Does Welfare Participation Affect Women's Wages?*

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ABSTRACT

Many scholars have examined the effect of a work interruption on women's wages, but few have analyzed the wage implications of welfare participation. It is often assumed that time on welfare will have the same negative impact on wages as other work breaks. We present justifications for why welfare participation is qualitatively different from other generic work interruptions, and discuss how these differences may result in welfare participation having a positive effect, negative effect, or no effect on wages. Using longitudinal data from the 1996 Survey of Income and Program Participation, our results indicate that time spent on welfare while unemployed results in a larger wage penalty compared to other non-welfare work breaks. Time spent on welfare while employed has a positive effect on wages, but the effect is much smaller compared to the impact of non-welfare work periods. Results are consistent with theories of human capital deterioration and the existence of welfare stigma in the labor market.

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INTRODUCTION

The 1996 Welfare Reform Act changed the orientation of welfare policy from an education and skill building strategy towards a "work first" approach, stressing rapid labor force attachment as the best avenue towards self-sufficiency. Work requirements, time limits, and increased earnings disregards are all important aspects of welfare reform, intended to promote work and discourage non-work 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 non-work, 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 (Cogan and Berger 1978; Corcoran and Duncan 1979; Corcoran, Duncan and Ponza 1983; England 1982; England 1984; Felmlee 1995; Mincer and Ofek 1982; Mincer and Polachek 1974; Polachek 1975; Robinson 1986; Stratton 1995). Like other types of employment breaks, prior 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 non-work periods. First, time spent on welfare and out of work may not cause wages to decline simply 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" (i.e. how to dress for an 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. In order 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 non-work/non-welfare periods and work/non-welfare periods. This comparison allows us to implicitly test our theories of the impact of welfare participation on women's wages. Our results from the analysis are robust to efforts to correct for endogeneity and non-random sample selection.

This paper makes a number of important contributions to research in the area of welfare, women, and work. To begin, we provide another dimension from which policy makers 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 earnings, then the new federally mandated work requirements might help bolster or at least stabilize women's future earnings by

encouraging them to re-enter the labor force more quickly. If, on the other hand, we find that time on welfare has a positive effect on earnings, it may mean the transitional support services and work opportunities are enabling recipients to improve their skills and earnings opportunities while on welfare. We examine the wages of women over the 1996-1999 period, a time 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). By examining these issues during a period of robust economic expansion, we have 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% in 1993 to 6% 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 (Cogan and Berger 1978; Corcoran and Duncan 1979; Corcoran, Duncan and Ponza 1983; England 1982; England 1984; Felmlee 1995; Mincer and Ofek 1982; Mincer and Polachek 1974; Polachek 1975; Robinson 1986; Stratton 1995). This research consistently finds that periods of

unemployment directly lower women's wages. While point estimates range from 0.6% to over 5% per year, most are around 2% 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 reentering 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 work force (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 work force. 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; Swiss and Walker 1993; Robinson 1986).

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. For example, very short work interruptions may not result in lower wages, because job skills are not expected to become obsolete within a short period of time. A woman's education and occupation is also likely to be important. As educational and occupational resources increase, penalties from work interruptions will increase. This is because highly skilled women have "more to lose" in terms

of human capital depreciation. Previous research examining whether the effect of depreciation differs by occupation shows mixed results.[1]

Welfare Participation

Wage and skill distribution. It may be that time out of the labor force has no effect on wages for women on welfare 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. Therefore, the minimum wage floor may "protect" them from any further depression in wages (Burtless 1995; Loeb and Corcoran 2001). Similarly, if women on welfare possess few depreciable job skills before the begin welfare participation, they may not be adversely affected by periods of welfare participation (Loeb and Corcoran 2001).

Welfare stigma. Alternatively, welfare participation combined with non-work 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 employees 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 (1992) formalize this argument by applying the economic concept of statistical discrimination to welfare participation:

[1] Polachek (1981) finds that the professional, managerial and craft occupations have the highest atrophy, followed by clerical and unskilled occupations. However, Corcoran (1979) finds that the effect of a work interruption on earnings does not vary much by occupation.

> "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." (p.170)

In addition to the personal deficits attributed to women on welfare, employers may also believe that women on welfare 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).

Empirical evidence on the existence or size of statistical discrimination based on welfare stigma is limited. 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. 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 while on welfare, leading to higher wages. Since the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PROWRA), the number of women combining work and welfare has changed in large part because of two modifications to the welfare program that have encouraged working while on welfare: increased earnings

disregards and work requirements. Pre-welfare reform, the average "earnings disregards" was less generous and thus made combining work and welfare economically unattractive. If the earnings disregard is small it 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 disregards, allowing recipients to earn more money before their welfare benefits are reduced (Acs et al. 1998; Gallagher et al. 1998; Pavetti 2002). This programmatic change has made combining work and welfare more economically appealing.

While increased earnings disregards were 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. 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 non-recipients (Acs 1990; Loeb and Corcoran 2001), and for workers with low levels and high levels of education (Gladden and Taber 2000).

We expect that additional work experience 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 non-recipients, if they are discriminated against by employers (as discussed above). For example, employers may be less likely to train and promote welfare recipients because they deem them unreliable, etc. and this would lead to slower wage growth.

Services and training. If recipients receive services and training while on welfare, it is also possible that time spent on welfare could increase women's wages.[2] 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 to receive services designed to improve labor market prospects (Danziger et al. 2000; Zedlowski and Loprest 2001). 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 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

[2] Unfortunately questions about program participation while on welfare were only asked during one wave of the SIPP and so we cannot incorporate this measure in our analysis. During the wave in which questions about participation in training programs were asked, we find that approximately 15% of those receiving welfare at that time participated in training programs (these range from "self-esteem building" programs to "computer training" programs).

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.[3]

Prior Research

The only study to date to examine the effects of time out of the labor force for welfare recipients is by Loeb and Corcoran (2001).[4] The main goal of their paper is to document how welfare recipients' wages grow with additional work experience, and to compare these results with rates of wage growth for non-recipients. But 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 non-work. 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 under-reporting work while on welfare so that time on welfare may not, in reality, be time spent out of the labor force.

While 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 non-work 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 non-work are welfare spells or simply other non-work periods.

[3] This, of course, is based on the assumption that these programs have the intended positive impact on women's labor market outcomes. Many studies have examined the effects of work and training programs on the earnings and employability of welfare recipients. The findings of these studies are mixed (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; Heckman and Smith 1999).

[4] Two 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 non-existent 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. His results also show that the effect of work experience on wages is the same for recipients and non-recipients.

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 age 27 to 34 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.

CURRENT INVESTIGATION

Our study estimating the effect of a welfare spell on wages improves and expands upon 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. The main advantage of our data is that it offers 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: (a) work/non-welfare, (b) non-work/non-welfare, (c) work/welfare, and (d) non-work/welfare. By examining how these different measures impact wages, we are able to directly and indirectly test our hypotheses (See Figure 1).

DATA

Our data come from the 1996 SIPP. The U.S. Census Bureau sponsors and conducts the SIPP, a panel survey that represents the non-institutional population. Once every 4 months, the sample households are asked questions on demographic characteristics, income sources and amounts, program participation and eligibility, and paid labor force information. There are 40,188 households initially 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 and tracks 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 panel is large enough to allow for reliable estimates of the welfare population in the United States.

Individual data records are converted into person-waves 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.[5] We also restrict our sample to those who completed all 12 surveys.[6] The sample includes both women who have never received welfare and those who have been on welfare over the 48-month period. Because our dependent variable is hourly wage, only observations in which the respondent is working are included. In order to estimate our change models, we require that a woman be working during at least *two* of the 12 time points (spanning a period of 4 years). About 20% of the original 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.

We exclude the few extreme outlying cases in which a woman's hourly wage is less than $1 or greater than $400, or in which the absolute value of the change in wages exceeds $200. Also excluded are those respondents that report logically inconsistent results over the survey period (e.g. they became "never married" after divorcing). Our final sample size is 7,245 persons (see Appendix A for detailed description of how we arrived at the final sample size); of these, 603 women have received welfare during the 48-month period and 6,642 women have not.

[5] We do not restrict our sample to low-educated women because of heterogeneity in welfare sample, and because we want to compare the impact of time on welfare to non-welfare work breaks, which are incurred by women of all education levels.

[6] Research by Zable (1998) and Ziliak and Kniesner (1998) indicate that while attritors and non-attritors differ in terms of labor market behavior, there is no evidence that results from models of labor market behavior are biased due to attrition. Also, in our analysis, non-random panel attrition is of little concern because the effect of attrition is absorbed into the fixed effects (Ziliak and Kniesner 1998).

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.[7] 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 of welfare receipt*, regardless of employment status during those months. The second is the *cumulative number of months the respondent received welfare and was not working*. The third is the *cumulative number of months the respondent received welfare and was working*. We create the second and third measures because, due to the policy changes discussed above, women on welfare are increasingly likely to be simultaneously employed and receiving welfare. Therefore it is important to distinguish work participation by welfare status. 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 (and not on welfare) is further categorized into *full-time* and *part-time months* based on usual weekly hours worked. Prior research shows that returns to part-time work experience are lower than returns to full-time work experience (Corcoran, Duncan, and Ponza 1983).

The dependent variable is the change in the *log of respondent's hourly wage* from the first to the last person-observation. The hourly wage measure is created by dividing the respondent's monthly income by monthly hours (i.e. monthly hours is calculate by multiplying

[7] Respondents are identified as welfare recipients in a given month if they answer yes to the following question: "Did … receive any Aid to Families with Dependent Children during the reference period?" Respondents are identified as working in a given month if they answer yes to the question: "Did…have at least one job (that is a job for an employer, a business, or some other work arrangement) during the reference period?" For the purposes of this research, individuals who *only* reported earnings from self-employment are not defined as workers.

the usual hours worked per week by the number of weeks with a job in the given month). Wages for each year 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 in order to purge our model of unmeasured factors related to the initial wage. Current *occupation* is split into four mutually exclusive categories: upper white collar occupations include professional and managerial occupations, lower white collar occupations includes clerical and sales occupations, upper blue collar occupations includes craftsmen and operatives, and lower blue collar occupations include laborers and service workers. *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 U.S. are expected to be lower that 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:

$$LnWage_{l,i} - LnWage_{f,i} = \beta_0 + \beta_k (X_{l,ki} - X_{f,ki}) + \gamma LnWage_{f,i} + \delta (Months_{l,i} - Months_{f,i}) + (\varepsilon_{l,i} - \varepsilon_{f,i}),$$

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

(experience, education, marital status, etc.). In the first model, we include *work/non-welfare months* and *non-work/non-welfare 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* to the model, and in the third model the total welfare months measure is replaced with two measures: *work/welfare months* and *non-work/welfare months*. For each woman, the variables represent change over time; the first wage observation is subtracted from the last wage observation.[8] The wage change model estimated here is equivalent to a two-wave fixed effects model. The sum of the four "months" measures equals the number of months that have elapsed from the first observation to the last; the minimum number of elapsed months is four (the time in between subsequent survey periods) and the maximum is 44 (time in between the first and last survey).

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 differences measures 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

[8] We also could have also examined change from one observation to the next, instead of differencing only the last from the first observation (Loeb and Corcoran 2001; Stratton 1995). We decide against this technique since the time period between each wage observation is often only 4 months, and thus does not offer enough time for there to be significant changes in work/welfare experience or wages.

in cross-sectional research (Green 2000). We estimate our models using ordinary-least squares (OLS) 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-wave 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 non-welfare group at the 0.05 level. All statistics are weighted using the wave-specific weight assigned to each respondent.

[TABLE 1 ABOUT HERE]

Women in the ever-welfare group earn a lower average hourly wage compared to the never-welfare women (approximately $8.50 vs. $13.40). 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 13.40 months on welfare between the first and last wage observation (of those who experienced a change in "welfare months", 50% spent less than 12 months and 50% spent between 12 and 44 months). Most of these welfare months are spent working (an average of 8.41) and fewer are spent not working (5.00).[9] Women in the ever-welfare group spend significantly less time working and not on welfare compared to women in the never-welfare

[9] Our analytic sample includes women with proportionally more months spent on work/welfare than non-work/welfare because we require women to have a least two wage observations to be in the sample. In the larger sample – including women on welfare who worked during only one or no periods - more welfare months were spent unemployed than employed. Therefore, our analysis includes the most "work-ready" recipients.

group (15 months vs. 26 months). Women in the ever-welfare group spend slightly more time not working and not on welfare compared to women in the never-welfare group.

The difference in wages between these two groups also likely stem from differences in other human capital characteristics. On average, the welfare group has about 2 years less of pre-SIPP work experience than the non-welfare group (statistics not shown in table; this measure was created using the formula: age-years of education-6). This difference is due in some part to the difference in age between the two groups; the ever-welfare group is about four years younger, on average, than the never-welfare group (33.8 vs. 37.4). Not surprisingly, compared to the never-welfare group, a higher percentage of the welfare group works in blue-collar occupations (52% vs. 26%) and a lower percentage works in white-collar occupations (48% vs. 75%). The women who have received welfare have lower levels of education compared to the non-welfare group; 62% of the welfare group has a high-school degree or less compared to only 36% of the non-welfare group. Only 39% of the welfare group, compared to 64% of the non-welfare group, has some college education or more.

The welfare group is comprised of a larger proportion of African-Americans (39% vs. 12%) and Hispanics (9% vs. 7%), and a smaller proportion of whites (56% vs. 83%). With respect to family characteristics, women in the welfare group have more children than the non-welfare group (2.06 vs.1.52) and are more likely to be never married and divorced.[10] 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, are more

[10] Twenty-three percent of the welfare recipients state that they are married at the time of the interview. This does not necessarily imply that they were married while receiving welfare, however. For instance, at one point in time, a woman could have been married and not received welfare, and then at a later point in time, been divorced and received welfare. Furthermore, welfare program regulations *do allow* married woman to receive welfare.

represented in lower-paying occupations, have fewer years of work experience, and earn lower wages than the never-welfare group.

Change Statistics. The third and fourths columns in Table 1 show the descriptive statistics used in the change models. The average amount of time between the first and last wage observations is 30 months for the ever-welfare group and 38 months for the non-welfare group (see last row of table). The non-welfare group experienced a larger gain in wages over time ($2.40 compared to $1.50).

On average, women in the ever-welfare group accrued 8 months on welfare, 6.55 of these months were spent working and 1.43 months were spent not working. Compared to ever-welfare group, the never-welfare women spent significantly more time working (and not on welfare), 28 months of full-time work compared to 14 months; months of part-time experience were also larger, 9 months vs. 6 months. Time spent out of work (and not on welfare) was similar for the two groups.

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" can not be "entered into" and so these variables will only take on the value of 0 or –1. Movement into and out of various occupational groups was minor and similar between the two groups. The same was mainly true for changes in education. Women in the welfare group moved out of the "less than high school" category at slightly higher rates than the non-welfare group, and women in the non-welfare group moved into the "college educated" group at slightly high rates.

With respect to the family characteristics, women in both groups moved out of the "never married" state and into the "married" state, but at higher rates in the welfare group. There was no change in the number of children for women in the welfare group, but women in the non-welfare group had slightly fewer children over time (children likely "aged" out of the 0-18 age category). We do not 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, 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 wages by 1.1%, and for each additional month of part-time work experience wages increase by 0.9%. An increase in months spent not working has a negative effect on the change in wages. Every additional month spent not working and not on welfare decreases wages by 0.3%. 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 wages.

[TABLE 2 ABOUT HERE]

Model 2 incorporates months on welfare into the model. Time spent on welfare has no

effect on the change in wage.[11] Our finding of a null effect does not support our hypothesis that welfare training and services may lead to a wage increase. We are unable to test this hypothesis further because we do not have an indicator of which participants used such services and which ones did not.

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 in this way we find that a month on welfare has a different effect on wages depending on a recipient's work status while on welfare. A month of work/ welfare has a small positive effect on the change in wage. Every additional month spent on welfare and working increases wages by 0.4%. This is consistent with other research that finds little wage growth for low-skilled workers and welfare recipients (Burtless 1995; Pavetti and Acs 200; Connolly and Gottschalk 2000).[12] A month of non-work/welfare has a significant negative effect on the change in wage; every additional month spent on welfare and not working decreases wages by 1.1%.[13]

We ran a Wald test to examine whether the coefficients for work/welfare and work/non-welfare (both part-time and full-time work) were equal. Results show that we can reject

[11] This result is consistent with previous work by Acs (1990). Using data from the National Longitudinal Survey of Youth, Acs (2001) finds that the number of months spent on welfare has no statistically significant effect on wage growth.

[12] This contradicts previous research that finds that additional work experience increases wages for welfare recipients in the same way as non-recipients (Acs 1990; Loeb and Corcoran 2001). One potential reason for the difference in results could be a difference in measurement; we explicitly identify months in which work and welfare were combined, while prior research simply examines return to work experience for those that have "ever received" welfare. We re-ran our analysis including an interaction of years of work experience with a dummy variable indicating whether the woman "ever received welfare." The interaction was not significant. This result is consistent with the possibility that the difference in results is due to a difference in the model and measurement of variables.

[13] This result is inconsistent with findings from Loeb and Corcoran (2001). Again, the difference in results could be due to a difference in measurement; we explicitly identify months in which non-work and welfare were combined, while Loeb and Corcoran (2001) examined non-work periods of those that have "ever received" welfare. We re-ran out analysis to mimic their model strategy and found similar results to theirs; thus the difference may be due to a difference in modeling strategy.

the hypothesis that the two coefficients are equal at the .01 level. A month of work/welfare has a *smaller* effect than a month of work/non-welfare. This result supports the notion that (1) welfare stigma may be operating in the labor market and/or that (2) welfare recipients are on a flatter wage trajectory due to their low-skill level.

We ran a similar test to examine whether the coefficients for non-work/welfare and non-work/non-welfare were equal, and were able to reject the hypothesis that the two coefficients are equal at the .05 level. The penalty associated with a period of unemployment is *larger* for those who are on welfare compared to those who are not on welfare. Again, this result supports the idea that welfare recipients may face some type of welfare stigma in the labor market.[14] The fact that welfare women do incur a penalty for time out of the labor force could also be due to human capital deterioration. However, human capital theory does not offer an explanation for why the penalty would be larger compared to non-welfare related work interruptions, especially considering the fact that women who have ever-received welfare likely have less human capital. Furthermore, the large penalty that welfare recipients face for time out of work is inconsistent with the belief that women on welfare will face no depreciation because their earnings are already very close to the minimum wage.

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 groups has a less positive effect on the change in wages. And compared to those who become "college educated", those who get their "high school degree" or "some college" education brackets experience less wage growth over time. Change in marital status has no significant

[14] In analyses not shown, we tested the hypothesis that African-Americans would face higher levels of welfare stigma by interacting race with the work/welfare and non-work/welfare variables. Results provided no evidence of a racial difference in the effects of welfare participation.

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; Budig and England 2001). The difference may be a result of the relatively short period over which we observe change (an average of 3 years) and the large number of respondents who experience no change in the number of children under age 18 over this time (83% of the sample).

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 from non-workers (Heckman 1979). These results do not differ substantively from those presented here. Appendix B shows the descriptive statistics for the non-employed and employed women in this sample, and Appendix C shows the regression results that incorporate the selection correction.

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 be that earnings also predicts welfare participation. For example, 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 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 accruing "work/non-welfare months" (Moffit and Rangarajan

1989). If not corrected, endogeneity between these variables would bias our results. Employing instrumental variables 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 non-work/welfare), we need to identify at least two unique instruments. Our instruments for months on welfare and not working is *welfare benefit amounts by state and year*. In this sample, welfare recipients reside in states with slightly higher benefit amounts compared to non-recipients, $407 vs. $378 (see Appendix D). Our instruments for months on welfare and working are *income eligibility levels by state* and *severity of state earnings disregards policy*. The income eligibility measure is the monthly earnings amount that ends eligibility (Committee on Ways and Means 2000). The disregard measure is categorical, equal to 1 if 50% of earnings are disregarded, equal to 2 if 20-50% of earnings are disregarded, and equal to 3 if the standard amount under AFDC policy is disregarded (Gallagher et al. 1998). Compared to non-recipients, the welfare recipients in our sample live in states with higher income eligibility levels ($940 vs. $868) and more generous earnings disregard policies (1.83 vs. 1.95).[15]

From a theoretical point of view, these instruments are considered appropriate since the assignment of benefit amounts, eligibility levels, and disregard policies are random with respect to the recipient, and they are expected to be correlated with welfare participation and not wages.[16] One would expect there to be more welfare recipients in states with higher benefit amounts, states with higher income eligibility levels, and less severe earnings disregards policies

[15] The overwhelming majority of the sample (97%) did not move from one state to another between the first and last wage observation; thus we assign each respondent measures for their initial state of residence.
[16] This is based on the assumption that state-to-state migration is not a function of state-specific welfare policies.

(participants are able to keep more of their earned income before their welfare benefits are cut). However, upon examination, we found that the correlation between the instruments and welfare participation was very weak.[17] 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-effect technique is already controlling for time-invariant heterogeneity. Second, because change in wage from the first to the last observation 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 examine 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) non-

[17] A likelihood ratio test for the significance of *income eligibility lev*els and *earnings disregard policies* in a regression predicting "*months of welfare and work*" generated a test statistic of 31.62. This statistic is distributed chi-squared with 2 degrees of freedom. Thus, one can reject the null that these 2 instruments have no power in the months of work/welfare equation. However, goodness-of fit measures indicate that the instruments explain very little variation in months of work/welfare. R-squared measures rise from .110 to .114 when the instruments are added to the model. Based on this finding, we conclude that the instruments are not powerful enough to pursue our IV estimation strategy for the work/welfare variable. We also ran a regression predicting "*months of welfare and non-work*" as a function of *benefit levels*. The likelihood ratio test statistic was 0.18 with 1 degree of freedom. Therefore, we cannot reject the null that this instrument has no power in the months of non-work/welfare equation. Also the R-squared measure is 0.040 in both models; it does not change at all with the inclusion of the instrument to the model. Based on these results, we conclude that this instrument is invalid for the non-work/welfare variable.

work/welfare months and (2) work/welfare months. We find that only welfare months in which the recipient is not working depress wages. Months spent working and on welfare have a small positive effect on wage growth. We compare these results to analogous estimates of time spent not on welfare, and find that work interruptions have less of a negative impact and work experience has more of a positive impact on wages when an individual is not on welfare.

Our analysis is not without limitations. Because the data spans a time period of four years, we are only able to observe the effect of cumulative months that are four years or shorter in duration. We cannot observe the wage effects of those individuals who use their full 60 months of federal TANF benefits and so our results should not be considered applicable to them. Thus, our estimates of the effects of welfare months and work breaks on earnings are conservative (i.e. we are unable to capture the effect of longer, supposedly more "harmful" spells). However, since the majority of welfare spells are relatively short in duration (Hofferth et al. 2002), our results may be considered representative of the average welfare recipient. Also, we are unable to examine the potential intervening mechanisms through which welfare participation may have an effect on wages. For instance, we do not have measures of whether or not the recipient attended a training program while on welfare or whether or not she faced employer discrimination in the labor market. Therefore, we are unable to directly examine *how* participation affects earnings.

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 "all months on welfare" and for months in which the respondent is on welfare and not working. However, we cannot definitely conclude that these programs and services do not boost women's earning potential. It could be that they

do positively impact wages, but are counteracted by the negative impact coming from either skill deterioration or employer discrimination.

The large negative impact of time out of work and on welfare could be due to a number of factors. These results support economic theories of human capital deterioration, as well as theories of welfare stigma in the labor market. These results also suggest that women on welfare do indeed suffer a wage penalty; the minimum wage floor does not protect them against a decline in wages. Our finding that time on welfare while unemployed depresses wages, and time on welfare while employed has a positive 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. Although our results show that time on welfare does increase women's wages – when combined with work - the additional job experience these women accumulate does not appear to lead to substantial wage growth.

Why does work experience on welfare have a smaller impact on wages compared to other non-welfare work experience? As suggested earlier, it could be that employers discriminate against welfare recipients, by not offering them good jobs or not promoting them at the same rate as other women with similar qualifications because they consider them to be unreliable, unmotivated workers. However, there are other possibilities. One possibility is that the work experience of welfare participants is mostly part-time work, and thus results in slower wage growth. Another possibility is that the types of work that welfare recipients engage in tends to be short-term and relatively unreliable (Edin and Lein 1997). In these situations, the recipients may not be able to build up a long history of work with one employer, which would lead to promotion and raise possibilities. The *types* of work that welfare recipients are able to find may also not

offer much promise for advancement or increase in wages (Harris 1993). Finally, if women on welfare under-report earnings more so than other women, we may be under-estimating the effect of work experience on wages for those on welfare (Loeb and Corcoran 2001).

Future research should continue to explore the effects of time spent on welfare on women's earnings. Specifically, it would be constructive to examine how welfare spells affect wages for recipients who increase their levels of education, get a GED, or receive therapy while on welfare. It would also be useful to see whether the effect of welfare participation has long-lasting effects. 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 4 months) has a different impact on earning than a longer period on welfare (e.g. 2 years or more). As panel data tracking women's work and welfare histories becomes more readily available, these questions should be addressed.

Appendix A. Details of Sample Restriction

	N		
Wave 1 (Adult women; adult defined as age 15+)	38,650		
Wave 2	37,417		
Wave 3	36,575		
Wave 4	35,617		
Wave 5	34,374		
Wave 6	33,289		
Wave 7	32,377		
Wave 8	32,081		
Wave 9	31,431		
Wave 10	31,107		
Wave 11	30,713		
Wave 12	30,694		
Merge	47,664		
Exclude those not interviewed all 12 waves	21,805		
Exclude women with age < 18 or 56 + at wave 1	14,573		
Exclude women who were childless over entire period	9,419		
Exclude those living in Wyoming/Dakotas/Maine/Vt (for IV)	9,312		
		Ever Welfare	**Never Welfare**
	9,312	954	8,358
Convert to person-waves (*12)	111,744	11,448	100,296
Exclude person-waves without at least two working waves (these are the "non-workers")	87,672	7,368	80,304
Exclude person-waves with missing wage	69,335	4,267	65,068
Exclude person-waves with outlying wages (<1 or >400)	68,911	4,201	64,710
Exclude respondents with fewer than 2 observations	**68,902**	**4,198**	**64,704**
Keeping only first and last wave	14,590	1,220	13,370
One person-wave each respondent	7,295	610	6,685
Exclude those with illogical transitions	7,245	603	6,642
Final	**7,245**	**603**	**6,642**

Appendix B. Descriptive Statistics by Worker Status, Used for Heckman Selection Model, 1996 SIPP

	Pooled[a]		Change from First to Last[b]	
Variable	**Not Worker**	**Worker**	**Not Worker**	**Worker**
Other Family Income	**$3,445**	**$2,799**	$478	$308
	($4,782)	($3,507)	($4,544)	($3,396)
Welfare and Work History				
Months on Welfare	**2.89**	**0.78**	**4.32**	**0.66**
	(8.51)	(4.12)	(11.51)	(3.69)
Months on Welfare and Working	**0.25**	**0.49**	**0.36**	**0.53**
	(1.92)	(2.88)	(2.54)	(3.17)
Months on Welfare and Not Working	**2.65**	**0.29**	**3.96**	**0.13**
	(8.00)	(2.13)	(10.83)	(1.30)
Months Working Full-time (and not on welfare)	**0.65**	**18.81**	**1.02**	**26.48**
	(2.88)	(14.82)	(4.03)	(17.08)
Months Working Part-time (and not on welfare)	**1.45**	**6.44**	**2.26**	**9.23**
	(4.80)	(10.57)	(6.62)	(13.18)
Months Not Working (and not on welfare)	**18.17**	**1.38**	**29.42**	**1.42**
	(15.57)	(4.46)	(17.80)	(4.31)
Human Capital				
Education				
Less than high school	**0.24**	**0.08**	**-0.02**	**-0.01**
	(0.43)	(0.27)	(0.14)	(0.10)
High school	**0.31**	**0.30**	**0.00**	**-0.02**
	(0.46)	(0.46)	(0.21)	(0.20)
Some college	**0.27**	**0.36**	0.01	0.00
	(0.45)	(0.48)	(0.19)	(0.25)
College	**0.18**	**0.26**	**0.01**	**0.02**
	(0.38)	(0.44)	(0.13)	(0.18)
Race				
White	**0.83**	**0.82**	**-**	**-**
	(0.37)	(0.38)		
Black	**0.10**	**0.14**	**-**	**-**
	(0.30)	(0.34)		
Other	**0.07**	**0.05**	**-**	**-**
	(0.25)	(0.21)		

Appendix B. Descriptive Statistics by Worker Status, Used for Heckman Selection Model, 1996 SIPP, Continued

	Pooled[a]		Change from First to Last[b]	
Variable	**Not Worker**	**Worker**	**Not Worker**	**Worker**
Ethnicity				
Hispanic	**0.09**	**0.07**	**-**	**-**
	(0.28)	(0.25)		
Marital status				
Never married	**0.11**	**0.13**	**-0.01**	**-0.03**
	(0.31)	(0.34)	(0.11)	(0.17)
Married	**0.79**	**0.69**	0.00	0.01
	(0.41)	(0.46)	(0.21)	(0.29)
Widowed	**0.02**	**0.01**	0.00	0.00
	(0.14)	(0.11)	(0.07)	(0.06)
Divorced	**0.09**	**0.16**	**0.01**	**0.02**
	(0.28)	(0.37)	(0.18)	(0.24)
Number of children 0-18	**1.98**	**1.55**	**-0.02**	**-0.11**
	(1.31)	(1.04)	(1.03)	(0.88)
Region				
South	0.35	0.34	0.00	0.00
	(0.46)	(0.47)	(0.13)	(0.10)
Urban	0.79	0.80	**0.11**	**0.09**
	(0.40)	(0.40)	(0.34)	(0.31)
Total sample size	24,062	68,902	1,975	7,245

Notes: These data are weighted using the wave-specific weights. Bolded values are significantly different between groups (p<=.05). Standard deviations in parentheses.

[a]Each respondent contributes multiple person-waves to the sample (average = 10.47)

[b]Each respondent contributes one observation to the sample.

Appendix C. Regression Results Predicting Ln Wage, Using Heckman Selection Technique, 1996 SIPP

Variable	Coefficient
Welfare and Work History	
Months on Welfare and Working	0.005*
	(0.002)
Months on Welfare and Not Working	-0.011*
	(0.005)
Months Working Full-time (and not on welfare)	0.012**
	(0.001)
Months Working Part-time (and not on welfare)	0.009**
	(0.001)
Months Not Working (and not on welfare)	-0.004*
	(0.002)
Controls	
Ln (First Wage)	-0.547**
	(0.010)
Education	
Less than high school	-0.101
	(0.078)
High school	-0.216**
	(0.051)
Some college	-0.189**
	(0.038)
College	omitted
Marital status	
Never married	-0.018
	(0.036)
Married	omitted
Widowed	-0.093
	(0.094)
Divorced	0.019
	(0.026)
Number of children 0-18	0.023**
	-0.007

Appendix C. Regression Results Predicting Ln Wage, Using Heckman Selection, 1996 SIPP, Continued

Variable	Coefficient
Region	
South	0.013
	(0.062)
Urban	-0.038+
	(0.021)
Constant	1.000**
	(0.032)
N	9,220
Uncensored	7,245
Censored	1,975

+ significant at 10%; * significant at 5%; ** significant at 1%

Note: Sample includes women, age 18-55 at 1st interview, with children, both working and not. Each respondent contributes one observation to the sample. These results are unweighted. Standard errors in parentheses.

Appendix D. Means of Instrumental Variables

Variable	Ever Welfare	Never Welfare
Instrumental Variables		
Benefit amounts, by state and year	**$407**	**$378**
	($152)	($142)
Monthly earnings that ends eligibility, by state	**$940**	**$868**
	($370)	($351)
Earnings disregard policy, by state (1 = high disregard, 2 = medium disregard, 3 = low disregard)	**1.83**	**1.95**
	(0.90)	(0.91)
N	603	6,642

Bolded values are significantly different between groups (p<=.05). Standard deviations in parentheses.

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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 $)	**$8.51**	**$13.43**	**$1.50**	**$2.38**
	($9.56)	($12.52)	(8.40)	(11.99)
Ln Hourly Wage	**1.95**	**2.38**	0.22	0.19
	(0.58)	(0.64)	(0.69)	(0.65)
Welfare and Work History				
Months on Welfare	**13.40**	**0.00**	**7.99**	**0.00**
	(11.02)	(0.00)	(10.29)	(0.00)
Months on Welfare and Working	**8.41**	**0.00**	**6.55**	**0.00**
	(8.69)	(0.00)	(9.27)	(0.00)
Months on Welfare and Not Working	**4.99**	**0.00**	**1.43**	**0.00**
	(7.35)	(0.00)	(4.03)	(0.00)
Months Working Full-time (and not on welfare)	**10.31**	**19.34**	**14.13**	**27.54**
	(11.04)	(14.86)	(12.59)	(17.07)
Months Working Part-time (and not on welfare)	**4.69**	**6.55**	**6.17**	**9.35**
	(7.12)	(10.74)	(8.28)	(13.41)
Months Not Working (and not on welfare)	**1.83**	**1.35**	1.47	1.31
	(4.46)	(4.46)	(3.66)	(4.13)
Human Capital				
Occupation				
Lower blue collar	**0.39**	**0.18**	-0.05	-0.01
	(0.48)	(0.38)	(0.43)	(0.33)
Upper blue collar	**0.13**	**0.08**	0.01	-0.01
	(0.34)	(0.27)	(0.32)	(0.21)
Lower white collar	**0.35**	**0.41**	0.00	-0.00
	(0.48)	(0.49)	(0.47)	(0.42)
Upper white collar	**0.13**	**0.34**	0.03	0.02
	(0.34)	(0.47)	(0.30)	(0.36)
Education				
Less than high school	**0.22**	**0.07**	**-0.03**	**-0.01**
	(0.41)	(0.25)	(0.18)	(0.09)
High school	**0.40**	**0.29**	0.00	-0.02
	(0.49)	(0.45)	(0.24)	(0.19)
Some college	**0.34**	**0.36**	0.02	0.00
	(0.47)	(0.48)	(0.24)	(0.24)
College	**0.05**	**0.28**	**0.01**	**0.02**
	(0.22)	(0.45)	(0.14)	(0.17)

Table 1. Descriptive Statistics by Welfare Status, 1996 SIPP* (Continued)

	Pooled		Change from First to Last	
Variable	**Ever Welfare**	**Never Welfare**	**Ever Welfare**	**Never Welfare**
Demographics				
Race				
White	**0.56**	**0.83**	-	-
	(0.50)	(0.37)		
Black	**0.39**	**0.12**	-	-
	(0.49)	(0.33)		
Other	0.05	0.05	-	-
	(0.22)	(0.21)		
Ethnicity				
Hispanic	**0.09**	**0.07**	-	-
	(0.28)	(0.25)		
Marital status				
Never married	**0.43**	**0.12**	**-0.06**	**-0.03**
	(0.49)	(0.32)	(0.23)	(0.17)
Married	**0.23**	**0.72**	**0.05**	**0.01**
	(0.42)	(0.45)	(0.35)	(0.30)
Widowed	**0.00**	**0.01**	**-0.00**	**0.00**
	(0.05)	(0.12)	(0.07)	(0.07)
Divorced	**0.34**	**0.15**	0.01	0.01
	(0.47)	(0.36)	(0.27)	(0.25)
Number of children 0-18	**2.06**	**1.52**	**-0.01**	**-0.14**
	(1.23)	(1.01)	(0.82)	(0.88)
Region				
South	**0.29**	**0.35**	**0.01**	**0.00**
	(0.45)	(0.47)	(0.11)	(0.10)
Urban	0.81	0.80	0.10	0.09
	(0.40)	(0.40)	(0.33)	(0.31)
Number of mths between first and last observation			**29.84**	**38.37**
			(12.83)	(10.69)
N	4,198	64,704	603	6,642

Notes: Sample includes women, age 18-55 at 1st interview, with children. These data are weighted using the wave-specific weights; results using the "weight of the last survey" did not yield significantly different results and are available upon request. Bolded values are significantly different between groups (p<=.05). Standard deviations in parentheses.

[a]Each respondent contributes multiple person-waves to the sample (average = 10.47)

[b]Each respondent contributes one observation to the sample.

Table 2. Regression Results from Change Models Predicting Ln Wage, 1996 SIPP

Variable	Model 1	Model 2	Model 3
Welfare and Work History			
Months on Welfare		0.002	
		(0.002)	
Months on Welfare and Working			0.004+
			(0.002)
Months on Welfare and Not Working			-0.011*
			(0.005)
Months Working Full-Time (and not on welfare)	0.011**	0.011**	0.011**
	(0.001)	(0.001)	(0.001)
Months Working Part-Time (and not on welfare)	0.009**	0.009**	0.009**
	(0.001)	(0.001)	(0.001)
Months Not Working (and not on welfare)	-0.003*	-0.003*	-0.003+
	(0.002)	(0.002)	(0.002)
Controls			
Ln (First Wage)	-0.545**	-0.544**	-0.545**
	(0.010)	(0.010)	(0.010)
Occupation			
Lower blue collar	-0.089**	-0.089**	-0.090**
	(0.023)	(0.023)	(0.023)
Upper blue collar	-0.001	-0.000	-0.002
	(0.033)	(0.033)	(0.033)
Lower white collar	-0.041*	-0.041*	-0.041*
	(0.019)	(0.019)	(0.019)
Upper white collar	omitted	omitted	omitted
Education			
Less than high school	-0.092	-0.084	-0.089
	(0.078)	(0.078)	(0.078)
High school	-0.205**	-0.202**	-0.201**
	(0.051)	(0.051)	(0.051)
Some college	-0.179**	-0.177**	-0.176**
	(0.038)	(0.038)	(0.038)
College	omitted	omitted	omitted

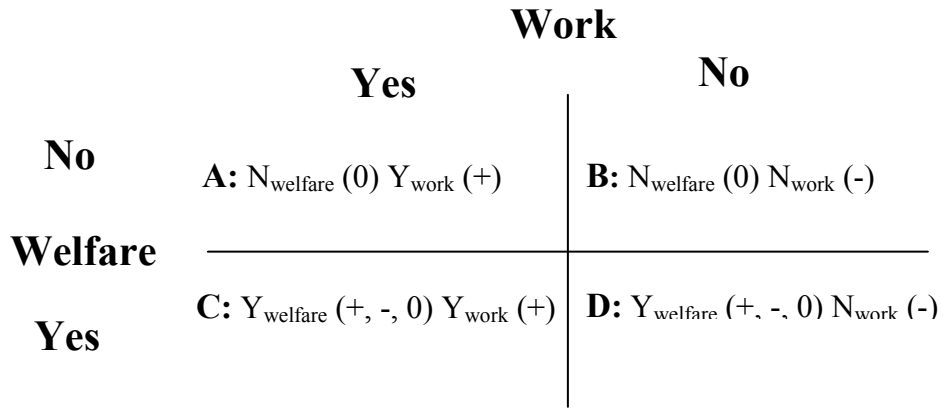
Table 2. Regression Results from Change Models Predicting Ln Wage, 1996 SIPP, Continued

Variable	Model 1	Model 2	Model 3
Marital status			
Never married	-0.014	-0.014	-0.012
	(0.036)	(0.036)	(0.036)
Married	omitted	omitted	omitted
Widowed	-0.091	-0.091	-0.093
	(0.094)	(0.094)	(0.094)
Divorced	0.016	0.016	0.016
	(0.026)	(0.026)	(0.026)
Number of children 0-18	0.021**	0.021**	0.022**
	(0.007)	(0.007)	(0.007)
Region			
South	0.011	0.011	0.015
	(0.062)	(0.062)	(0.062)
Urban	-0.038+	-0.038+	-0.038+
	(0.021)	(0.021)	(0.021)
Constant	1.008**	1.000**	1.000**
	(0.027)	(0.029)	(0.029)
N	7,245	7,245	7,245
R-squared	0.303	0.303	0.304

+ significant at 10%; * significant at 5%; ** significant at 1%

Note: Sample includes women, age 18-55 at 1st interview, with children. Each respondent contributes one observation to the sample. These results are unweighted. Standard errors in parentheses.

Figure 1. Potential Associations between Welfare Participation, Work, and Wages



Welfare: 0 (skills/wage too low), - (stigma), + (training/services)

Work: + (human capital appreciation), - (human capital depreciation)