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Welfare to Temporary Work: Implications for Labor Market Outcomes

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ABSTRACT

Welfare to Temporary Work: Implications for Labor Market Outcomes*

Recent welfare reforms are prompting some state and local welfare agencies to use temporary help service firms to help place welfare recipients into jobs. Concerns have arisen that these jobs are more likely to pay low wages, provide fewer benefits, and offer less stability. We explore the effects of temporary help firms on the labor market outcomes of welfare recipients by looking at the characteristics of welfare recipients who go to work for temporary service firms and by examining their subsequent employment and welfare dynamics. We find that although welfare recipients who go to work for temporary help service firms have lower initial wages they experience faster subsequent wage growth. Two years later, their wages are only slightly below workers who initially had jobs in other sectors, and they are no more likely to be unemployed and are only slightly more likely to remain on welfare.

JEL Classification: I3, J0, J4

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I. Introduction

Throughout the 1990s, the U.S. welfare system has been evolving from a system primarily focused on getting qualified individuals registered for cash assistance to one that aims to help disadvantaged individuals obtain self-sufficiency through employment. Rather than focusing solely on documenting eligibility, case workers now must develop a program of training and employment counseling that will place welfare recipients into jobs. As this has occurred, state and local welfare agencies and individuals in need of assistance have increasingly turned to labor market intermediaries, including temporary help service firms and other public and private employment agencies, as one way of connecting people with jobs (Pavetti et al., 2000).

Concerns are being raised, however, about the increased use of temporary help service firms for placing welfare recipients and other disadvantaged individuals into jobs. Jobs with temporary help service firms are frequently less stable, offer fewer fringe benefits, and pay lower wages than similar jobs in traditional (“end-user”) firms. Blank (1998) estimates that between 40 percent and 70 percent of temporary help service workers are in what she refers to as “problem” jobs, jobs that both pay low wages and are relatively less stable. At least one study finds that a majority of such workers state that they would prefer traditional employment arrangements (Cohany, 1998).

On the other hand, for many low-skilled workers employment through labor market intermediaries may provide a path to permanent and stable employment. By limiting the extent of employer commitment, such jobs may provide access to informal training and screening for workers who might otherwise be excluded from such opportunities. While a variety of studies

present a picture of the kinds of workers in such positions, little is presently known about the role that temporary help service employment plays in the career trajectories of welfare recipients.¹

To further examine the effect that temporary help service firms have on the labor market experiences and outcomes of welfare recipients, we address two main questions: Who among welfare recipients goes to work for temporary help service firms, and what are the implications of temporary employment for their labor market outcomes, compared to those welfare recipients who are hired directly by the firms in which they work?² We address these questions using administrative data on all welfare recipients in Missouri and North Carolina and all employment covered by unemployment insurance in these two states. Our data on welfare recipients and employment begin in 1990 in Missouri and 1995 in North Carolina. These data include standard demographic information about individuals, such as age, race, sex and education, as well as total earnings in a quarter and the industry of their employer. Using these data, we compare the earnings, earnings growth, and patterns of welfare receipt of welfare recipients who work for temporary help service firms with welfare recipients who either do not have jobs or who have jobs with end-user firms. Using a multi-nomial logit model we also examine how differences in individual characteristics and past welfare and employment experience affect the probability of

¹For studies characterizing temporary help employment, see Blank (1998), Cohany (1998), Laird and Williams (1996), Howe (1986), and a series of articles in the October 1996 *Monthly Labor Review*.

²Nollen (1996) defines two types of temporary workers: (1) employees of staffing/temporary help service firms who take short-term assignments at other client companies, and (2) direct-hire employees of the company where they work who have fixed-term contracts for temporary work. Our empirical analyses focus on the former, employees in the temporary help service industry, since our data allow us to identify industry of employment but not detailed job characteristics. Many of the issues we address are relevant for other temporary workers.

working in a temporary help job relative to either not working at all or working for a firm in an alternative industry. Finally, we compare the movement of welfare workers in temporary help firms across industries with the movement of workers who start out in other industries.

The paper is organized as follows. In the next section we review relevant literature and discuss theories about how individuals become matched to jobs in temporary help service firms. We describe our data in section III. In sections IV and V we present results. We summarize our results and present conclusions in section VI.

II. Literature Examining the Characteristics of Temporary Help Services Workers

Blank's (1998) findings on the low pay and instability associated with temporary work are corroborated in a number of studies that describe the characteristics of temporary work. Segal and Sullivan (1997a), for example, found that temporary workers were more likely than other workers to report being underemployed, to work fewer hours, and to have greater variability in their work schedules and less attachment to the labor force. They also report that temporary workers received 28 percent lower wages than permanent workers. Nollen (1996) shows that the average wage of temporary employees in 1994 (\$7.74 per hour) was just slightly higher than those of temporary help service firm employees in 1989 (\$7.59 per hour) and estimated that they were 35 percent lower than workers in other occupations. Houseman and Polivka (1999) also find that workers in temporary arrangements were considerably more likely than regular part-time workers to change employers or to lose their jobs and leave the labor force, even when they say they would prefer to work. In addition, Cohany (1998) finds that while 61

percent of permanent (or “traditional”) workers have health insurance only 7 percent of temporary workers receive this benefit.

A case study of temporary workers reports that these workers cite a number of “problems” with these jobs, including: uncertainty about income, work hours, and travel costs; a resulting inability to plan, invest, get credit, or make child care arrangements; money paid up front for work clothes or safety equipment that might not be used more than a day; unfairly withheld wages and equipment charges; a lack of job skills training or useful feedback on job performance; marginal social interactions in the workplace and exploitative actions by temporary employers; fear that assignments might be withheld if workers’ refused assignments, complained, or filed workers’ compensation or unemployment insurance claims; and powerlessness in controlling working conditions (McAllister, 1998). Welfare recipients frequently face employment barriers related to child care, transportation, and limited personal and financial resources for coping with some of these contingencies (Berg, Olson and Conrad, 1991; Pavetti and Acs, 2001). It is possible that the problems frequently associated with temporary jobs may be compounded for welfare recipients, generating special obstacles to self-sufficiency.

An alternative view of temporary work is that workers may choose these jobs because temporary help jobs best match their preferences or skills. In addition, the nature of temporary work may also benefit workers who want or need to take extended periods out of the labor force, or who value nonmarket time highly but are indifferent to its exact timing. For these people, the instability or uncertainty of temporary work may not be important disadvantages. This group might include some welfare recipients with young children or other family care responsibilities, and among temporary workers, there may be a substantial proportion who fit this profile.

Cohany (1998) and Morris and Vekker (2001) find that 1 in 3 temporary workers preferred their arrangement to a traditional job. Among married women with children, Morris and Vekker reported that 25 percent indicated that they wanted a temporary job for flexibility, shorter hours, to facilitate child care arrangements, or for other family reasons.

In terms of individual characteristics, Segal and Sullivan (1997a) find that a large portion of the temporary/permanent wage gap can be explained by standard worker characteristics known to be related to wages, or to unmeasured permanent differences in earnings-related characteristics. In addition, in explaining the disproportionate representation of African-Americans among temporary workers, Carre (1992) observes that the group of occupations in which African-American workers are concentrated in temporary employment corresponds to the occupations in which African-American workers are concentrated in all industries. Nollen (1996) likewise reports that the overall lower wages of temporary employees is a result of their concentration in relatively low-wage occupations (administrative, clerical, and laborer jobs). Thus, the higher concentration of welfare recipients (and other lower-skilled, less educated workers) in temporary help jobs may in fact reflect a matching process between workers with fewer productive characteristics and firms or jobs requiring less specific human capital, for which firms do not wish to establish long-term contracts.

Furthermore, for those workers with less desirable characteristics, the ability to enter into a contract where the employer has no long-term obligation may facilitate their access to the labor market. As Nollen (1996:575) explains, according to this view, “temporary work gives opportunities to begin the process of practical human capital development.” These temporary jobs in firms that might not otherwise hire temporary workers could also allow workers a chance

to show that they are productive and possibly lead to permanent jobs with the same employers. Based on their analysis of the frequency of transitions from temporary to permanent employment, Segal and Sullivan (1997a) find that the size of any “permanent ‘underclass’ of temporary workers” is likely small.

Previous research has a number of implications related to our analysis. First, to the extent that jobs in temporary help service firms have attributes that better match the preferences and/or skills of welfare recipients, workers in temporary help jobs will tend to be younger, less educated, and more likely to be nonwhite. Also, we expect that workers in temporary help jobs are more likely to have young children.

We also expect that workers in temporary help jobs will tend to have lower initial wages relative to workers in other industries. Insofar as temporary help jobs facilitate matches between workers and firms that lead to stable, long-term employment relationships, we expect earnings for these workers to increase faster than for others. On the other hand, it may be that temporary help jobs, along with low-wage jobs in general, provide poor future prospects. Houseman and Polivka (1999) find that temporary workers are more likely to lose their jobs than workers in other industries. Bartik’s (1997) analysis shows that this is also the case among welfare recipients. If those welfare recipients who go to work in permanent positions stay on the job longer, benefitting from more work experience and opportunities for general or firm-specific skills training, we might expect to see this reflected in higher subsequent earnings and earnings growth rates, compared to those who take temporary jobs.

In addition, it may be that welfare recipients are being forced to accept jobs in temporary help, and that these jobs lack the attributes that previous research suggests are crucial to their

successful transition off of welfare and into stable employment — health insurance benefits, paid time off from work, stable income, and supportive relationships with co-workers and supervisors (Blank, 1998; Cohany, 1998; Jorgenson and Riemer, 2000; Morris and Vekker, 2001). Workers in temporary help jobs will then be less likely to leave welfare in the future than workers in other industries, and they may have earnings that are persistently below the earnings of workers in other industries. Nonetheless, relative to those not working, welfare recipients who work in temporary help jobs may have a greater chance of moving off of welfare in subsequent periods.

III. Data

Our analysis examines cash recipients in the Aid to Families with Dependent Children (AFDC) or Temporary Assistance for Needy Families (TANF) programs in the states of Missouri and North Carolina. Our data come from records maintained to administer the states' welfare programs, providing basic demographic and family information on recipient households. We focus on female payees, age 18 but less than 65 years, in single parent households and exclude “child only” cases.³ In most of our analyses, we use quarters as our time unit, so that an individual who receives AFDC or TANF cash payments at any point during a given quarter is considered a welfare recipient.

Our examination of employment for welfare recipients relies on earnings data collected by the states in support of their unemployment insurance programs. Employers report total earnings for each individual in covered employment during each quarter, and we merge this

³The payee in a child only case is not a parent and receives payment on behalf of the children. Such payees normally do not face work or training requirements, and their income does not count in the calculation of the benefits.

information with records of welfare recipients. In addition to earnings, employer industry and several other employer characteristics are available. While these data omit self-employment, illegal or informal employment, and a small number of jobs not covered by unemployment insurance, the overwhelming majority of employment within the state is included. For welfare recipients in Missouri, we use employment data collected by the states of Missouri and Kansas, ensuring employment coverage for welfare recipients in Kansas City, Missouri, who often work in Kansas.⁴ For welfare recipients in North Carolina, we use that state's employment data. Of course, employment will be understated for individuals who move out of state after leaving welfare.⁵

Table 1 provides information on the sample of welfare recipients who serve as the basis for our analysis. In Missouri, our sample consists of all welfare recipients during 1993 and 1997, while the sample in North Carolina is for 1997. The sampling frame is quarters of welfare receipt, so individuals appear once for each quarter during each year in which they received

⁴Approximately one in seven jobs held by welfare recipients in Jackson County (the central county in the Kansas City metropolitan area) is in Kansas. In St. Louis, the proportion of individuals holding jobs in Illinois is much lower, reflecting the relatively poor economy in East St. Louis.

⁵Kornfeld and Bloom (1997) compare experimental (job-training program) earnings impact estimates calculated using unemployment insurance (UI) data with those based on other more costly earnings data sources and conclude that UI wage data provide valid estimates for all low income persons except a small subgroup of male youth with past arrests. See Hotz and Scholz (2000) for a general discussion of the advantages and limitation of these data for studying the employment patterns of welfare recipients.

welfare. This approach assures that the measures are representative of the average caseload during the year.⁶

Among the standard demographic measures, race shows the greatest differences over time and between states. The proportion of nonwhite welfare recipients is nearly 20 percentage points higher in North Carolina than in Missouri. Over the four years covered by our data in Missouri, the proportion nonwhite grows by 4 percentage points. More of the Missouri recipients are high school dropouts than are recipients in North Carolina. Missouri welfare recipients are slightly older, have more children, and their children are older in 1997, but these differences are small.

Among the most important differences between states is the settlement density. Over 50 percent of Missouri's welfare recipients live in the central counties of large metropolitan areas (St. Louis and Kansas City), whereas in North Carolina, less than 15 percent live in Charlotte, the state's only large metropolitan area. Approximately half of North Carolina's caseload is in small metropolitan areas, in contrast to less than 10 percent for Missouri.⁷ Reflecting settlement patterns in the south, North Carolina has a larger proportion living outside any metropolitan area—nearly 40 percent, in contrast to approximately 25 percent in Missouri. –

⁶ We are using data from 1997 for both Missouri and North Carolina because we want to have information for workers for two years prior to the sample period and for two years hence. Our data in North Carolina begin in 1995, so 1997 is the first year we have the retrospective information. Since the Missouri data begin in 1990, we are also able to use data for welfare recipients in 1993.

⁷The observed difference is due to the category breaks in conjunction with the fact that there are more moderately large metropolitan centers in North Carolina. According to 2000 Census statistics, two of the metropolitan areas classified as “small” in North Carolina have total populations greater than 1 million (Greensboro–Winston-Salem–High Point and Raleigh–Durham–Chapel Hill). In contrast, none of the metropolitan areas classified as small in Missouri has a population over 400,000. Our classification is based on the system developed by the USDA Economic Research Service.

IV. Employment, Earnings, and Welfare Exit of Welfare Recipients

Characteristics of welfare recipients by type of job

We begin our analysis of the effect that temporary help services firms have on the labor market experience of welfare workers by looking at how the characteristics of welfare recipients vary by type of job. Throughout this analysis we divide workers into three main groups based on their employment during a quarter: (1) those with no job, (2) those with jobs in only one of our sectors, and (3) those with jobs in multiple sectors.⁸ We further divide the second group by sector: temporary help, manufacturing, retail trade, services (not temporary help), and any other industry.⁹ Finally, we divide workers with jobs in more than one sector into those who have at least one job in the temporary help sector, and those who do not have a job in the temporary help sector. In Table 2, we present the characteristics of Missouri and North Carolina welfare recipients separately by type of job.

Comparing recipients with no job to those with a job in the temporary help sector only, we see that welfare recipients who do not have a job are less educated, are more likely to be white, have longer spells on welfare, and work a smaller percentage of time in the previous eight quarters. These differences are similar for welfare recipients in both Missouri and North Carolina.

⁸ Our wage record data allow us identify the earnings that an individual receives from each employer in a quarter. However, for individuals with earnings from multiple employers, we do not know whether employment was simultaneous or sequential. Recipients are classified as not having a job if they do not appear in the earnings data.

⁹ This division is based on the SIC code of the employer. The temporary help sector is SIC code 7363. Manufacturing includes SIC codes 20-39, retail trade includes SIC codes 52-59, and services includes SIC codes 70-89. Workers in all other industries are included in the “other” category.

Comparing welfare recipients with jobs in temporary help with other employed welfare recipients, we see that recipients working in temporary help are much more likely to be nonwhite. In addition, temporary help workers have slightly longer spells on welfare and work a smaller percentage of time in the previous eight quarters. However, with the exception of race, the differences in characteristics between recipients working in temporary help jobs and recipients working in other sectors are much smaller than the differences in characteristics between those with jobs and those without.

Earnings of Welfare Recipients by Job Type

Table 3 presents the mean earnings of welfare recipients by type of employment. Since workers with no job have zero earnings by definition, we have excluded them from this table. Comparing the earnings of welfare recipients working in temporary help jobs with recipients working in other industries, we see that the mean earnings of workers in temporary help jobs is substantially below the mean earnings of workers in other sectors. In Missouri in 1997, welfare recipients working in the temporary help sector average 40 percent lower earnings than workers in manufacturing, while in North Carolina workers in the temporary help sector have average earnings that are one-third lower than workers in manufacturing. While the differences tend to be smaller when comparing the average earnings of temporary help workers with the average earnings of workers in other industries, the difference is always at least \$100, which translates into at least 10 percent lower average earnings for welfare recipients working in the temporary help sector.

One other interesting comparison in Table 3 is between recipients who hold jobs in multiple sectors, one of which is in the temporary help sector, and recipients who hold jobs in

multiple sectors but none in the temporary help sector. Although those with jobs in temporary help have lower earnings, the difference is generally less than 10 percent. One hypothesis that might account for this fact—that recipients with jobs only in the temporary help sector have substantially lower earnings than those with both a temporary help job and one in another sector—is that this latter group takes a job in the temporary help sector because of the flexibility associated with these jobs. Some of these workers will have multiple jobs simultaneously, and the flexibility of a temporary help job may lower the costs of having more than one job. In contrast, since recipients with just one job in the temporary help industry appear to have lower skills, they may be more likely to take a job in the temporary help industry because temporary jobs better match their skills.

Table 4 presents statistics on welfare receipt over the subsequent two years, again broken out by the type of job held (or no job) in the current quarter and year of observation. In both Missouri and North Carolina, we see that a larger percentage of recipients with no job are still on welfare in two years as compared with those holding any job, and recipients with no job receive welfare payments in more quarters over the next two years. When we compare recipients with a job only in temporary help to other employed recipients, we see that recipients working in temporary help are also more likely to be on welfare in two years and to receive welfare payments in more quarters over the next two years. Welfare recipients who have a job only in the temporary help sector are less likely to leave welfare than recipients who have a job in another sector or who have jobs in multiple sectors. However, relative to welfare recipients with no job, recipients working in the temporary help industry are less likely to be on welfare two years later and receive fewer quarters of welfare over the period. Finally looking at the data for

Missouri we see that for all industry groups, the percent on welfare two years later is lower for the more recent cohorts.

Table 5 presents employment and earnings information over the next two years for welfare recipients separately by type of current job. In both Missouri and North Carolina, we see that recipients with no current job have substantially lower earnings over the next two years than any class of workers and have fewer quarters in which they have positive earnings. We also see that, relative to recipients working in other sectors, recipients with a job only in the temporary help sector tend to have lower earnings over the next two years. However, it is important to note that the difference in the sum of earnings between workers in the temporary help sector and workers in other sectors is much smaller than the difference in current earnings reported in Table 3. The average sum of earnings over the next two years for welfare recipients in Missouri in 1997 whose job is in the temporary help sector is 14 percent less than welfare recipients whose job is in manufacturing. In contrast, we saw in Table 3 that the average current earnings of recipients in the temporary help sector was 40 percent lower than average current earnings of recipients working in manufacturing. This implies that recipients working in the temporary help sector have much higher rates of earnings growth over the next two years than recipients in the manufacturing sector. We see a similar pattern when we compare the earnings of temporary help workers to the earnings of workers in other industries.

Equally notable, we see that among individuals who are observed initially to have jobs in multiple sectors, those with a temporary help job actually have higher earnings than others in the subsequent two years, in contrast to their current earnings, which are lower. The finding that welfare recipients working in the temporary help sector have lower current earnings but faster

earnings growth relative to recipients working in other sectors is consistent with the hypothesis that the reason workers accept jobs in the temporary help sector is because these jobs allow them to demonstrate to employers that they are productive, ultimately leading to more stable, higher-paying jobs.

In summary, Tables 2-5 suggest that recipients with any job, including those with jobs in temporary help services, tend to be more skilled, have been on welfare for less time, and are more likely to move off of welfare in the future than those with no jobs. However, relative to recipients working in other sectors, recipients with jobs only in the temporary help sector tend to be less skilled, are less likely to leave welfare, have lower current earnings, but experience faster growth in earnings in the next two years. These findings are all consistent with the hypothesis that welfare recipients obtain opportunities for future advancement by working in the temporary help sector. Of course, up to this point, we have not controlled for other characteristics of workers that might affect their earnings and employment and welfare patterns in our analysis. It is this more in-depth analysis that we turn to next.

V. Determinants of Employment, Earnings and Welfare Receipt

Determinants of Job Type

We begin by examining the relationship between welfare recipient characteristics and the type of job. We estimate a multinomial logit model, where the types of jobs an individual can have are: no job; a job in the temporary help sector only (“Job in Temp Help”); a job both in the temporary help sector and in another industry (“Job in Temp Help and Other Industry”); a job in

another industry but no job in the temporary help sector (“Job, but none in Temp Help”). No job is the excluded category in this analysis, so all of the effects are relative to not having a job.

We estimate the multinomial logit model controlling for the set of demographic characteristics discussed previously (age, education, nonwhite, number of children and age of the youngest child) as well as measures of past welfare experience, experience, and prior earnings.¹⁰ We also control for the quarter of the year from which the observation comes and a variety of characteristics of the county where an individual lives. In addition to the county’s metropolitan status, we control for the county’s sanction rate and welfare departure rate. County-specific measures of the economy include the county’s employment level, the share of employment in nine primary industries and the average earnings in each.

The results from our multinomial logit analysis are presented in Table 6. Looking at the coefficients in this table, we see that, with a few notable exceptions, the effects of individual characteristics are very similar across the three types of jobs, relative to not having a job. Perhaps the most striking exception, however, is the large difference in probabilities by race across job types. The probability that a welfare recipient has a job in the temporary help sector is substantially higher for nonwhites than for whites, while there is relatively little difference by race in the likelihood of obtaining other jobs. In addition, contrary to our expectations, older workers are relatively more likely to have jobs in the temporary help sector than jobs in another

¹⁰Previous studies indicate that controls for experience and prior earnings are particularly important, as they correlate strongly with unobserved characteristics related to future employment and earnings (Houseman and Polivka, 1999; Segal and Sullivan, 1997b; Heckman, Ichimura, Smith and Todd, 1998).

industry, although this effect is smaller in the most recent period.¹¹ Other than these noteworthy effects, there is little difference in the individual level determinants of temporary help sector employment relative to employment in other sectors.

As expected, there are important differences by geographical location. Here we see that living in a metropolitan area significantly increases the probability that a recipient has any type of temporary help job relative to not having a job or to having a job in another industry. (This relationship is somewhat more pronounced in Missouri than in North Carolina.) This effect is in addition to the strong impacts of measures reflecting the local economy. As might be expected, greater levels of overall employment in the county imply a greater chance of temporary employment—especially where temporary employment is combined with other kinds of employment. We see that high levels of construction, manufacturing, wholesale trade and resale trade employment increase the likelihood of a temporary help job. Earnings by industry also have statistically significant impacts, although effects are difficult to summarize. As might be expected, higher earnings in the industries listed above do not generally increase the likelihood of a temporary help job, suggesting that it is the lower-paying firms in these industries that are most likely to hire temporary help workers.

It is worthwhile to note that these results fail to support the view that women with more demanding family responsibilities are more likely to take temporary help jobs. It appears that individuals with more children or with younger children are no more likely to be in temporary help jobs than other jobs.

¹¹We examine the impact of age at the sample mean, based on the coefficients for the linear and squared terms.

Determinants of Earnings

The analyses above (Tables 3 and 5) show that those with jobs in temporary help service firms have initial earnings that are appreciably below those with jobs in most other major industry categories but that the difference in earnings between these groups declines in the following eight quarters. Several problems arise in attempting to identify whether this relationship is causal. The first problem is that individuals who take temporary help jobs may have different characteristics than other workers, and this difference may partly explain their lower earnings. Of course, if these characteristics are observable then we can control for them in a regression.

The more serious problem is that individuals in temporary help jobs may differ in unobserved ways from workers in others industries. Insofar as individuals have choices among alternative kinds of jobs, the conscious choice of a temporary help job may select individuals whose opportunities in other jobs are different from observationally identical individuals in those jobs. In addition, since job type is partly determined by an employer decisions, employer selection on unmeasured characteristics overlays self-selection. Although almost any selection configuration is possible, we suspect that women who have particular difficulty obtaining other employment may seek temporary help positions, which implies that their low earnings are partly due to unmeasured characteristics.

To address these problems, we fit earnings models separately for our four classes of workers controlling both for individual characteristics and for unmeasured factors that influence

selection into the job using the selection correction method proposed by Lee (1982).¹² In order to identify the selection model we assume that our measures of county employment, county sanction and welfare departure rate, industrial structure and industry-specific earnings enter into the selection equation but not into the equation predicting earnings. In essence, this implies that these county measures of the economy and welfare policy influence individual earnings exclusively through current employment and observed job type. While this assumption may be violated, these measures have the advantage that they will be largely independent of unmeasured individual characteristics that undoubtedly influence job choice and earnings. They therefore avoid the problems due to self-selection into jobs based on individual-specific earnings opportunities, which we expect to impose the most severe biases on results.

Appendix Table A-1 presents equations that predict current earnings for individuals holding jobs in the three classes identified by the multinomial logit: (1) job only in temporary help, (2) job in temporary help and another industry, (3) one or more jobs, but no job in temporary help. Since individuals without jobs have no earnings by definition, they are omitted in this analysis. Results are quite conventional, although, as might be expected in an analysis that controls for type of employment, estimated coefficients are frequently not statistically significant. Perhaps of greatest interest is that in none of the regression equations is the coefficient on Lambda statistically significant, providing little support for the importance of selection effects.

¹² This method uses probabilities obtained in the multinomial logit selection model to construct an inverse Mills ratio that is entered as a control variable (“Lambda” in our tables). The standard errors in these regressions are corrected to account for estimation error in the inverse Mills ratio. See Gyourko and Tracy (1988) for an explication of the method.

Appendix Tables A-2 and A-3 present results for selection-corrected models predicting the sum of total inflation-adjusted earnings over the eight quarters subsequent to the reference quarter, as well as earnings in just the eighth quarter. Since individuals with no jobs during the reference quarter may obtain jobs in the following quarters, we include those with no job as an employment class. In all samples, self-selection is of importance for those not working during the reference quarter, but it is not generally important for the other classes.

Table 7 presents statistics addressing the issue of how job category influences earnings based on these models. Panel A examines current quarterly earnings, panel B total earnings over the subsequent eight quarters, and panel C earnings in the eighth quarter. Under each panel, the first line indicates mean earnings, while the second uses estimated coefficients to predict the earnings of an individual with characteristics at the grand mean for that sample. Since the selection term is included among these characteristics, this predicted value allows for unmeasured differences that influence job choice to also impact earnings. It answers the question of what the earnings would be of an individual whose measured characteristics corresponded to the grand mean but *who chose that job class*. If self-selection plays any role, these predicted earnings differences across job classes may, in part, reflect unmeasured factors that cause individuals to make different job choices.

The third line in each panel predicts what the earnings would be for an individual whose measured and unmeasured characteristics are at the grand mean. These are the predicted earnings that an average person would obtain if she were assigned at random to the specified job class. The difference between the second and third line is that in the third line the coefficient on Lambda is set to zero, simulating the case where no selection effects occur. If that coefficient is

not statistically significant, then the difference between lines 2 and 3 is not statistically significant.

If we focus first on current earnings (panel A), we see that those in a temporary help job earn between 60 and 74 percent of the earnings of those in other jobs. Controls for measured characteristics increase this proportion slightly (up to 5 percentage points). Those who have both a temporary help job and a job in another industry earn about 10 percent more than those with jobs only in other industries, and controlling for measured characteristics has very little impact on this difference. The third line shows that not only is sample selection not statistically significant, but the standard errors are so large that comparisons across groups are not meaningful.

Panel B includes those with no job in the reference quarter, and it is not surprising that the earnings of these individuals over the subsequent eight quarters are less than half of those who have jobs. In all analyses, we see that controlling for measured characteristics raises predicted earnings for those with no job in the reference quarter by about 20 percent, causing the gap between those with jobs and others to close. Line 3 does not provide any evidence that selection on the basis of unmeasured factors into nonemployment explains any of the remaining gap, since, in all three samples, that gap is actually larger when sample selection is taken into account. All of the estimates reported in line 3 display very large sampling error, however, so we do not place much emphasis on this result.

Over the following eight quarters, workers with only temporary help jobs earn between 84 and 93 percent of earnings for those with other initial jobs, and the gap declines by 3 or 4 percentage points when measured characteristics are controlled. Temporary help workers'

relative subsequent earnings are therefore much higher than their current earnings, reported in panel A. This underscores our observation that the low earnings obtained in temporary help jobs do not appear to be permanent. Interestingly, the relative increment for those with a temporary help job as well as another job, about 10 percent, as indicated above, does not decline over the subsequent period, as reflected in the eight quarter total. Corrections for self-selection (line 3) produce estimates with such large standard errors that interpretation is not possible.

Panel C, which lists predictions of earnings in the eighth quarter after the reference quarter, underscores the basic pattern reported in panel B. Earnings of those initially only in temporary help jobs are, by this time, between 93 and 99 percent of those with other jobs, and much of this small remaining gap is due to measured characteristics. The bottom line from Table 7 is that, while temporary help workers earn lower wages initially, they also have faster subsequent wage growth, so that by eight quarters later workers who initially held temporary help jobs have earnings that are close to those of workers who had jobs in other industries.

Perhaps most surprising is the fact that the role of temporary help has changed relatively little in Missouri over the period we observe it. Between 1993 and 1997, the proportion of welfare recipients with any kind of temporary help job more than doubled, and among employed welfare recipients, the proportion increased by 50 percent. This period also corresponds with changes in the welfare system, in which there was growing pressure for recipients to seek employment, accompanied by dramatic declines in the welfare caseload. If recipients were being forced into temporary help jobs in this period, we might expect that the those employed in these jobs would fare worse than in earlier years, in contrast to our findings.

Mobility Between Jobs

Of course, we expect that one of the primary ways that those in temporary help jobs improve their position is by moving into jobs in other industries. Table 8 provides some indication of the job mobility of temporary help workers and others. For ease of presentation, an employed individual is classified by the job from which she received the most earnings in the quarter. We recognize that many of the temporary help workers that “move” to other industries were actually working in firms in those industries while they were employed by temporary help firms. However, for those workers, such a move nonetheless identifies an important change in status.

Each row in Table 8 indicates how individuals in a given type of job are distributed across jobs a year later. We see, for example, that in 1993, 38.6 percent of temporary help workers were working in service jobs (including temporary help) one year later. The patterns are quite similar across years and states, and in each case they indicate that mobility from temporary help positions to other industries is substantial. Whereas over 50 percent of workers in service industries (not temporary help) remain in service, only about 40 percent of temporary help workers are still in service one year later. In our two states, the proportion of temporary help workers who have moved to manufacturing, although modest, is greater than for any of the other industries, aside from manufacturing itself. Temporary help workers are also relatively likely to move into the “other” category. The likelihood of movement to these two industry categories is significant given that jobs in these industries on average pay higher wages (see Table 3).

While the movements are not striking, they nonetheless give some indication of the kind of mobility that temporary help workers may be experiencing. Furthermore, it is worthwhile to

note that the proportion of workers who do not have a job one year later is also similar across industries, suggesting that temporary workers are not significantly more likely to be without a job a year later than those who go to work in other industries.

Movement Off of Welfare

Next we estimate the probability that an individual is on welfare eight quarters later, controlling for measured characteristics and unmeasured factors that influence selection into the job. We again apply Lee's (1982) selection correction method to this linear probability model. We use the same classification system for job type that we used in the earning models, (i.e., no job, job in temporary help only, job in temporary help and another industry, or job but none in temporary help), and similarly construct the inverse Mills ratio using probabilities obtained in the multinomial logit selection model. Appendix Table A-4 presents results for the selection-corrected models predicting the probability of leaving welfare eight quarters later, with the standard errors adjusted for estimation error in the inverse Mills ratio.

Appendix Table A-4 shows that the estimated impacts of individual characteristics are consistent with prior research, and differences over time and between states are small. The coefficients on Lambda in all of the Missouri models are generally not statistically significant, implying that selection effects are negligible. The North Carolina results suggest, however, that self-selection is particularly important for those with no job during the reference quarter.

Table 9 presents statistics that indicate how the type of job one enters influences the probability of leaving welfare. The observed probability is shown in the first line of Table 9; the second line shows the predicted probability for an individual with average measured characteristics based on a specification that includes unmeasured differences that influence

selection into jobs; and the third line predicts the probability of leaving welfare for the average person if she were assigned to a particular job category, removing any differences due to selection on unmeasured characteristics.

In general, the results show that welfare recipients holding jobs are substantially more likely to be off of welfare in two years than are those without jobs, but there is a decline in this impact over time. Focusing on Missouri, where we can compare periods prior to and following welfare reform, line 1 shows that, in 1993, the chance of leaving welfare is 46 percent higher for a recipient with a job (not in temporary help) than for a recipient with no job, whereas in 1997 the difference is only 19 percent. The difference in North Carolina in 1997 is only 11 percent. At the same time, the chance that any individual leaves welfare increases dramatically between 1993 and 1997, and the observed pattern is consistent with the view that welfare reform has had its greatest impact on those without jobs.

In North Carolina, those with only temporary help jobs have a 5 percent lower chance of leaving welfare than those in other jobs. The difference is greater in Missouri, with a difference of nearly 20 percent in 1993 and over 10 percent in 1997. However, when we control for measured personal characteristics (line 2), the difference declines by more than half, implying that much of the lower chance of leaving welfare for temporary help workers is due to measured characteristics. In 1997 in both Missouri and North Carolina, once we control for observable characteristics, recipients working in temporary help jobs are only 3 percent less likely to leave welfare in two years than recipients working in other industries. This difference is smaller than that reported in Table 4 and suggests that, once measured factors are controlled, working in a temporary help job does not substantially reduce the chance of exiting welfare.

Controlling for unmeasured differences that influence selection into jobs has no consistent effect on the estimated differential in the probability of leaving welfare across job categories (line 3). As in the earnings models, these estimates have large standard errors and are not very informative about the importance of selection on the basis of unmeasured characteristics into temporary versus other jobs. Comparisons in line 3 between those with jobs and those without suggest that the higher chance of leaving welfare for those who are employed is not due to selection. In fact, in North Carolina, estimates suggest that a large impact of employment on welfare exit is partly hidden by unmeasured factors.

VI. Summary and Conclusion

Our results confirm the view that welfare recipients in temporary help jobs receive lower earnings and have less promising prospects for movement from welfare than those who have jobs in other industries. However, what is perhaps of greatest interest is that these differences are small once we control for individual characteristics. Earnings in subsequent years for temporary help workers increase faster than those in other industries, in part because they are more likely to move into higher paying industries. Overall, it is clear that those in temporary help jobs have appreciably better future prospects than those who are not holding jobs, even after controlling for all of the characteristics that we can observe.

Whether temporary help jobs are, on net, beneficial to welfare recipients depends on whether they supplant jobs that provide better pay and benefits and greater levels of stability. It seems likely that a welfare recipient with a job in a manufacturing firm faces at least slightly better prospects than a worker in temporary help services. But we suspect that for many welfare

recipients, attractive jobs are not available because their skills and observable characteristics make employers unwilling to hire them into the stable and high-paying jobs, such as those in manufacturing. If temporary help jobs provide employment for at least some welfare recipients who would not otherwise have employment, these analyses show that the impact will be strongly positive.

Even if temporary help jobs supplant other jobs, there is very little evidence to suggest that workers in those positions are significantly hurt in the long run. Our analyses suggest that temporary help jobs provide a path to other industries with higher pay and greater stability. There is also evidence that some recipients benefit from being able to combine work in temporary help services with other employment. Undoubtedly, some of those with temporary help jobs find themselves trapped in employment with low earnings and perennial instability, but we do not find evidence that, among welfare recipients, such problems are worse for temporary help workers than for those in most other jobs. Those who take temporary positions are not more likely than those taking jobs in other industries to be without a job a year later. And despite the growth in the number of recipients with temporary help jobs, there is no indication that the circumstances of these workers has deteriorated over time.

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Table 1: Sample Characteristics of Welfare Recipients

	Missouri		North Carolina
	1993	1997	1997
Age	29.11 (7.51)	29.37 (7.66)	28.95 (7.66)
Age squared	903.77 (492.43)	921.06 (503.38)	896.90 (501.19)
Percent with education lower than 12 years	44.8	45.7	37.8
Percent nonwhite	46.9	51.0	69.1
Number of children	2.05 (1.18)	2.07 (1.21)	1.82 (1.01)
Age of the youngest child	4.89 (4.47)	5.04 (4.41)	4.93 (4.30)
Percent on welfare less than 6 months in prior 2 years	21.6	20.2	24.6
Percent on welfare 7-12 months in prior 2 years	12.9	12.9	15.1
Percent on welfare 13-23 months in prior 2 years	28.6	32.4	33.3
Percent on welfare 24 months in prior 2 years	37.0	34.6	27.0
Percent of previous 8 quarters working	27.45 (31.40)	37.71 (34.00)	43.39 (35.16)
Percent working all of previous 8 qtrs	4.9	8.1	11.3
Percent not work in any of previous 8qtrs	40.8	28.1	23.1
Total annual earnings in the prior year	1397 (2916)	2074 (3463)	2549 (3764)
Total annual earnings two years prior	1785 (3655)	2252 (3916)	2735 (4321)
Percent in St. Louis County and St. Louis City	36.4	39.1	n.a.
Percent in Kansas City central area (Jackson County)	16.7	17.5	n.a.
Percent in Charlotte central (Mecklenburg County)*	n.a.	n.a.	11.3
Percent in suburban areas*	9.7	8.4	3.5
Percent in small metro	9.5	9.0	46.9
Percent outside metro	27.8	26.0	38.4
Quarter 1	24.8	27.3	26.5
Quarter 2	24.8	25.3	25.5
Quarter 3	25.2	24.3	24.8
Quarter 4	25.3	23.2	23.2
Number of observation	289,160	219,442	293,276

Note: Standard deviations of continuous variables are in parentheses. Sample includes females aged at least 18 and less than 65 in single parent families, not in child only cases. Sampling frame is quarter by welfare recipient. Earnings are adjusted for inflation to real dollars for the fourth quarter of 1997. *Suburban areas include the noncentral counties in the St. Louis, Kansas City, and Charlotte metropolitan areas.

Table 2: Sample Characteristics of Welfare Recipients by Industry Combinations

Variables		No Job		One Industrial Sector				Multiple Sectors	
			Temp Help	Manufacturing	Retail Trade	Service*	Other	Temp Help and Any Other	Any Industry Not Temp Help
<i>Panel A. Missouri</i>									
Age (mean)	1993	29.63	28.28	28.40	26.22	28.78	28.58	27.73	26.81
	1997	30.10	28.74	29.65	26.79	29.22	29.08	27.92	27.47
Percent with education less than 12 years	1993	47.5	35.8	43.9	41.7	36.3	30.0	31.4	36.6
	1997	48.0	41.9	45.9	47.0	41.3	34.3	39.1	41.9
Percent nonwhite	1993	44.7	74.8	30.9	46.6	56.2	56.5	69.2	45.6
	1997	45.0	73.2	34.9	50.8	63.0	63.3	71.9	54.5
Number of children	1993	2.10 (1.22)	2.02 (1.16)	1.88 (1.00)	1.81 (1.00)	1.97 (1.11)	1.88 (1.06)	1.88 (1.06)	1.78 (.96)
	1997	2.10 (1.25)	2.07 (1.19)	2.00 (1.11)	1.92 (1.11)	2.08 (1.19)	2.01 (1.15)	2.01 (1.14)	1.93 (1.09)
Age of youngest child under 18	1993	4.99 (4.53)	4.90 (4.40)	5.05 (4.45)	3.88 (3.91)	5.06 (4.42)	4.92 (4.32)	4.95 (4.40)	4.39 (4.13)
	1997	5.13 (4.54)	5.08 (4.33)	5.33 (4.46)	4.27 (3.98)	5.26 (4.33)	5.15 (4.27)	4.88 (4.12)	4.70 (4.02)
Number of months on welfare in previous 2 years	1993	16.66 (8.56)	15.89 (8.46)	12.20 (8.99)	13.50 (8.88)	14.47 (8.72)	14.06 (8.72)	14.05 (8.64)	12.70 (8.73)
	1997	16.60 (8.49)	16.36 (8.26)	13.15 (8.65)	14.85 (8.62)	16.13 (8.35)	15.83 (8.38)	15.23 (8.30)	14.20 (8.55)
Percent of previous 8 quarters employed	1993	18.71 (26.00)	44.71 (31.06)	47.14 (33.47)	49.73 (32.62)	50.05 (33.17)	50.15 (33.04)	58.90 (30.68)	57.48 (31.56)
	1997	25.01 (28.94)	54.54 (31.62)	49.39 (32.88)	53.64 (32.08)	54.47 (32.83)	55.41 (32.98)	67.08 (29.63)	64.22 (30.40)
<i>Panel B. North Carolina</i>									
Age (mean)	1997	29.65	27.59	28.69	26.95	29.61	29.58	27.64	27.84
Percent with education less than 12 years	1997	41.6	33.8	41.2	36.2	28.8	28.9	31.4	31.9
Percent nonwhite	1997	66.9	81.1	68.7	64.3	77.1	66.6	78.5	68.4
Number of children	1997	1.85 (1.04)	1.82 (.96)	1.85 (.99)	1.73 (.94)	1.86 (1.00)	1.78 (.96)	1.79 (.96)	1.77 (.95)
Age of youngest child under 18	1997	4.98 (4.43)	4.59 (3.94)	5.06 (4.27)	4.35 (3.94)	5.41 (4.31)	5.35 (4.37)	4.79 (3.98)	4.91 (4.11)
Number of months on welfare in previous 2 years	1997	15.47 (8.70)	14.26 (8.30)	12.34 (8.58)	13.92 (8.49)	14.73 (8.40)	13.63 (8.68)	13.00 (8.22)	12.88 (8.42)
Percent of previous 8 quarters employed	1997	28.01 (30.49)	57.07 (31.31)	60.12 (32.77)	58.24 (31.68)	59.52 (32.48)	57.34 (32.84)	70.52 (28.89)	68.47 (29.75)

Note: Standard deviations of continuous variables are in parentheses. Sample includes females aged at least 18 and less than 65 in single parent families, not in child only cases. Sampling frame is quarter by welfare recipient. *Service excludes temporary help.

Table 3: Distribution of Jobs and Quarterly Earnings by Industry Combinations

Industry Combinations	1993		1997	
	Percent	Earnings	Percent	Earnings
<i>Panel A. Missouri</i>				
<i>One sector:</i>				
Temp help	7.8	656 (770)	11.0	940 (1078)
Manufacturing	6.9	1245 (1276)	4.9	1565 (1743)
Retail	29.1	891 (824)	25.3	1090 (1039)
Service*	35.7	1107 (1057)	34.1	1461 (1346)
Other	7.9	1457 (1385)	7.8	1973 (1793)
<i>Multiple sectors:</i>				
Temp help and any other industry	4.7	1269 (1038)	8.3	1535 (1299)
No jobs in Temp help industry	8.0	1344 (1114)	8.6	1615 (1460)
<i>Panel B. North Carolina</i>				
<i>One sector:</i>				
Temp help	n.a.	n.a.	10.2	1035 (1079)
Manufacturing	n.a.	n.a.	9.5	1604 (1365)
Retail	n.a.	n.a.	30.1	1128 (927)
Service*	n.a.	n.a.	26.6	1413 (1207)
Other	n.a.	n.a.	5.1	1682 (1583)
<i>Multiple sectors:</i>				
Temp help and any other industry	n.a.	n.a.	8.6	1528 (1159)
No jobs in Temp help industry	n.a.	n.a.	9.9	1652 (1386)

Note: Standard deviations are in parentheses. Sample includes females aged at least 18 and less than 65 in single parent families, not in child only cases. Sampling frame is quarter by welfare recipient. *Service excludes temporary help.

Table 4: Welfare Reciprocity Over The Next Two Years by Industry Combinations

Industry Combinations	1993			1997		
	Percent on welfare in 2 years	Number of quarters on welfare next 2 years	Number of obs.	Percent on welfare in 2 years	Number of quarters on welfare next 2 years	Number of obs.
<i>Panel A. Missouri</i>						
<i>No job</i>	63.9	6.19 (2.54)	209,325	43.6	5.03 (2.81)	129,440
<i>One sector:</i>						
Temp help	57.3	5.65 (2.75)	6,230	40.6	4.51 (2.89)	9,921
Manufacturing	41.5	4.19 (3.02)	5,500	24.7	3.11 (2.77)	4,409
Retail	51.0	5.03 (2.93)	23,222	36.7	4.03 (2.93)	22,752
Service*	47.1	4.75 (3.00)	28,503	32.7	3.76 (2.90)	30,710
Other	43.6	4.41 (3.04)	6,290	28.8	3.45 (2.87)	6,993
<i>Multiple sectors:</i>						
Temp help and any other industry	48.7	4.92 (2.94)	3,744	35.4	4.03 (2.82)	7,485
No jobs in Temp help industry	43.4	4.46 (2.95)	6,346	31.0	3.54 (2.83)	7,732
<i>Panel B. North Carolina</i>						
<i>No job</i>	n.a.	n.a.	n.a.	29.3	4.32 (2.71)	155,206
<i>One sector:</i>						
Temp help	n.a.	n.a.	n.a.	26.3	3.67 (2.71)	14,088
Manufacturing	n.a.	n.a.	n.a.	21.4	2.98 (2.63)	13,112
Retail	n.a.	n.a.	n.a.	24.3	3.45 (2.66)	41,623
Service*	n.a.	n.a.	n.a.	21.6	3.16 (2.64)	36,706
Other	n.a.	n.a.	n.a.	20.5	2.98 (2.70)	7,073
<i>Multiple sectors:</i>						
Temp help and any other industry	n.a.	n.a.	n.a.	23.8	3.30 (2.64)	14,088
No jobs in Temp help industry	n.a.	n.a.	n.a.	22.5	3.10 (2.63)	13,668

Note: Standard deviations are in parentheses. Sample includes females aged at least 18 and less than 65 in single parent families, not in child only cases. Sampling frame is quarter by welfare recipient. *Service excludes temporary help.

Table 5: Earnings and Employment Over the Next Two Years by Industry Combinations

Industry Combinations	1993		1997	
	Sum of Earnings	Number quarters with Nonzero Earnings	Sum of Earnings	Number quarters with Nonzero Earnings
<i>Panel A. Missouri</i>				
<i>No job</i>	3450 (6258)	2.1 (2.5)	5180 (7600)	2.9 (2.7)
<i>One sector:</i>				
Temp help	9380 (9805)	5.0 (2.6)	11600 (10980)	5.5 (2.4)
Manufacturing	11846 (12467)	4.9 (2.7)	13391 (13016)	5.3 (2.6)
Retail	9332 (8895)	5.2 (2.6)	10705 (9501)	5.5 (2.5)
Service*	11567 (11173)	5.4 (2.6)	13798 (11712)	5.8 (2.4)
Other	13752 (12378)	5.4 (2.6)	16810 (13831)	5.9 (2.4)
<i>Multiple sectors:</i>				
Temp help and any other industry	13365 (11391)	6.1 (2.3)	14779 (11874)	6.3 (2.1)
	12510	5.9	13981	6.2
No jobs in Temp help industry	(10488)	(2.3)	(11436)	(2.1)
<i>Panel B. North Carolina</i>				
<i>No job</i>			7605 (8154)	3.1 (2.8)
<i>One sector:</i>				
Temp help	n.a.	n.a.	12549 (10695)	5.7 (2.4)
Manufacturing	n.a.	n.a.	14444 (11421)	5.8 (2.4)
Retail	n.a.	n.a.	11329 (8879)	5.8 (2.4)
Service*	n.a.	n.a.	14218 (11024)	6.0 (2.4)
Other	n.a.	n.a.	15542 (13106)	5.7 (2.5)
<i>Multiple sectors:</i>				
Temp help and any other industry	n.a.	n.a.	15085 (11296)	6.4 (2.0)
No jobs in Temp help industry	n.a.	n.a.	14569 (11093)	6.4 (2.1)

Note: Standard deviations are in parentheses. Sample includes females aged at least 18 and less than 65 in single parent families, not in child only cases. Sampling frame is quarter by welfare recipient. *Service excludes temporary help.

Table 6: Multinomial Logit Estimation of Occupation Choice

	Missouri						North Carolina		
	1993			1997			1997		
	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help
Constant	-11.984 (0.935)	-11.862 (1.037)	-2.484 (0.216)	-7.510 (0.544)	-9.204 (0.587)	-1.813 (0.204)	-6.144 (0.396)	-7.454 (0.468)	-1.572 (0.183)
Age	0.129 (0.021)	0.037 (0.025)	-0.026 (0.007)	0.102 (0.014)	0.070 (0.018)	-0.005 (0.007)	0.075 (0.014)	0.052 (0.016)	0.014 (0.006)
Age square *100	-0.236 (0.033)	-0.129 (0.039)	-0.004 (0.010)	-0.175 (0.022)	-0.155 (0.028)	-0.027 (0.010)	-0.162 (0.023)	-0.129 (0.025)	0.000 (0.000)
Education lower than 12 years	-0.220 (0.036)	-0.306 (0.044)	-0.129 (0.013)	-0.142 (0.028)	-0.205 (0.031)	-0.116 (0.013)	-0.166 (0.026)	-0.202 (0.027)	-0.143 (0.013)
Nonwhite	0.912 (0.048)	0.714 (0.056)	0.167 (0.017)	0.825 (0.038)	0.739 (0.042)	0.170 (0.018)	0.695 (0.032)	0.532 (0.033)	0.026 (0.014)
Number of children	0.003 (0.017)	0.002 (0.021)	-0.013 (0.006)	-0.007 (0.013)	0.028 (0.014)	0.017 (0.006)	0.008 (0.013)	0.012 (0.014)	0.023 (0.007)
Age of the youngest child	0.037 (0.005)	0.061 (0.006)	0.022 (0.002)	0.020 (0.004)	0.027 (0.005)	0.021 (0.002)	0.008 (0.004)	0.016 (0.004)	0.014 (0.002)
On welfare 7-12 months in prior 2 years	0.044 (0.050)	0.167 (0.058)	0.110 (0.019)	0.045 (0.042)	0.105 (0.046)	0.115 (0.020)	0.052 (0.037)	0.127 (0.038)	0.040 (0.019)
On welfare 13-23 months in prior 2 years	0.037 (0.047)	0.139 (0.056)	0.102 (0.018)	0.067 (0.039)	0.142 (0.042)	0.114 (0.018)	0.062 (0.033)	0.074 (0.037)	0.012 (0.017)
On welfare 24 months in prior 2 years	-0.021 (0.053)	-0.028 (0.067)	0.056 (0.020)	0.059 (0.043)	0.011 (0.049)	0.169 (0.021)	0.000 (0.040)	-0.048 (0.045)	0.113 (0.019)
Percent of previous 8 quarters working	2.014 (0.097)	2.741 (0.104)	1.870 (0.038)	2.034 (0.073)	2.835 (0.080)	1.600 (0.037)	1.501 (0.064)	2.596 (0.072)	1.732 (0.035)
Working all of previous 8 qtrs	0.027 (0.078)	0.159 (0.070)	0.411 (0.030)	0.205 (0.052)	0.371 (0.049)	0.366 (0.028)	0.164 (0.044)	0.401 (0.041)	0.421 (0.025)
No work in any of previous 8 quarters	-1.081 (0.049)	-1.329 (0.086)	-1.096 (0.018)	-0.888 (0.046)	-1.146 (0.076)	-0.909 (0.019)	-1.105 (0.044)	-1.301 (0.078)	-1.088 (0.019)
Total annual earnings in the prior year *1000	0.069 (0.007)	0.138 (0.007)	0.164 (0.003)	0.073 (0.005)	0.142 (0.005)	0.162 (0.003)	0.122 (0.005)	0.168 (0.005)	0.164 (0.003)
Total annual earnings two years prior * 1000	-0.093 (0.007)	-0.097 (0.007)	-0.105 (0.003)	-0.070 (0.005)	-0.099 (0.005)	-0.084 (0.002)	-0.056 (0.004)	-0.084 (0.004)	-0.091 (0.002)
St. Louis central	0.791 (0.261)	0.725 (0.311)	-0.240 (0.067)	0.878 (0.213)	-0.115 (0.233)	-0.316 (0.081)	na	na	na
Kansas City central	0.642 (0.309)	0.565 (0.350)	-0.306 (0.073)	1.271 (0.207)	0.375 (0.227)	-0.278 (0.077)	na	na	na
Charlotte central							0.061 (0.086)	0.437 (0.089)	0.173 (0.045)
Suburban metro	0.953 (0.132)	1.274 (0.141)	-0.178 (0.035)	0.662 (0.087)	0.421 (0.103)	-0.192 (0.035)	-0.054 (0.090)	0.321 (0.089)	0.219 (0.041)
Small metro	0.331 (0.140)	0.508 (0.172)	-0.148 (0.035)	0.727 (0.097)	0.618 (0.101)	-0.045 (0.038)	-0.103 (0.042)	-0.017 (0.046)	0.084 (0.021)
Quarter 2	0.073 (0.060)	0.243 (0.079)	0.249 (0.018)	0.422 (0.056)	0.609 (0.063)	0.216 (0.022)	0.207 (0.031)	0.432 (0.037)	0.154 (0.014)
Quarter 3	0.271 (0.059)	0.670 (0.075)	0.367 (0.018)	0.548 (0.055)	0.818 (0.060)	0.328 (0.021)	0.391 (0.039)	0.591 (0.044)	0.189 (0.018)
Quarter 4	0.424 (0.113)	0.876 (0.137)	0.362 (0.031)	0.473 (0.078)	0.792 (0.084)	0.220 (0.031)	0.231 (0.059)	0.356 (0.069)	-0.062 (0.028)
Sanction rate in county	n.a.	n.a.	n.a.	-0.022 (0.005)	-0.030 (0.006)	-0.001 (0.002)	-0.095 (0.635)	-0.741 (0.688)	0.195 (0.302)
Welfare Departure rate in county	0.035 (0.013)	0.054 (0.016)	0.032 (0.003)	0.013 (0.005)	0.012 (0.006)	0.017 (0.002)	0.937 (0.357)	3.823 (0.376)	2.211 (0.166)
Log of total employment in county	0.181 (0.074)	0.290 (0.097)	0.041 (0.019)	0.014 (0.051)	0.096 (0.057)	-0.005 (0.019)	0.218 (0.045)	0.109 (0.053)	-0.070 (0.021)

Table 6: Continued

	Missouri						North Carolina		
	1993			1997			1997		
	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help
Employment Share by Major Industry Sector (Omitted Industry: Service)									
Agriculture, Forestry and Fishing	-5.466 (3.276)	-0.846 (2.596)	0.026 (0.477)	-0.284 (1.531)	2.343 (1.134)	-0.045 (0.409)	-7.580 (0.819)	-5.898 (0.875)	-0.010 (0.345)
Mining	1.818 (4.447)	-2.382 (4.413)	-0.104 (0.749)	7.626 (1.674)	7.696 (1.975)	-1.168 (0.799)	-17.743 (9.952)	-25.101 (11.073)	-16.016 (4.717)
Construction	12.443 (1.952)	6.717 (2.480)	1.039 (0.554)	3.873 (1.417)	7.352 (1.504)	-0.260 (0.539)	8.894 (1.236)	8.956 (1.381)	0.868 (0.597)
Manufacturing	3.319 (0.725)	2.689 (0.848)	0.252 (0.158)	1.798 (0.351)	2.411 (0.392)	-0.513 (0.134)	1.854 (0.229)	2.590 (0.259)	0.046 (0.119)
Transportation, Communication, etc.	4.165 (1.117)	3.176 (1.204)	0.128 (0.294)	0.787 (0.914)	1.863 (0.907)	-1.149 (0.348)	-2.645 (1.848)	3.214 (2.083)	-0.139 (0.903)
Wholesale trade	5.878 (1.710)	6.209 (1.949)	-0.501 (0.433)	1.231 (1.284)	1.288 (1.363)	-0.960 (0.476)	5.681 (1.467)	7.199 (1.700)	0.720 (0.723)
Retail Trade	2.417 (1.366)	1.844 (1.674)	0.895 (0.334)	2.970 (0.763)	1.556 (0.829)	-0.380 (0.287)	-3.030 (0.610)	-1.095 (0.704)	1.360 (0.265)
Finance, Insurance and Real Estate	5.238 (3.885)	5.382 (4.129)	2.830 (0.852)	-4.726 (2.541)	2.957 (2.907)	2.103 (0.872)	-10.947 (2.393)	-11.813 (2.694)	-0.351 (0.900)
Earnings by Major Industry Sector (x10,000)									
Agriculture, Forestry and Fishing	-0.220 (0.556)	-0.671 (0.475)	-0.171 (0.073)	-0.425 (0.236)	-0.774 (0.260)	-0.064 (0.079)	-0.792 (0.168)	-0.767 (0.194)	0.258 (0.079)
Mining	-0.013 (0.085)	-0.040 (0.123)	-0.007 (0.011)	0.174 (0.055)	0.092 (0.061)	0.127 (0.025)	-0.151 (0.089)	-0.292 (0.097)	0.001 (0.046)
Construction	-0.034 (0.484)	0.069 (0.604)	-0.168 (0.131)	-0.153 (0.301)	0.074 (0.318)	0.204 (0.105)	0.242 (0.206)	0.294 (0.245)	0.022 (0.094)
Manufacturing	0.289 (0.366)	-1.017 (0.474)	-0.161 (0.096)	0.440 (0.188)	0.363 (0.214)	0.299 (0.072)	-0.088 (0.120)	0.056 (0.132)	0.005 (0.058)
Transportation, Communication, etc.	-0.064 (0.394)	0.147 (0.466)	0.053 (0.101)	0.507 (0.216)	-0.059 (0.233)	0.030 (0.087)	-0.520 (0.159)	-0.780 (0.186)	0.153 (0.072)
Wholesale trade	-1.770 (0.589)	-0.628 (0.643)	0.344 (0.122)	-1.127 (0.306)	-0.752 (0.315)	0.092 (0.101)	0.684 (0.149)	0.003 (0.175)	0.017 (0.071)
Retail Trade	0.935 (0.904)	-1.569 (1.198)	-0.437 (0.281)	-0.321 (0.714)	1.544 (0.799)	0.142 (0.292)	-1.089 (0.491)	-0.182 (0.479)	-0.073 (0.219)
Finance, Insurance and Real Estate	-0.522 (0.345)	-0.434 (0.423)	0.470 (0.107)	0.461 (0.193)	0.281 (0.229)	0.017 (0.076)	-0.359 (0.109)	0.333 (0.119)	-0.112 (0.053)
Service	2.282 (0.730)	2.718 (0.906)	0.268 (0.198)	0.239 (0.466)	0.486 (0.518)	0.019 (0.182)	0.288 (0.319)	0.492 (0.364)	0.374 (0.149)
N	289,160	289,160	289,160	219,442	219,442	219,442	250,227	250,227	250,227

Note: Standard errors are in parentheses. Sample includes females aged at least 18 and less than 65 in single parent families, not in child only cases. Sampling frame is quarter by welfare recipient. Estimation takes account of the correlation of errors for recipients who appear in the data multiple times.

Table 7: Predicted Earnings Outcomes Contingent on Job Choice

	Missouri								North Carolina			
	1993				1997				1997			
	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help
Panel A. Dependent Variable: Current Quarterly Earnings												
1. Observed Outcome	na	732 (16)	1416 (22)	1227 (8)	na	945 (17)	1543 (20)	1425 (8)	na	982 (9)	1470 (11)	1328 (4)
2. Predicted Outcome at Grand Mean of Characteristics, Conditional on Job Choice	na	683 (24)	1183 (50)	1047 (23)	na	834 (16)	1347 (22)	1249 (9)	na	929 (12)	1344 (18)	1201 (6)
3. Predicted Outcome at Grand Mean of Characteristics	na	613 (957)	1204 (915)	1640 (3299)	na	1552 (464)	2274 (535)	931 (1076)	na	927 (239)	1122 (214)	1267 (155)
Panel B. Dependent Variable: Total Earnings in Eight Subsequent Quarters												
1. Observed Outcome	3450 (37)	9380 (206)	13365 (289)	11128 (90)	5180 (53)	11600 (192)	14779 (187)	13113 (92)	5194 (20)	11365 (92)	14122 (108)	12228 (33)
2. Predicted Outcome at Grand Mean of Characteristics, Conditional on Job Choice	4046 (46)	8507 (276)	11598 (497)	9739 (136)	6062 (65)	11059 (282)	13217 (375)	12041 (96)	6249 (60)	10975 (202)	12574 (255)	11410 (82)
3. Predicted Outcome at Grand Mean of Characteristics	2500 (378)	7708 (10145)	-715 (12420)	12585 (14601)	3769 (636)	4300 (10417)	17596 (6805)	11683 (6399)	2900 (954)	11872 (3156)	15633 (2703)	9231 (1708)
Panel C. Dependent Variable: Quarterly Earnings Eight Quarters Later												
1. Observed Outcome	673 (8)	1453 (37)	1891 (53)	1538 (14)	929 (10)	1660 (29)	2005 (30)	1780 (14)	891 (4)	1623 (16)	1911 (19)	1637 (7)
2. Predicted Outcome at Grand Mean of Characteristics, Conditional on Job Choice	769 (9)	1283 (50)	1552 (87)	1321 (16)	1058 (12)	1556 (35)	1693 (49)	1624 (14)	1044 (11)	1531 (28)	1643 (39)	1517 (16)
3. Predicted Outcome at Grand Mean of Characteristics	493 (70)	1421 (1956)	-930 (2132)	1541 (1371)	556 (121)	988 (1059)	2026 (999)	1559 (667)	512 (174)	1741 (510)	1855 (428)	1168 (204)

Note: Standard errors are in parentheses. Predicted earnings are based on the regression results reported in Appendix Tables A-1 - A-3.

Table 8: Movement of Welfare Recipients Between Industries

Current Employment	Employment One Year Later					
	Panel A. Missouri					
1993	Service (incl. Temp Help)	Manufacturing	Retail Trade	Other	No job	Total
Temp Help	38.6	5.9	10.8	9.3	35.5	100.0
Service, not temp help	50.3	3.5	9.1	4.5	32.7	100.0
Manufacturing	16.8	32.4	9.7	4.2	36.9	100.0
Retail Trade	17.7	4.0	38.0	4.8	35.5	100.0
Other	18.0	4.1	9.6	38.0	30.4	100.0
No job	13.3	2.8	7.7	2.7	73.4	100.0
1997						
Temp help	42.5	5.5	11.9	10.2	29.8	100.0
Service, not temp help	54.7	2.6	9.9	5.2	27.7	100.0
Manufacturing	21.8	29.7	11.5	4.6	32.4	100.0
Retail Trade	22.5	2.9	38.0	5.4	31.3	100.0
Other	23.7	3.0	9.9	38.0	25.4	100.0
No job	19.4	2.9	10.4	3.8	63.6	100.0
1997						
	Panel B. North Carolina					
Temp help	39.5	13.7	13.5	7.5	26.0	100.0
Service, not temp help	58.2	4.1	10.7	4.6	22.4	100.0
Manufacturing	19.4	41.9	10.6	3.9	24.3	100.0
Retail Trade	19.8	5.4	44.0	4.2	26.6	100.0
Other	22.1	5.2	11.4	37.2	24.1	100.0
No job	17.6	5.0	12.3	3.2	62.0	100.0

Note: Industry classification is according to employer paying most earnings in a quarter.

Table 9: Predicted Welfare Outcomes Contingent on Job Choice

	Missouri								North Carolina			
	1993				1997				1997			
	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but None in Temp Help	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but None in Temp Help	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but None in Temp Help
Dependent Variable: Probability of leaving welfare												
1. Observed Outcome	0.361	0.427	0.513	0.527	0.564	0.594	0.646	0.671	0.674	0.708	0.733	0.746
	(0.003)	(0.010)	(0.011)	(0.004)	(0.003)	(0.007)	(0.007)	(0.003)	(0.001)	(0.002)	(0.002)	(0.001)
2. Predicted Outcome at Grand Mean of Characteristics, Conditional on Job Choice	0.375	0.481	0.535	0.505	0.567	0.643	0.663	0.671	0.684	0.718	0.750	0.743
	(0.003)	(0.013)	(0.018)	(0.004)	(0.003)	(0.007)	(0.011)	(0.003)	(0.003)	(0.007)	(0.008)	(0.003)
3. Predicted Outcome at Grand Mean of Characteristics	0.340	0.928	0.965	0.731	0.523	0.553	0.667	0.733	0.314	0.944	1.012	0.887
	(0.019)	(0.345)	(0.362)	(0.103)	(0.037)	(0.149)	(0.202)	(0.039)	(0.044)	(0.113)	(0.103)	(0.029)

Note: Standard errors are in parenthesis. Predicted probabilities are based on regression results presented in Appendix Table A-4.

Appendix Table A-1: Estimates for Regression Equations Predicting Current Quarterly Earnings, Controlling for Self-Selection into Job Category

	Missouri						North Carolina		
	1993			1997			1997		
	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help
Constant	-212.08 (1389.100)	-955.85 (1150.035)	296.35 (2518.649)	806.45 (730.829)	1488.74 (830.088)	-205.01 (977.562)	194.24 (312.99)	612.70 (419.91)	474.00 (176.25)
Age	54.07 (21.958)	118.46 (23.617)	56.60 (46.844)	40.83 (17.007)	39.11 (26.076)	33.75 (15.009)	29.58 (12.55)	25.74 (21.76)	28.07 (6.60)
Age square *100	-71.42 (36.376)	-151.85 (38.617)	-64.44 (39.059)	-47.13 (26.533)	-39.59 (44.358)	-38.96 (15.448)	-31.71 (20.23)	-18.22 (35.38)	-31.14 (9.20)
Education lower than 12 years	-129.15 (39.346)	-182.41 (50.322)	-117.98 (99.494)	-164.20 (26.939)	-215.09 (33.257)	-177.02 (26.680)	-150.70 (21.62)	-119.17 (24.90)	-109.87 (9.83)
Nonwhite	-83.02 (121.867)	-102.90 (93.001)	-5.68 (71.534)	-66.10 (69.105)	-166.97 (78.242)	32.60 (17.158)	-26.89 (37.61)	-14.17 (38.61)	-3.59 (11.69)
Number of children	-31.70 (13.233)	-54.76 (24.276)	-21.01 (16.637)	-55.61 (11.781)	-50.55 (16.018)	-28.57 (11.327)	-11.91 (11.80)	-42.60 (14.10)	2.75 (5.25)
Age of the youngest child	-7.78 (7.008)	-16.06 (9.687)	-6.77 (15.381)	-14.98 (5.147)	-11.47 (7.664)	-6.25 (5.279)	-10.31 (4.00)	-20.79 (5.21)	-7.75 (1.98)
On welfare 7-12 months in prior 2 years	176.73 (45.401)	151.95 (59.585)	222.89 (103.803)	191.84 (50.497)	266.73 (58.931)	302.18 (35.124)	107.79 (33.50)	117.26 (40.34)	190.44 (19.91)
On welfare 13-23 months in prior 2 years	78.02 (42.065)	207.86 (58.210)	226.97 (91.814)	177.83 (39.400)	257.12 (57.684)	348.89 (26.472)	110.39 (31.03)	95.68 (31.51)	218.30 (27.78)
On welfare 24 months in prior 2 years	102.29 (50.577)	77.67 (73.609)	239.14 (80.859)	232.72 (47.095)	402.36 (61.796)	434.78 (47.812)	189.65 (37.98)	127.98 (41.54)	293.42 (39.09)
Percent of previous 8 quarters working	-175.94 (218.724)	-410.67 (260.728)	-747.92 (1539.021)	-570.71 (140.644)	-955.31 (242.348)	-561.73 (416.377)	-303.59 (74.27)	-546.20 (100.47)	-655.63 (78.74)
Working all of previous 8 qtrs	35.54 (93.878)	-20.24 (87.171)	-152.89 (174.785)	75.77 (68.015)	-101.18 (57.168)	-66.59 (27.041)	26.31 (43.75)	70.87 (38.70)	39.06 (21.40)
No work in any of previous 8 quarters	-124.79 (142.559)	-51.05 (178.011)	39.59 (1166.344)	-25.76 (68.075)	15.73 (98.881)	-329.86 (409.613)	-105.41 (55.98)	-295.66 (77.69)	-232.89 (82.64)
Total annual earnings in the prior year *1000	78.59 (12.579)	103.10 (13.717)	91.26 (147.976)	111.10 (12.117)	104.39 (13.329)	158.87 (56.249)	78.03 (7.17)	80.30 (6.00)	112.53 (13.61)
Total annual earnings two years prior * 1000	4.62 (11.331)	13.99 (9.988)	37.55 (90.822)	25.14 (6.937)	49.15 (10.884)	21.66 (26.388)	15.01 (4.51)	22.92 (4.78)	28.13 (7.07)
St. Louis central	-78.32 (178.824)	229.82 (144.932)	289.62 (119.863)	61.55 (72.389)	223.00 (70.569)	344.94 (17.995)	na	na	na
Kansas City central	-83.95 (186.764)	237.81 (174.096)	290.05 (35.571)	-5.35 (82.325)	167.48 (98.468)	405.27 (41.181)	na	na	na
Charlotte central	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-5.64 (35.41)	106.45 (50.42)	116.19 (18.34)
Suburban metro	-45.95 (201.111)	55.86 (179.181)	115.71 (106.545)	-45.66 (78.270)	-76.75 (63.904)	129.01 (46.221)	20.00 (63.42)	49.22 (50.96)	40.10 (25.66)
Small metro	-223.01 (132.894)	-9.44 (151.639)	38.22 (19.017)	-131.09 (56.291)	-130.37 (61.107)	54.35 (16.343)	-4.72 (22.93)	16.35 (24.56)	47.20 (9.17)
Quarter 2	36.92 (32.532)	141.93 (52.995)	46.93 (187.248)	15.78 (28.236)	-3.65 (52.658)	46.04 (35.956)	113.74 (21.34)	107.69 (30.27)	96.29 (11.08)
Quarter 3	46.37 (52.478)	168.34 (77.932)	22.63 (281.910)	8.38 (34.439)	-13.61 (55.186)	34.28 (64.788)	153.86 (24.43)	110.47 (34.21)	82.96 (11.95)
Quarter 4	160.97 (59.922)	226.15 (74.127)	173.68 (278.074)	142.18 (34.225)	141.91 (62.336)	197.69 (64.582)	267.69 (27.74)	202.26 (33.90)	232.97 (10.39)
Lambda	26.92 (370.317)	-7.43 (315.082)	-412.39 (2311.235)	-323.09 (210.604)	-379.29 (219.524)	270.13 (919.819)	1.16 (112.01)	94.31 (91.38)	-61.33 (147.40)
N	6,230	3,744	69,861	9,921	7,485	72,596	12,148	10,073	95,254

Note: Standard errors are in parentheses. All standard errors have been adjusted for the estimation error in the inverse Mill's ratio. Estimation takes account of the correlation of errors for recipients who appear in the data multiple times.

Appendix Table A-2 Estimates for Regression Equations Predicting Total Earnings in Subsequent Eight Quarters, Controlling for Self-Selection into Job Category

	Missouri								North Carolina			
	1993				1997				1997			
	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help
Constant	2950.014 (524.150)	5046.317 (15295.150)	-17533.42 (16756.630)	4448.406 (11018.960)	2385.021 (635.130)	-6147.823 (15382.030)	13649.09 (12894.480)	4162.094 (5924.987)	2237.36 (674.461)	8004.139 (4695.544)	14613.92 (5246.276)	3927.033 (2135.080)
Age	15.01 (25.735)	291.11 (298.834)	968.61 (342.617)	380.32 (239.741)	112.08 (33.630)	527.75 (274.342)	164.67 (416.584)	316.16 (124.897)	124.07 (30.287)	160.09 (236.773)	70.06 (277.196)	182.65 (94.316)
Age square *100	-89.71 (32.818)	-425.06 (480.119)	-1337.32 (560.714)	-420.82 (237.539)	-240.09 (45.567)	-741.25 (438.906)	-88.86 (723.619)	-396.71 (163.222)	-200.47 (41.188)	-150.20 (392.369)	50.19 (461.426)	-216.54 (137.574)
Education lower than 12 years	-1251.00 (74.514)	-2561.01 (461.216)	-3266.04 (631.815)	-2641.22 (467.455)	-1692.26 (105.533)	-3041.44 (359.793)	-3147.08 (360.128)	-3140.74 (176.340)	-1443.14 (103.449)	-2473.80 (260.831)	-2060.43 (280.235)	-2296.92 (134.369)
Nonwhite	-5.77 (104.149)	44.20 (1249.438)	588.53 (1322.456)	32.09 (394.323)	-446.53 (153.377)	-184.08 (1257.249)	-393.90 (763.697)	-167.77 (254.634)	-225.57 (113.837)	-377.09 (501.230)	641.58 (385.692)	50.37 (174.211)
Number of children	-109.21 (26.180)	-596.37 (164.349)	-702.10 (287.391)	-382.36 (113.981)	-60.84 (38.938)	-335.75 (169.086)	-541.25 (178.658)	-291.52 (84.241)	4.79 (47.189)	-26.40 (148.119)	-26.10 (154.791)	-31.08 (154.777)
Age of the youngest child	29.61 (11.133)	-59.82 (77.516)	-79.60 (134.367)	-51.16 (77.098)	-16.39 (15.377)	-152.59 (74.100)	-167.72 (66.105)	-85.55 (38.761)	-51.22 (14.625)	-88.45 (48.909)	-128.83 (54.476)	-61.53 (26.876)
On welfare 7-12 months in prior 2 years	-16.95 (83.414)	177.76 (618.962)	524.50 (734.041)	1276.00 (491.417)	147.26 (111.680)	1025.45 (499.881)	1423.47 (502.790)	1354.36 (316.008)	-302.66 (107.258)	-44.44 (381.297)	5.64 (410.614)	742.09 (216.262)
On welfare 13-23 months in prior 2 years	52.13 (93.052)	-699.61 (618.990)	135.34 (702.940)	1101.88 (470.010)	315.89 (121.850)	1105.96 (535.519)	1624.07 (463.963)	1599.11 (360.411)	-324.32 (112.138)	19.40 (400.528)	248.69 (401.176)	759.12 (313.031)
On welfare 24 months in prior 2 years	9.68 (97.831)	-855.38 (668.859)	-254.42 (951.925)	1036.67 (466.595)	780.68 (141.303)	790.09 (567.895)	2627.30 (571.842)	2465.23 (504.518)	121.75 (133.374)	775.81 (505.713)	580.14 (524.849)	1979.14 (440.303)
Percent of previous 8 quarters working	73.32 (636.677)	-771.22 (2759.177)	501.90 (3321.710)	-3192.52 (6723.817)	293.82 (741.512)	-993.17 (2100.008)	-5932.98 (2663.276)	-3800.95 (2182.493)	-1606.59 (961.098)	-2834.40 (1033.978)	-6209.42 (1260.362)	-2101.07 (972.659)
Working all of previous 8 qtrs	-771.41 (327.354)	-1158.80 (1262.815)	-965.26 (1168.373)	-990.64 (785.605)	-999.13 (318.431)	74.34 (806.162)	-322.37 (529.493)	-167.71 (300.308)	-876.56 (336.829)	494.40 (566.991)	938.41 (497.355)	368.39 (286.310)
No work in any of previous 8 quarters	46.13 (168.562)	39.94 (1383.282)	-508.08 (2072.273)	1177.09 (5180.344)	611.86 (199.399)	963.72 (1666.427)	2482.48 (1327.115)	459.23 (2472.677)	810.32 (271.798)	1418.63 (733.668)	-268.20 (1042.223)	-296.54 (899.754)
Total annual earnings in the prior year *1000	85.41 (71.061)	733.48 (153.370)	816.01 (200.580)	552.57 (660.379)	126.90 (69.465)	808.14 (132.578)	815.54 (72.762)	868.60 (351.773)	130.30 (93.114)	688.33 (67.336)	706.30 (65.753)	856.32 (139.955)
Total annual earnings two years prior * 1000	242.91 (43.555)	362.31 (156.069)	274.88 (143.340)	468.41 (387.404)	319.15 (50.088)	369.36 (138.304)	560.27 (81.496)	466.36 (125.004)	382.38 (66.542)	423.79 (113.803)	430.40 (78.796)	366.02 (94.156)
St. Louis central	-110.79 (107.441)	-439.92 (2060.587)	3411.00 (1939.221)	2067.41 (589.519)	165.03 (152.694)	2879.81 (1237.665)	2663.45 (837.417)	2541.99 (270.331)	n.a.	n.a.	n.a.	n.a.
Kansas City central	176.33 (130.483)	313.64 (2088.122)	3922.93 (2335.676)	1928.21 (296.192)	560.94 (194.842)	2689.35 (1472.653)	2130.40 (1094.930)	2767.79 (402.672)	n.a.	n.a.	n.a.	n.a.
Charlotte central	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	336.47 (167.184)	1656.20 (477.361)	1210.55 (549.650)	1186.90 (247.769)
Suburban metro	467.3197 (151.077)	-58.57 (2156.926)	2327.39 (2323.367)	1263.28 (542.850)	807.3162 (217.453)	1385.62 (1343.566)	761.79 (1020.780)	1904.44 (391.484)	451.59 (264.680)	1321.65 (624.037)	424.03 (831.756)	1007.78 (364.096)
Small metro	175.33 (130.354)	-845.39 (1525.989)	2423.20 (1943.385)	494.97 (233.173)	272.08 (175.411)	-377.10 (1023.937)	-1036.79 (1047.379)	529.35 (233.254)	136.73 (106.359)	417.47 (291.938)	104.79 (314.099)	436.59 (139.192)
Quarter 2	-40.80 (39.340)	-313.26 (311.624)	-421.06 (661.797)	-277.15 (827.097)	-234.66 (58.977)	190.82 (396.595)	-1186.69 (628.312)	-336.02 (213.165)	-326.82 (77.562)	-57.65 (211.173)	-1217.33 (302.078)	-99.66 (102.644)
Quarter 3	-192.26 (65.804)	-78.75 (542.144)	8.81 (1058.268)	-260.65 (1250.939)	-646.91 (88.155)	-342.16 (525.959)	-977.91 (753.248)	-379.42 (384.941)	-774.23 (110.133)	-250.44 (258.136)	-1216.56 (352.630)	-155.34 (123.589)
Quarter 4	11.92 (67.160)	131.41 (613.969)	-210.81 (1038.988)	-260.98 (1240.508)	-434.51 (78.911)	-411.91 (395.105)	-1385.91 (746.372)	-622.96 (336.953)	-617.95 (66.574)	-684.45 (259.929)	-1809.33 (355.230)	-677.28 (81.875)
Lambda	3272.27 (797.709)	309.66 (3937.927)	4293.85 (4346.960)	-1980.73 (10232.980)	3283.79 (916.216)	3039.09 (4765.997)	-1792.84 (2742.797)	304.30 (5472.752)	4126.49 (1183.317)	-416.60 (1485.739)	-1303.06 (1162.456)	2032.95 (1616.570)
N	209,325	6,230	3,744	69,861	129,440	9,921	7,485	72,596	130,894	12,148	10,073	95,254

Note: Standard errors are reported in parentheses. All standard errors have been adjusted for the estimation error in the inverse Mill's ratio. Estimation takes account of the correlation of errors for recipients who appear in the data multiple times.

Appendix Table A-3: Estimates for Regression Equations Predicting Earnings in the Eighth Quarter after Reference Quarter, Controlling for Self-Selection into Job Category

	Missouri								North Carolina			
	1993				1997				1997			
	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help	No Job	Job in Temp Help	Job in Temp Help and Other Industry	Job, but none in Temp Help
Constant	537.57 (101.357)	1846.11 (2834.228)	-3528.67 (2728.077)	759.52 (1046.970)	206.01 (122.023)	-279.27 (1591.796)	1787.27 (1509.506)	675.87 (645.646)	334.54 (127.077)	1234.53 (731.193)	1749.37 (758.787)	501.60 (232.437)
Age	5.31 (5.123)	-15.10 (56.194)	124.07 (61.132)	32.16 (26.076)	26.21 (6.470)	56.56 (38.906)	-17.67 (48.425)	29.48 (15.808)	24.00 (5.494)	11.30 (29.719)	-2.54 (35.701)	16.70 (11.390)
Age square *100	-21.61 (6.481)	20.71 (90.930)	-178.72 (98.284)	-35.08 (29.157)	-51.42 (8.688)	-79.18 (62.017)	38.81 (80.907)	-46.35 (21.788)	-46.99 (7.346)	-11.56 (48.522)	13.72 (58.828)	-24.80 (17.333)
Education lower than 12 years	-273.14 (15.956)	-437.54 (84.955)	-444.80 (112.515)	-411.88 (49.723)	-311.06 (20.748)	-418.93 (55.776)	-365.83 (61.579)	-453.03 (26.939)	-279.27 (19.794)	-338.10 (45.196)	-298.47 (47.843)	-350.04 (23.660)
Nonwhite	-5.02 (20.850)	88.81 (246.396)	152.30 (241.645)	70.08 (47.090)	-128.61 (31.225)	-15.84 (142.587)	-37.90 (112.452)	-17.14 (38.834)	-27.67 (22.486)	-8.93 (80.083)	137.15 (65.133)	60.22 (27.333)
Number of children	-18.40 (5.429)	-81.60 (33.647)	-98.79 (57.012)	-54.34 (15.281)	-12.52 (7.705)	-36.53 (25.078)	-44.87 (28.289)	-30.88 (12.902)	-5.55 (9.346)	24.83 (27.029)	19.39 (24.980)	-15.37 (11.716)
Age of the youngest child	6.34 (2.351)	-9.02 (14.297)	-2.03 (27.292)	-4.44 (8.567)	-4.59 (2.980)	-28.67 (9.995)	-21.15 (10.920)	-8.61 (5.238)	-11.16 (2.749)	-9.77 (8.160)	-12.81 (8.911)	-5.88 (3.185)
On welfare 7-12 months in prior 2 years	9.59 (16.248)	101.30 (109.528)	117.91 (134.608)	118.25 (52.266)	50.08 (21.937)	211.09 (79.748)	247.32 (91.996)	159.18 (41.011)	-66.99 (20.207)	-79.30 (30.369)	-93.16 (72.779)	45.54 (23.472)
On welfare 13-23 months in prior 2 years	24.88 (18.137)	-37.09 (103.587)	82.87 (141.725)	111.04 (52.772)	73.11 (23.560)	205.79 (77.375)	220.39 (77.346)	206.83 (44.891)	-59.69 (21.120)	-67.04 (68.360)	-50.86 (69.88472)	51.44 (29.920)
On welfare 24 months in prior 2 years	41.02 (19.235)	9.13 (112.474)	12.34 (154.435)	106.65 (55.928)	181.17 (27.671)	144.30 (84.028)	271.05 (92.571)	296.80 (59.624)	48.65 (25.017)	42.23 (79.814)	-17.76 (86.371)	262.32 (63.114)
Percent of previous 8 quarters working	-70.81 (118.560)	-159.42 (442.962)	478.57 (522.778)	-209.53 (633.517)	-144.28 (135.086)	-328.51 (256.208)	-766.54 (373.951)	-438.24 (243.982)	-312.50 (170.664)	-257.77 (142.928)	-639.11 (202.207)	-152.56 (167.912)
Working all of previous 8 qtrs	-108.66 (61.240)	-143.97 (236.195)	-206.41 (200.410)	-92.85 (86.499)	-204.70 (59.219)	13.36 (117.004)	65.49 (92.939)	31.89 (48.719)	-165.62 (62.741)	32.06 (91.765)	132.30 (77.410)	36.22 (32.439)
No work in any of previous 8 quarters	8.69 (32.079)	16.82 (284.191)	-187.88 (370.432)	79.85 (486.437)	154.95 (38.188)	82.89 (173.754)	144.52 (204.177)	36.47 (257.060)	152.83 (51.017)	176.85 (112.665)	-61.85 (166.069)	-76.81 (90.097)
Total annual earnings in the prior year *1000	3.81 (11.938)	93.82 (25.255)	112.99 (43.257)	69.10 (62.643)	2.66 (12.851)	110.55 (16.100)	115.62 (12.912)	101.92 (36.233)	11.99 (16.523)	93.62 (10.808)	97.46 (10.737)	109.37 (138.592)
Total annual earnings two years prior * 1000	48.53 (8.009)	70.87 (27.060)	28.94 (23.446)	56.85 (36.500)	60.69 (8.482)	56.84 (16.763)	72.27 (14.180)	62.88 (14.087)	69.29 (11.535)	51.56 (11.539)	50.01 (11.422)	46.58 (9.624)
St. Louis central	-15.23 (21.558)	-146.63 (364.999)	797.65 (317.141)	240.15 (62.443)	62.99 (31.092)	407.85 (156.789)	469.50 (110.813)	342.82 (41.590)	n.a.	n.a.	n.a.	n.a.
Kansas City central	21.24 (25.668)	-35.47 (369.514)	804.85 (392.301)	216.64 (44.484)	106.16 (38.868)	285.84 (181.987)	411.96 (137.642)	360.64 (52.311)	n.a.	n.a.	n.a.	n.a.
Charlotte central	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	94.08 (33.039)	270.82 (81.557)	305.83 (94.155)	215.95 (30.367)
Suburban metro	98.21804 32.1256	-23.79 (380.044)	586.94 (377.470)	178.93 (62.437)	142.2807 (41.684)	61.59 (168.273)	183.02 (142.932)	283.35 (55.172)	76.88 (48.130)	145.48 (121.210)	168.75 (154.719)	169.98 (42.558)
Small metro	35.18802 (26.587)	-257.67 (269.070)	527.24 (316.161)	61.83 (36.360)	47.79 (35.600)	-88.92 (144.769)	-45.88 (133.343)	97.91 (38.931)	32.35 (20.331)	38.04 (47.752)	-16.10 (52.400)	82.15 (28.695)
Quarter 2	25.65 (7.466)	6.11 (61.241)	69.89 (120.604)	50.72 (78.664)	40.77 (11.292)	155.51 (51.393)	83.34 (83.213)	138.58 (24.953)	12.77 (14.588)	175.03 (36.167)	1.95 (55.100)	110.26 (11.540)
Quarter 3	-14.30 (12.505)	46.90 (104.255)	114.24 (200.090)	-8.88 (118.384)	13.15 (17.001)	167.77 (64.775)	202.56 (100.126)	166.59 (42.577)	-43.89 (20.399)	141.68 (44.805)	11.08 (61.800)	80.72 (13.838)
Quarter 4	76.90 (12.872)	181.26 (125.287)	267.67 (179.692)	137.94 (117.792)	129.33 (16.060)	288.69 (59.242)	397.46 (101.986)	304.58 (39.363)	35.05 (12.823)	120.52 (46.462)	91.89 (62.679)	149.50 (53.427)
Lambda	584.08 (148.281)	-53.39 (763.43)	865.38 (747.43)	-152.86 (960.41)	719.27 (175.573)	255.08 (481.714)	-136.57 (411.040)	55.63 (570.409)	656.42 (216.980)	-97.65 (239.147)	-90.47 (184.193)	325.83 (185.669)
N	209,325	6,230	3,744	69,861	129,440	9,921	7,485	72,596	130,894	12,148	10,073	95,254

Note: Standard errors are in parentheses. All standard errors have been adjusted for the estimation error in the inverse Mill's ratio. Estimation takes account of the correlation of errors for recipients who appear in the data multiple times.

Appendix Table A-4: Regression Predicting Probability of Leaving Welfare Eight Quarters Later, Controlling for Self-Selection into Job Category

	Missouri								North Carolina			
	1993				1997				1997			
	No Job	Job in Temp			No Job	Job in Temp			No Job	Job in Temp		
		Help	Other	Job, but none in Temp Help		Help	Other	Job, but none in Temp Help		Help	Other	Job, but none in Temp Help
Constant	0.518 (0.041)	1.226 (0.524)	0.794 (0.478)	0.623 (0.099)	0.472 (0.050)	0.312 (0.252)	0.634 (0.301)	0.453 (0.070)	0.444 (0.049)	0.886 (0.163)	1.1526 (0.158)	0.845 (0.053)
Age	0.001 (.002)	-0.003 (.013)	0.030 (.013)	0.017 (.004)	0.019 (.003)	0.025 (.009)	0.016 (.009)	0.029 (.004)	0.004 (.003)	0.006 (.006)	-0.002 (.006)	0.005 (.002)
Age square *100	-0.001 (.004)	0.014 (.022)	-0.030 (.021)	-0.016 (.006)	-0.030 (.005)	-0.031 (.014)	-0.017 (.014)	-0.039 (.006)	0.000 (.004)	-0.004 (.009)	0.009 (.009)	-0.001 (.003)
Education lower than 12 years	-0.066 (.006)	-0.076 (.023)	-0.054 (.027)	-0.094 (.008)	-0.079 (.007)	-0.082 (.015)	-0.070 (.016)	-0.079 (.007)	-0.026 (.008)	-0.017 (.013)	-0.029 (.013)	-0.032 (.006)
Nonwhite	-0.088 (.007)	-0.165 (.049)	-0.151 (.040)	-0.121 (.010)	-0.134 (.010)	-0.097 (.025)	-0.112 (.026)	-0.121 (.008)	-0.137 (.007)	-0.146 (.017)	-0.122 (.013)	-0.104 (.005)
Number of children	-0.004 (.002)	-0.011 (.009)	-0.030 (.011)	-0.017 (.004)	-0.018 (.003)	-0.020 (.007)	-0.023 (.007)	-0.018 (.004)	-0.002 (.004)	0.014 (.007)	0.008 (.007)	0.004 (.003)
Age of the youngest child	0.012 (.001)	0.003 (.004)	-0.004 (.004)	0.003 (.001)	0.007 (.001)	0.002 (.002)	0.001 (.002)	0.002 (.001)	0.010 (.001)	0.009 (.002)	0.005 (.002)	0.006 (.001)
On welfare 7-12 months in prior 2 years	-0.075 (.006)	-0.050 (.028)	-0.071 (.030)	-0.033 (.008)	-0.048 (.006)	-0.011 (.018)	-0.030 (.019)	-0.029 (.006)	-0.002 (.006)	0.001 (.015)	-0.034 (.014)	0.010 (.006)
On welfare 13-23 months in prior 2 years	-0.133 (.007)	-0.125 (.028)	-0.105 (.029)	-0.086 (.009)	-0.095 (.007)	-0.077 (.017)	-0.070 (.018)	-0.064 (.007)	-0.040 (.008)	-0.047 (.015)	-0.044 (.015)	-0.020 (.006)
On welfare 24 months in prior 2 years	-0.216 (.007)	-0.173 (.031)	-0.160 (.032)	-0.128 (.011)	-0.145 (.009)	-0.126 (.021)	-0.075 (.022)	-0.080 (.009)	-0.081 (.009)	-0.073 (.019)	-0.060 (.020)	-0.020 (.008)
Percent of previous 8 quarters working	-0.028 (.031)	-0.156 (.092)	-0.224 (.103)	-0.153 (.053)	-0.037 (.038)	-0.062 (.051)	-0.113 (.075)	-0.091 (.026)	-0.320 (.041)	-0.062 (.033)	-0.168 (.045)	-0.129 (.022)
Working all of previous 8 qtrs	-0.032 (.014)	0.008 (.049)	0.012 (.039)	-0.036 (.014)	-0.026 (.014)	0.015 (.027)	0.012 (.023)	0.007 (.010)	-0.103 (.015)	0.011 (.020)	-0.009 (.018)	0.003 (.008)
No work in any of previous 8 quarters	-0.010 (.010)	0.077 (.052)	0.030 (.067)	0.083 (.037)	0.023 (.013)	0.033 (.028)	-0.037 (.043)	0.047 (.015)	0.089 (.015)	0.025 (.028)	0.080 (.034)	0.080 (.015)
Total annual earnings in the prior year *1000	0.002 (.003)	0.016 (.005)	0.010 (.004)	0.002 (.004)	0.003 (.003)	0.014 (.003)	0.013 (.002)	0.009 (.002)	-0.028 (.004)	0.004 (.002)	0.005 (.002)	0.001 (.001)

Appendix Table A-4: Continued

	Missouri								North Carolina			
	1993				1997				1997			
	No Job	Job in Temp		Job, but none in Temp Help	No Job	Job in Temp		Job, but none in Temp Help	No Job	Job in Temp		Job, but none in Temp Help
		Help	Help and Other Industry			Help	Help and Other Industry			Help	Help and Other Industry	
Total annual earnings two years prior * 1000	0.003 (.002)	0.008 (.004)	0.005 (.004)	0.010 (.003)	0.008 (.002)	0.006 (.002)	0.006 (.003)	0.006 (.001)	0.020 0.002.23	0.004 (.002)	0.006 (.002)	0.008 (.001)
St. Louis central	-0.108 (.008)	-0.197 (.070)	-0.155 (.065)	-0.085 (.012)	-0.150 (.011)	-0.123 (.031)	-0.115 (.027)	-0.103 (.010)	na	na	na	na
Kansas City central	-0.068 (.009)	-0.189 (.071)	-0.179 (.074)	-0.076 (.012)	-0.052 (.012)	-0.073 (.034)	-0.078 (.032)	-0.054 (.010)	na	na	na	na
Charlotte central	na	na	na	na	na	na	na	na	-0.092 (0.013)	-0.090 (0.020)	-0.095 (0.020)	-0.091 (0.010)
Suburban metro	-0.011 (.010)	-0.158 (.070)	-0.098 (.073)	-0.005 (.012)	0.014 (0.011)	-0.006 (0.032)	-0.058 (0.029)	-0.001 (0.009)	-0.005 (0.018)	0.034 (0.026)	-0.007 (0.027)	0.002 (0.012)
Small metro	-0.001 (.011)	-0.079 (.058)	-0.092 (.064)	-0.022 (.012)	0.007 (.011)	0.021 (.028)	-0.022 (.030)	-0.005 (.009)	-0.018 (.007)	-0.009 (.013)	-0.047 (.013)	-0.029 (.005)
Quarter 2	0.004 (.002)	0.006 (.015)	-0.016 (.025)	-0.010 (.007)	0.006 (.003)	0.027 (.011)	-0.002 (.019)	-0.003 (.003)	-0.010 (.004)	0.012 (.010)	-0.019 (.012)	-0.002 (.003)
Quarter 3	0.010 (.004)	-0.008 (.022)	-0.043 (.035)	-0.013 (.010)	0.001 (.005)	0.016 (.014)	-0.013 (.021)	-0.005 (.004)	-0.008 (.006)	0.018 (.012)	-0.020 (.015)	0.008 (.004)
Quarter 4	0.026 (.004)	-0.003 (.024)	-0.042 (.036)	-0.001 (.010)	-0.002 (.005)	0.006 (.014)	-0.026 (.021)	-0.025 (.005)	0.029 (.004)	0.026 (.012)	-0.012 (.015)	0.027 (.004)
Lambda	0.074 (.040)	-0.173 (.135)	-0.150 (.127)	-0.158 (.072)	0.064 (.053)	0.041 (.067)	-0.001 (.084)	-0.053 (.033)	0.457 (.054)	-0.105 (.053)	-0.112 (.045)	-0.134 (.027)
N	209,325	6,230	3,744	69,861	129,440	9,921	7,485	72,596	130,894	12,148	10,073	95,254

Note: Standard errors are in parentheses. All standard errors have been adjusted for the estimation error in the inverse Mill's ratio. Estimation takes account of the correlation of errors for recipients who appear in the data multiple times.

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