invariant heterogeneity. Second, because change in wage over time is our dependent variable, it is unclear how the last wage observed could be causally related to time spent in the prior states. It should be kept in mind, however, that we could not eliminate *all* traces of potential endogeneity from our results.

Conclusion

Using longitudinal data from the 1996 SIPP, we estimate models to test whether welfare participation has an effect on women's hourly wage. We

extend prior research in this area by using a nationally representative data set that provides detailed histories of work and welfare experience. Furthermore, change models are used that control for unobserved factors that may be related to both time on welfare and wages. Because recent welfare policy changes encourage the combination of welfare receipt with work, we examine the impact of both (1) nonwork/welfare months and (2) work/welfare months. We find that only welfare months in which the recipient is not working depress wage growth. Months spent working and on welfare have no effect on wage growth. We compare these results to analogous estimates of time spent not on welfare and find that work interruptions have the same negative impact, but work experience accumulated while not on welfare has a more positive impact on wage growth.

Our analysis is not without limitations. Because the data spans a time period of four years, we are able to observe only the effect of welfare and work experiences that are four years or shorter in duration. We cannot observe the wage effects of welfare for those individuals who use their full 60 months of federal TANF benefits and so our results should not be considered applicable to them. However, since the majority of welfare spells are relatively short in duration (Hofferth, Stanhope, and Harris, 2002), our results may be considered representative of the average welfare recipient.

Also, we are unable to examine all the potential intervening mechanisms through which welfare participation has an effect on wages. For instance, we hypothesized that welfare participation might have a positive impact on wages if skills-building programs and other services enabled women to secure better jobs after a welfare spell. We find no evidence of a positive impact for time spent on welfare, but unfortunately do not have measures of whether the recipient attended a training program and so cannot explore this further. It could be that such programs and services do boost women's earning potential, but are counteracted by the negative impact from employer discrimination.

The large negative impact of time out of work while on welfare does support economic theories of human capital deterioration, and suggests that, on average, the minimum wage floor does not protect these women against a decline in wages. Our findings that time on welfare while unemployed depresses wages and time on welfare while employed has no effect on wages could be interpreted as positive support for work requirements and the overall "work-first" approach. Proponents of work requirements argue that by requiring welfare recipients to work they will improve their marketable skills and become less dependent on welfare in the future. Although we do *not* find that additional job experience while on welfare leads to wage growth, working while on welfare does appear to prevent further wage deterioration. Therefore, on average, working helps welfare recipients to maintain their current wage rate, but "working recipients" do not appear to reap the benefits that come with nonwelfare work experience.

Why does work experience on welfare have a smaller impact on wage growth compared to other nonwelfare work experience? As suggested earlier, it could be that employers discriminate against welfare recipients by not offering them good jobs or by not promoting them at the same rate as other women with similar qualifications because they consider them to be unreliable, unmotivated workers. There are, however, other possibilities. One is that the types of jobs that welfare recipients hold may be short term and relatively unreliable (Edin and Lein, 1997), resulting in stagnant wage growth. Our measure of occupation is too broad to capture this possibility. Also, recipients may not be able to build up a long history of work with one employer, which is typically necessary in order to get promoted or to get a raise (Harris, 1993). In fact, our results show that work experience while on welfare is significantly shorter in duration compared to nonwelfare work experience.

Future research should continue to explore the effects of time spent on welfare on women's earnings. Specifically, it would be valuable to examine how welfare spells affect wages for recipients who get a GED or receive therapy while on welfare. It would also be useful to see whether the effect of a welfare spell has long-lasting effects on labor market success. That is, do more recent welfare spells have a differential impact on wages than spells that occurred long ago? Finally, the amount of time on welfare may matter; perhaps a short spell on welfare (e.g., less than four months) has a different impact on earnings than a longer period on welfare (e.g., two years or more). As panel data tracking women's work and welfare histories becomes more readily available, these questions will be more easily addressed.

REFERENCES

- Acs, G. 1990. *Welfare, Work, and Dependence: Analyzing the Potential Effects of Work-Related Welfare Reform*. Ph.D. Dissertation. University of Michigan.
- Acs, G., N. B. Coe, K. Watson, and R. I. Lerman. 1998. *Does Work Pay? An Analysis of the Work Incentives under TANF*. Washington, DC: Urban Institute.
- Anderson, D. J., M. Binder, and K. Krause. 2003. "The Motherhood Wage Penalty Revisited: Experience, Heterogeneity, Work Effort, and Work Schedule Flexibility." *Industrial and Labor Relations Review* 56(2):273–94.
- Bavier, R. 2002. "Welfare Reform Impacts in the SIPP." *Monthly Labor Review* 125:23–38.
- Besley, T., and S. Coate. 1992. "Understanding Welfare Stigma: Taxpayer Resentment and Statistical Discrimination." *Journal of Public Economics* 48:165–83.
- Blank, R. 2002. "Evaluating Welfare Reform in the United States." *Journal of Economic Literature* XL:1105–66.
- Bound, J., D. A. Jaeger, and R. M. Baker. 1995. "Problems with Instrumental Variables Estimation When the Correlation Between the Instruments and the Endogenous Explanatory Variable is Weak." *Journal of the American Statistical Association* 90(430):443–50.

- Brown, A. 1997. *Work First: How to Implement an Employment-Focused Approach to Welfare Reform*. New York: Manpower Demonstration Research Corporation.
- Browne, I., and I. Kennelly. 1999. "Stereotypes and Realities: Images of Black Women in the Labor Market." In I. Browne, ed., *Latinas and African-American Women at Work*. New York: Russell Sage Foundation.
- Burtless, G. 1995. "Employment Prospects of Welfare Recipients." In D. S. Nightingale and R. H. Haveman, eds., *The Work Alternative: Welfare Reform and the Realities of the Job Market*. Washington, DC: Urban Institute.
- Cancian, M., R. Haveman, T. Kaplan, D. Meyer, and B. Wolfe. 1999. "Work, Earnings, and Well-Being After Welfare: What Do We Know?" In S. Danziger, ed., *Economic Conditions and Welfare Reform*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Committee on Ways and Means, U.S. House of Representative. 2000. *The 2000 Green Book: Background Material and Data on Programs Within the Jurisdiction of the Committee of Ways and Means*. Available at (<http://aspe.hhs.gov/2000gb/index.htm>).
- Connolly, H., and P. Gottschalk. 2000. *Returns to Tenure and Experience Revisited—Do Less Educated Workers Gain Less from Work Experience?* Joint Center for Poverty Research Working Papers, No. 224. Northwestern University/University of Chicago Joint Center for Poverty Research.
- Corcoran, M. E. 1979. "Work Experience, Labor Force Withdrawals, and Women's Wages: Empirical Results Using the 1976 Panel of Income Dynamics." In C. B. Lloyd, E. S. Andrews, and C. L. Gilroy, eds., *Women in the Labor Market*. New York: Columbia University Press.
- Corcoran, M. E., S. K. Danziger, A. Kalil, and K. S. Seefeldt. 2000. "How Welfare Reform is Affecting Women's Work." *Annual Review of Sociology* 26:241–69.
- Corcoran, M. E., and G. Duncan. 1979. "Work History, Labor Force Attachment, and Earnings Differences Between the Races and Sexes." *Journal of Human Resources* 14(1):3–20.
- Danziger, S., M. E. Corcoran, S. Danziger, C. M. Heflin, A. Kalil, D. Rosen, and R. Tolman. 2000. "Barriers to the Employment of Welfare Recipients." In Robert D. Cherry and William M. Rodgers, eds., *Prosperity for All: The Economic Boom and African Americans*. New York: Russell Sage Foundation.
- Danziger, S., C. M. Heflin, M. E. Corcoran, E. Oltmans, and H. C. Wang. 2002. "Does It Pay to Move from Welfare to Work?" *Journal of Policy Analysis and Management* 21(4):671–92.
- Edin, K., and L. Lein. 1997. *Making Ends Meet*. New York: Russell Sage Foundation.
- Felmlee, D. 1995. "Causes and Consequences of Women's Employment Discontinuities, 1967–1973." *Work and Occupations* 22(2):167–87.
- Gladden, T., and C. Taber. 2000. "Wage Progression Among Less-Skilled Workers." In Rebecca M. Blank and David Card, eds., *Finding Work: Jobs and Welfare Reform*. New York: Russell Sage Foundation.
- Goffman, E. 1963. *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, NJ: Prentice-Hall.
- Grail, T. S. 2003. *Custodial Mothers and Fathers and Their Child Support: 2001*. Current Population Reports P60-225. Washington, DC: U.S. Census Bureau.
- Green, W. H. 2000. *Econometric Analysis*. Upper Saddle River, NJ: Prentice Hall.
- Griliches, Z., and J. Hausman. 1986. "Errors in Variables in Panel Data." *Journal of Econometrics* 31:93–118.

- Gueron, J. M., and E. Pauly. 1991. *From Welfare to Work*. New York: Russell Sage Foundation.
- Harris, K. M. 1993. "Work and Welfare Among Single Mothers in Poverty." *American Journal of Sociology* 99:317–52.
- . 1996. "Life After Welfare: Women, Work, and Repeat Dependency." *American Sociological Review* 61:407–26.
- Heckman, J. 1979. "Sample Selection Bias as a Specification Error." *Econometrica* 47:153–61.
- Heckman, J., H. Ichimura, J. Smith, and P. Todd. 1996. "Sources of Selection Bias in Evaluating Programs: An Interpretation of Conventional Measures and Evidence on the Effectiveness of Matching as a Program Evaluation Method." *Proceedings of the National Academy of Sciences* 93:13416–420.
- Hofferth, S. L., S. Stanhope, and K. M. Harris. 2002. "Exiting Welfare in the 1990's: Did Public Policy Influence Recipients Behavior?" *Population Research and Policy Review* 21:433–72.
- Holzer, H. 1996. *What Employers Want*. New York: Russell Sage Foundation.
- Jacobsen, J., and L. Levin. 1995. "The Effects of Intermittent Labor Force Attachment on Women's Earnings." *Monthly Labor Review* 118:14–19.
- Jarrett, R. L. 1996. "Welfare Stigma Among Low-Income African-American Single Mothers." *Family Relations* 45:368–74.
- Loeb, S., and M. E. Corcoran. 2001. "Welfare, Work Experience, and Economic Self-Sufficiency." *Journal of Policy Analysis and Management* 20(1):1–20.
- Manski, C., and I. Garfinkle. 1992. *Evaluating Welfare and Training Programs*. Cambridge, MA: Harvard University Press.
- Mincer, J., and H. Ofek. 1982. "Interrupted Work Careers: Depreciation and Restoration of Human Capital." *Journal of Human Resources* 17(1):3–24.
- Mincer, J., and S. Polachek. 1974. "Family Investments in Human Capital: Earnings of Women." *Journal of Political Economy* 82(2):S76–S108.
- Moffitt, R., and A. Rangarajan. 1989. "The Effect of Transfer Programs on Work Effort and Human Capital Formation: Evidence from the U.S." In A. Dilnot and I. Walker, eds., *The Economics of Social Security*. Oxford: Oxford University Press.
- National Partnership for Women and Families. 1999. *Detours on the Road to Employment: Obstacles Facing Low-Income Women*. Mimeo. Available at (<http://www.nationalpartnership.org/portals/p3/library/Welfare/DetoursRoadtoEmployment.pdf>).
- Neumark, D., and P. Taubman. 1995. "Why Do Wage Profiles Slope Upwards? Tests of the General Human Capital Model." *Journal of Labor Economics* 11:736–61.
- Pavetti, L., and G. P. Acs. 2001. "Moving Up, Moving Out, or Going Nowhere? A Study of the Employment Patterns of Young Women and the Implications for Welfare Mothers." *Journal of Policy Analysis and Management* 20(4):721–36.
- Stratton, L. 1995. "The Effect Interruptions in Work Experience Have on Wages." *Southern Economic Journal* 61:955–70.
- Ziliak, J. E., and T. J. Kniesner. 1998. "The Importance of Sample Attrition in Life Cycle Labor Supply Estimation." *Journal of Human Resources* 33(2):507–30.