The Impact of a Temporary Help Job:
An Analysis of Outcomes for Participants in Three Missouri Programs

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I. Introduction

In the last two decades the percentage of total employment in temporary help service firms has increased four-fold, rising from less than 0.5 percent in 1982 to over 2 percent by 2003 (Blank, 1998; U.S. Bureau of Labor Statistics, 2005). The increased use of temporary help service firms as labor market intermediaries has been attributed to economic changes in firm structure and regional labor markets that have made it more difficult for firms with leaner operations to find and support skilled workers (Giloth, 2003). For the worker, however, such mediated employment may offer less job stability, fewer fringe benefits and, for many low-skilled workers, substantially lower wages than traditional jobs. In addition to these concerns, the growth in the temporary help service industry has led to speculation that one of the causes of the relative deterioration in wages for low-skilled workers over this period is the substitution by "end-user" firms of low-wage workers employed by temporary help service firms for better-compensated permanent workers.

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. In order to examine whether employment in the temporary help industry actually helps or hurts workers in the long-run, we explore the subsequent employment dynamics of workers who work in this industry and compare their experience with the experience of workers who either do not have a job or who have a job in an end user firm. The analysis here focuses on the impact of holding a temporary help job for individuals who have sought employment assistance or cash support through any of three state

programs in Missouri. We look at employment in the quarter following their first contact with any of these programs and examine how the type of job obtained at this point influences employment two years later.

Our first program is Temporary Assistance for Needy Families (TANF), the state's welfare program, which experienced major reform in the 1990s. The next program is the Job Training Partnership Act (JTPA), a federally financed program that provides job skills training with an emphasis on disadvantaged workers.[1] Finally, we consider those seeking job exchange and related services under the federal Wagner-Peyser Act, through the state's Division of Employment Services (ES). In each case, we consider those who begin participation during calendar year 1997, limiting the sample to those at least 18 years of age but less than 65. The analyses are conducted separately for men and women, although we omit the small number of men who enroll in TANF.

We look at employment during the quarter following entry into the program, examining how employment two years later is influenced by the sector of initial employment, and in particular, temporary help services. For JTPA and ES, participation signals a decision to seek services to support employment efforts. Although those applying for TANF may not be seeking employment, Missouri's program, in keeping with federal reforms, emphasizes the importance of employment, and recipients who do not have an explicit exemption face employment and job training requirements.

[1]The Job Training Partnership Act was replaced with a similar program, the Workforce Investment Act, in July 2000.

For many participants in these programs, entry into the program identifies a point of potential crisis in their work lives or careers. Our analysis allows us to consider the role that temporary employment plays at such critical junctures.

II. Literature

Over the past few years, a growing body of empirical evidence on the role and effects of temporary work has accumulated.[2] An important segment of this work, including our own, has focused on low-wage workers and individuals receiving public welfare. What is perhaps most notable in our review of this research is the consistency among empirical findings on the effects of temporary help services employment, despite the different data sets and sub-populations investigated.

First, there is strong agreement among a large number of studies that temporary help services jobs pay lower wages, offer fewer work hours, are shorter in tenure, and are significantly less likely to provide health insurance coverage or other fringe benefits (Anderson, et al., 2002; Blank, 1998; Booth et al., 2000; Cohany, 1998; Heinrich et al., 2005; Houseman and Polivka, 1999; Lane et al., 2001, 2003; Nollen, 1996; Pawasarat, 1997; Segal and Sullivan, 1997). A smaller number of studies go beyond descriptive statistics to examine the employment and earnings paths or trajectories of welfare recipients and other low-wage workers who enter temporary help services employment. Lane et al. (2003), for example, look at matched samples

[2]Research initiatives in this area funded by both public and private entities (e.g., U.S. Department of Health and Human Services, Rockefeller/Russell Sage Foundation Future of Work program) have provided key support for recent work that has been done.

of "at-risk disadvantaged workers"[3] from the Survey of Income and Program Participation (SIPP) and follow them for one year. They find that individuals who take temporary help services jobs have better employment and "job quality" outcomes than those who were not employed, but that they fare slightly worse than those in other employment sectors in terms of earnings and benefits. They also note, however, that the negative effects of temporary employment compared to other sectors are mainly small and not statistically significant. In addition, they conclude that the effects of temporary help employment on reducing welfare receipt and poverty are "unambiguously positive" (p. 20).

The findings of Heinrich et al. (2005) mirror those of Lane et al., despite different populations of study. In this work, we use data on the populations of welfare recipients in Missouri and North Carolina to compare earnings, earnings growth, and patterns of welfare receipt for welfare recipients who go to work for temporary help services firms with those who do not work or have jobs with end-user firms, controlling for selection into temporary employment. After two years, we find very small differences (1-7 percent) in earnings between those who initially took temporary help jobs and those who entered jobs in other sectors, with measured characteristics explaining most of the differentials. The earnings of welfare recipients entering temporary help services jobs increased faster over the two-year period, in part due to their movement into higher-paying industries. In addition, we find that temporary help workers were no more likely to be out of a job a year later and only slightly more likely to return to

[3]Lane et al. use propensity score matching to define comparison groups of workers for their temporary help worker sample. "At-risk" workers are defined as those with incomes less than 200 percent of the poverty level.

welfare than workers in end user firms. Temporary help workers were substantially more likely to be employed and off of welfare than recipients without a job.

Anderson et al. (2002) use data from five states (California, Florida, Illinois, Maryland and North Carolina) in the Longitudinal Employer Household Dynamics program at the U.S. Census Bureau to analyze a sample of workers with persistently low labor market earnings. Like Heinrich et al. (2005) and Segal and Sullivan (1997), they show that low earnings are associated with worker characteristics, including education and race, in addition to characteristics of the firms at which they work. More importantly, they find that low-wage workers starting in temporary help services employment earn lower pay while employed by the temporary agency, but that subsequent job changes lead to higher wages and better job characteristics for these workers. Both Heinrich et al. and Anderson et al. observe that low-wage workers who begin work with temporary help service firms are more likely to move to higher-paying industries such as manufacturing than those working in other sectors (or not working). Booth et al. (2000) focus on temporary employment in Britain, using data from the British Household Panel Survey and likewise find temporary employment to be an effective "stepping stone" to permanent employment.

The findings of these and related studies speak to important public policy questions about the use of labor market intermediaries for workforce development. Poppe et al. (2003) note that labor market intermediaries, both public and private, are increasingly seen as a solution to the low-wage worker advancement problem. A recent study by Even and Macpherson (2003) found that "switching jobs is vital to significant wage growth among minimum wage workers, particularly for young workers who find themselves in 'low-training' occupations" (p. 677).

And Lane et al. (2001) describe a marked overlap between industries with a majority of low-wage workers and those with a majority of temporary help services workers. Welfare-to-work programs are increasingly relying on temporary help service firms to help with job placements of welfare recipients (Lane et al., 2003; Pavetti et al., 2000).

In this study, we extend our prior research to examine the effects of temporary help service employment for participants in other workforce development programs in Missouri (JTPA and Employment Services), in addition to TANF. Since these three programs serve different classes of workers, a comparison of their earnings and employment trajectories following entry into temporary help services and other jobs allows us to examine if and how the impact of taking a temporary job varies across different groups of workers seeking employment assistance. In contrast to our prior analyses, the analysis here allows a comparison between temporary help jobs and those in specific alternative industry groupings. Our work also benefits from access to relatively detailed information on work history, including earnings, over two previous years to aid in the estimation of these impacts. We expect the results of this study to inform public policy debates ongoing in the reauthorization of major workforce development programs, and, in particular, to inform questions about the role of public and private intermediaries in helping workers connect with and advance in jobs.

III. Data

Information on program participation, as well as demographic information on individuals, comes from data maintained by the state of Missouri to administer these programs. TANF data are from Missouri's Department of Social Services Income Maintenance file, which

includes information on services received for all program recipients. The data are extracted on a monthly basis, and individuals are identified as new payees in a quarter if they are receiving cash payments under this program in a given quarter and were not recipients in the prior quarter. The small number of payees who are males, those in the two-parent program, and those receiving payments on behalf of "child only" cases are omitted.[4]

JTPA participants are identified on administrative files maintained by Missouri's Division of Job Development and Training, which administered the program. Participants may be in the "adult" or "dislocated worker" programs. The adult program is means tested, limited to individuals whose income in the prior six months is below specified levels, whereas dislocated workers are normally individuals who have lost their jobs in firmwide layoffs. Given the differences in selection criteria, we expect those in the adult program to be disadvantaged relative to those in the dislocated work program. In fact, those in the adult program are younger, less well educated, and have dramatically lower prior earnings than those in the dislocated worker program, in large part as a direct result of program selection. We undertook the basic analysis of this paper separately for these two groups, but given that the JTPA sample is of modest size, differences in results for these two groups were usually not statistically significant and were generally hard to interpret. We therefore present results based on the combined JTPA program.

[4]We omit payees in child only cases because these individuals are exempt from employment and training requirements of the program. An individual who entered TANF during the year, then exited and remained off for at least one quarter, and then reentered, can be included twice in the file. The number of such cases is very small.

ES files identify individuals who register for job exchange services provided under federal Wagner-Peyser legislation. Most individuals who receive unemployment insurance payments are required to register for these services, and a substantial portion of job exchange registrants are UI recipients. However, anyone in the state is eligible to use job exchange services, so registrants include employed individuals who are seeking better employment prospects, as well as other job seekers who are not receiving unemployment compensation.

Our data on earnings and employment history come from the Unemployment Insurance (UI) program in the states of Missouri and Kansas. Total earnings for every individual in a quarter are reported by employers, and we are able to match these to program participants using Social Security numbers. Although these data exclude the self-employed, those in informal or illegal employment and a small number of jobs exempt from unemployment insurance reporting requirements, they include the overwhelming majority of employment in these states. A very small proportion of Missouri residents hold jobs in states other than Kansas.[5] Our data allow us to identify all employers within a quarter for an individual but we cannot determine whether jobs were held simultaneously or sequentially.

Table 1 provides means and standard deviations for each of our samples. Looking at the panel for females at the left, the statistics confirm that TANF entrants are substantially disadvantaged relative to the two other groups. For example, the mean number of years of completed schooling for welfare recipients is 11.3, at least a full year less than for the other

[5]Approximately one in six TANF residents in Jackson County, Missouri, the central county for Kansas City, holds a job in Kansas. The proportion of St. Louis residents with jobs in Illinois is much smaller due to the depressed economy of East St. Louis. No other significant concentrations of population are close to the state's borders.

groups. TANF recipients are younger, are more likely to be nonwhite, and are more likely to be from the central counties in the large metropolitan areas. They have mean prior earnings of about half those of the others. As might be expected, the measures of employment imply lower levels of job experience for TANF recipients. The basic measure of prior employment are based on earnings observed in the eight quarters prior to program entry.

Female participants in the JTPA and ES programs differ from one another in somewhat more complex ways. JTPA participants are older but have about the same level of schooling, employment and earnings as ES participants. Nonetheless, ES participants are more likely to have worked all of the prior eight quarters or to have worked none of the prior eight quarters, implying somewhat greater variation in the sample.

When we consider males (Table 1, right panels), we see that comparisons between JTPA and ES show patterns that are similar to those for females. There is, however, a substantial educational advantage for JTPA participants, which is especially notable at the level of college education: Nearly 17 percent of male JTPA participants have completed a bachelor's degree, compared to less than 8 percent among ES participants.

Our primary focus in the analysis is temporary help employment, identified by the relevant industry code. In addition, we have identified industry outside of temporary help using four broad categories, manufacturing, retail trade, service (excluding temporary help), and other. In a given quarter, if an individual held employment in only a single industry, the employment is identified as being in temporary help or in the other four categories. In a quarter with employment in more than one industry group, we have classified them into two groups according to whether they held at least one job in the temporary help services industry.

Table 1 shows industry of employment for three periods. The first measure indicates industry of employment four quarters prior to program entry. Measures for the quarter immediately following program entry (the "reference" quarter) and the quarter eight quarters later (the "outcome" quarter) allow comparison over time.

In the year prior to program entry, we see that about 3 percent of TANF entrants held only a temporary help job, and 3 percent held a temporary help job and a job in another industry. These proportions are slightly higher than for female JTPA participants, and appreciably higher than for female ES participants. Among males, as for females, in the year prior to participation JTPA participants are appreciably more likely than those in ES to hold temporary help jobs.

Looking at employment in the quarter following program entry (our reference quarter), we see that the proportion in temporary help jobs only is quite similar across the groups (4-5 percent), as is the proportion holding both a temporary help job and another job. But eight quarters after the reference quarter, temporary help employment–whether combined with other employment or not–is less important for all groups. It appears that temporary help employment is particularly important for individuals facing some kind of employment crisis as compared to those same individuals at other points in their careers.

IV. Selection into Temporary Help Jobs

Table 2 provides information on the factors that are associated with having jobs in temporary help in the quarter following initial participation in the program, i.e., the reference quarter. For ease of interpretation, we have divided employment into three categories: temporary help only, temporary help and some other industry, and other industry only. The table

reports coefficients of a multinomial logit model predicting type of job, with the omitted category no employment during the quarter.[6]

We observe that effects of age on employment are statistically significant, but they are inconsistent across samples. Among TANF and ES participants, those who are older are less likely to be working, whereas older individuals are more likely to be working among JTPA participants.[7] Age does not consistently distinguish those who obtain temporary help from those obtaining other jobs. In all three samples, the relationship between age and employment is nonlinear, as indicated by a squared term that is negative in all cases but one, and in most cases statistically significant. This implies that as individuals get older, in those samples where older individuals are more likely to work, an additional year of age is associated with smaller increases in levels of employment; and in those samples where older individuals are less likely to work, this effect is stronger at higher ages.

Our specification controls for education based on three measures, years of education and dummies for high school and bachelor's degrees. The dummy coefficients therefore identify effects of degrees beyond the linear impacts of years of schooling. In general, greater schooling is associated with higher levels of employment, and since the coefficients for the dummies identifying degree completion are not statistically significant for most samples, there is little evidence for deviations from a linear relationship. The exception is that for the ES samples

[6]We also fitted models that controlled for industry of employment in the year prior to program entry. As expected, such controls reduce the impact of stable characteristics on industry choice, since such factors would partly impact industry choice through previous industry choices.

[7]Inferences about the impact of age are based on evaluating the derivative of the quadratic of the age function at age 33.

(both for males and females), those with high school degrees are more likely to be working than the simple linear model would imply.

As might be expected, prior employment is a strong predictor of employment in the reference quarter; we see that the three coefficients for the proportion of the prior eight quarters employed are substantial, positive and of roughly similar size in all our samples. Those who have no observed employment during the prior eight quarters are particularly unlikely to hold a job in the reference quarter. While there are relatively few consistent differences between the determinants of temporary help and the determinants of other employment, we do observe that those who have worked continuously in the prior eight quarters are generally less likely to be in temporary help than in other employment.

Prior earnings are related to employment in a complex way. The coefficients for earnings in the year immediately prior are generally positive, while the coefficients for earnings two years earlier are generally negative. This may be interpreted as implying that it is growth in earnings that is predictive of employment. In most cases, the sum of these coefficients is positive, as might be expected, so higher average earnings are associated with a greater chance of employment. As a rule, prior earnings are less positively associated with temporary help work than with other employment, and in some samples, those with higher prior earnings are *less* likely to be employed in temporary help than to be not employed at all.

The coefficients for county unemployment rate confirm that those in depressed counties are less likely to be employed; in four of the five samples, they are particularly unlikely to be in both a temporary help job and another job. There is no consistent relationship between the county unemployment rate and holding a temporary help job as compared with another job.

Overall, we can conclude that age, education, prior employment experience and the local economy predict who will be employed, but these variables have very little power in distinguishing temporary help employment from other employment. In contrast, race is among the most important predictors of temporary help employment, with nonwhites much more likely to be in temporary help employment in all of our samples. This is particularly notable, since the relationship between other employment and race is generally small and inconsistent across our samples. Anderson et al. (2002) similarly find that both black males and females and other nonwhite minorities are more likely to be employed in the temporary help services sector. They also find that black males are more likely than any other group to "escape" a pattern of persistently low earnings through temporary help employment.

Another important predictor of temporary help employment is region within the state. Those in metropolitan counties are much more likely to be in temporary help jobs than those in nonmetropolitan counties. Differences between large and small metropolitan areas are modest, as are differences between suburban and central metropolitan counties.

These results suggest that explanations about selection into temporary help jobs that rest primarily on arguments about general levels of human capital miss the mark. What matters most is "race and place." The explanation for the concentration of temporary help employment in metropolitan areas is undoubtedly the need for temporary help services to operate in an environment with a sufficient number of primary employers.

We suspect that the large impact of race stems from employer difficulty judging worker productivity. If employers believe they are less able to judge the ability of nonwhite workers or if they believe that nonwhite workers are generally less productive, they may be less willing to

hire nonwhite workers into regular jobs that imply long-term commitments. In the absence of effective legal prohibition against use of race by employers in hiring, temporary help jobs may provide valuable opportunities for nonwhites.

V. Impacts of Temporary Help Experience on Earnings

In order to examine the impact of temporary help employment on ultimate earnings, we have estimated a model that predicts earnings eight quarters after the reference quarter. Controls include basic human capital measures as well as indicators of prior employment experience, corresponding to the control variables in the logit equations reported in Table 2. In addition, we control for industry prior to program entry, since we are interested in gauging the impact of a temporary help job following program participation, not effects of prior experience.[8] Based on the same model, we also perform a difference-in-difference analysis, where the dependent variable is the difference in earnings between the outcome quarter and nine quarters prior to the quarter of program entry.[9]

As a rule, coefficients for control variables are as expected and, although there are some differences across our five samples, few are statistically significant and substantively

[8]The measure of prior industry is based on industry of employment in all four quarters prior to program entry. Each industry dummy is coded one if there is any quarter in which the industry of employment falls in the specified category. Results are not sensitive to inclusion of these measures.

[9]Such a symmetrical difference-in-difference specification controls for program selection by earnings if the time-varying component of earnings has a simple autoregressive structure (Ashenfelter and Card, 1985).

important.[10] Among the control variables for prior employment, the most important are the measures of earnings, both in the year immediately prior to program entry and in the previous quarter.

Table 3 reports predicted quarterly earnings in the eighth quarter after the reference quarter based on the regressions in Table A-1. For comparison, unadjusted earnings in the reference quarter and the outcome quarter are presented, along with predicted impacts of employment in various sectors relative to those not employed.

We focus first on the samples of females, which generally show consistent patterns. Line 1 shows that mean earnings in the reference quarter of those with only a temporary help job are below those for individuals employed in all the other sectors and that, except for retail trade jobs, the differences are substantial. Controls for individual characteristics (not shown) confirm that these patterns are not primarily due to differences in measured characteristics. Clearly, entering temporary help employment in the quarter after program entry is associated with a substantial immediate income decrement relative to any other kinds of employment. Among those with jobs in a single major industry, manufacturing jobs have the highest earnings. On the other hand, when we look at those who hold jobs in multiple sectors, we see the role of temporary help employment is less clearly damaging, since those who hold temporary help jobs in addition to

[10]One inconsistency across samples is in the effect of race. We find that nonwhite TANF recipients have higher earnings than other TANF recipients, whereas in the other samples nonwhite earnings are lower, in keeping with most findings. The impact in the TANF sample very likely reflects the strong selection of nonwhites into welfare. In a study of six metropolitan areas, Hotchkiss, King and Mueser (forthcoming) also find that employment and earnings for nonwhites among TANF and AFDC recipients are higher than for whites.

other jobs have earnings that are at or close to the level for those in most other sectors we have identified.

Line 2 shows that, eight quarters later, the relative earnings of those initially in temporary help jobs have at least partly caught up with others. Earnings for temporary help workers increase by more than 50 percent in this period, an appreciably larger rate of growth than for any of our other industry categories.

Line 3 shows that the impact of controls is somewhat different for the three programs. In the case of TANF, it appears that those who take temporary help jobs are somewhat more advantaged than those in manufacturing, retail trade and service jobs, since controlling for background characteristics reduces the relative earnings of those in temporary help jobs. In contrast, for the other samples, the relative benefits of having a manufacturing job are partly explained by observable differences among people. The result is that for TANF and ES participants, ultimate earnings are greater by up to 20 percent for those who had a manufacturing job rather than a temporary help job; for JTPA recipients, there is no increment. We see that those with reference quarter employment in the "other" industry category have an ultimate earnings advantage.

The largest categories of employment for all our samples are retail trade and service. For all samples of females, the estimated impact on ultimate earnings of a retail trade job is below that of a temporary help job. Service jobs produce incomes about 10 percent higher than temporary help jobs in the TANF and JPTA samples, and at the same level for the ES sample. Those with jobs in multiple sectors–whether or not they hold a temporary help job–generally have earnings that are above those with jobs in a single other sector except for manufacturing.

Line 4 indicates that the impact of holding any job–regardless of industry–is positive across the three samples of females. The ES sample yields estimates of the impact of holding a job that are substantially above estimates for the other two samples. Parallel estimates based on the difference-in-difference model are presented in line 5. These results are essentially the same as those reported in line 4.

Our conclusion is that temporary help employment has few deleterious effects on earnings relative to other industries for women eight quarters later. Earnings growth is greater than any other job and ultimate earnings are on a par with those obtained in the most common industries. Outcomes for those with any employment in the reference quarter are appreciably better than for those who don't obtain employment.

Patterns for males are similar to those for females. Earnings in the reference quarter for those in temporary help jobs alone are appreciably below that in all other categories, and less than half of earnings in manufacturing. However, earnings growth for those in temporary help is much higher, about 50 percent over the two year period, compared to less than 25 percent for other categories. As a result, the difference between temporary help and the highest paid industries is substantially reduced in the outcome quarter.

Line 3 indicates that more than half of the remaining difference is explained by individual characteristics. In the ES sample, we see that those with any employment have appreciably higher earnings than those without jobs, but that those in temporary help have earnings at least slightly below those in every other sector. Perhaps most significant, those with manufacturing jobs have ultimate earnings that are predicted to be 43 percent above observationally similar individuals with temporary help jobs.

When we look at the predicted earnings of males who hold both a temporary help job and a job in another sector, we see that the predicted earnings are somewhat higher than for those with just temporary help jobs, and they are comparable to those for all industry groups except for manufacturing in the ES sample.

VI. Impacts of Temporary Help Experience on Later Employment

Table A-2 provides estimated results for a linear probability model in which the dependent variable is employment eight quarters after the reference quarter. Control variables are identical to those in the Table A-1. Table 4 provides parallel measures indicating expected levels of employment eight quarters later based on sector of employment in the reference quarter.

The patterns of results parallel those for earnings (reported in Table 3) fairly closely. The likelihood of employment eight quarters later is strongly associated with employment in any sector in the reference quarter. Among TANF participants, there is basically no difference between those with employment in temporary help in terms of ultimate employment.

Differences between men and women are small in those programs they have in common. Although those in temporary help jobs are slightly less likely to work in the outcome quarter than those in most other categories, the difference is small once we control for individual characteristics (line 3). In fact, the difference between temporary help workers and others in terms of ultimate employment is, as might be expected, substantially smaller than the difference in earnings. Those with jobs in temporary help as well as another job during the reference quarter have high rates of later employment.

VII. Transitions between Sectors

The analysis above shows that, although individuals in temporary help service jobs receive lower earnings, over time this earnings disadvantage declines. In part, this reflects movement into more remunerative jobs outside the temporary help sector. In Table 5, we examine movements between sectors over eight quarters. The listings on the left of the table indicate sector during the reference quarter, and percentages indicate the proportion of each group in the listed categories eight quarters later. These tabulations show that those in temporary help positions are much more likely to move to some other major sector than are individuals in any of the other major sectors.

Consider the proportion of individuals in temporary help service positions who remain in any service positions. Among TANF recipients, some 28 percent are in service positions (including temporary help) eight quarters later, whereas 42 percent of other service workers are in some kind of service position. The comparisons are even more dramatic for females entering JTPA or ES. Whereas in each case the percent of temporary help workers remaining in service positions is also 28 percent, over 50 percent of other service workers remain in service positions.

We can also see that temporary help workers are more likely to move into manufacturing positions than are any other category of worker, with the exception of those in manufacturing or in multiple sectors. For example, among females entering ES who are in temporary help positions in the reference quarter, 8.7 percent are in manufacturing eight quarters later. For those in retail trade, service or other industries, no more than 4 percent move to the manufacturing sector eight quarters later. Temporary help workers are also very likely to end up in jobs in

multiple sectors, with more than one in ten temporary help workers so classified eight quarters later.

The importance of moves between industry is illustrated in Table 6. Line 1 repeats the impact estimates from Table 3 (line 4), showing how reference quarter jobs in each of the industries influence outcome earnings (two years later), relative to holding no job. Lines 2 and 3 are based on estimates from a model that controls for both reference quarter industry and outcome quarter industry. The estimates in line 2 confirm the view that once we identified whether the individual is employed and the industry of employment in the outcome quarter, prior industry of employment is relatively unimportant. For example, among TANF participants, although those with temporary help jobs are predicted to have earnings in the outcome quarter that are $421 higher than those with no jobs (line 1), once industry in the outcome quarter is controlled, that increment declines to $123. Line 1 implies that ultimate earnings are expected to be $263 higher for those with manufacturing jobs than for temporary help jobs, a difference that declines to $81 (which is not statistically significant) when ultimate industry is controlled.

The basic pattern is the same for all programs and for males and females. In the two JTPA samples, effects reported in line 2 are generally negative and not statistically significant; since sampling errors are large, it is not clear whether actual effects differ from those in the other samples. In both ES samples, the effects of reference quarter industry are statistically significant even when ultimate industry is controlled, but clearly effects of this kind are of second-order importance. The primary way that ultimate earnings influences outcomes is through its impact on ultimate employment.

Coefficients in line 3 show that movement into other employment is particularly valuable for those with reference quarter jobs in temporary help. In every sample, those who ultimately end up in temporary help jobs have the lowest earnings of any industry category, and the difference is often substantial. This contrasts with estimates in line 1, which show that a temporary help job in the reference quarter is not associated with appreciably lower earnings than most other categories. Clearly, those who do not move out of temporary help jobs are likely to be disadvantaged. The contrast with retail trade jobs is of interest. Individuals initially in such jobs do less well than those in temporary help, but if they stay in those jobs, their earnings are actually higher than temporary help workers who stay in temporary help.

VIII. Conclusion

Perhaps the most notable finding is that the basic patterns of results are very similar for all five samples. The female samples of ES and JTPA recipients are very heterogeneous and substantially different from the TANF recipients, yet the role of temporary help employment is remarkably similar. While patterns for men show some important differences, again it is the similarities in results that are most striking.

The current analysis controls for a variety of measures reflecting pre-program labor market experience, as well as standard demographic characteristics. Implicit in our analysis is the assumption that no unmeasured individual characteristics affect both industry of participation and ultimate earnings. Although it is not possible to show that no such factors exist, we believe the approach taken here minimizes their importance. Because we observe people in a period when they are experiencing employment distress, the randomness of the labor market may be of

greater importance than at other times in their lives. The assumption that such factors do not bias results is supported by our earlier results based on TANF recipients in Missouri and North Carolina (Heinrich, Mueser and Troske, 2005), which found no evidence that selection into initial jobs altered estimates.

In terms of the implications for workforce development policies, it is clear that both males and females, coming through ES, JTPA or TANF programs, fare better in terms of earnings and earnings growth when they take jobs with temporary help service firms if the alternative is no employment. If temporary help service firms facilitate quicker access to jobs for those seeking employment assistance, then expanded use of these firms in workforce development programs will generate net benefits.

Even if temporary help jobs do partly supplant other jobs, since the majority of jobs are in the retail trade and service sectors, the costs are small. Yet it is also clear that, for most low-wage or disadvantaged workers, the key to labor market success via the path of a temporary help services firm is through a subsequent transition to a job in another sector. If policymakers choose to explore a greater role for temporary help services firms in helping those seeking employment assistance to find and advance in jobs, tracking these firms' success in facilitating placements of workers into permanent jobs in other sectors might be important in evaluating the policy's effectiveness.

References

Anderson, Fredrik, Harry J. Holzer and Julia I. Lane. 2002. "The Interactions of Firms and Workers in the Low-wage Labor Market." Working paper, U.S. Census Bureau.

Ashenfelter, Orley and David Card. 1985. "Using the Longitudinal Structure of Earnings to Estimate the Effect of Training Programs." *Review of Economics and Statistics* 67: 648-660.

Blank, Rebecca M. 1998. "Contingent Work in a Changing Labor Market." In Richard B. Freeman and Peter Gottschalk, eds., *Generating Jobs: How to Increase Demand for Less-Skilled Workers*. New York: Russell Sage Foundation.

Booth, Alison L., Marco Francesconi, Jeff Frank. 2000. "Temporary Jobs: Stepping Stones or Dead Ends?" Discussion paper, Institute for the Study of Labor, Bonn, Germany.

Cohany, Sharon R. 1998. "Workers in Alternative Employment Arrangements: A Second Look." *Monthly Labor Review* 121 (11), November, pp. 3-21.

Even, William E. and David A. Macpherson. 2003. "The Wage and Employment Dynamics of Minimum Wage Workers." *Southern Economic Journal* 69(3): 676-690.

Giloth, Robert P. 2003. Workforce Intermediaries: Partnerships for the Future. *Economic Development Quarterly* 17(3): 215-219.

Heinrich, Carolyn J., Peter Mueser and Kenneth R. Troske. 2005. "Welfare to Temporary Work: Implications for Labor Market Outcomes." *Review of Economics and Statistics* 87(1).

Hotchkiss, Julie, Christopher King, and Peter Mueser, forthcoming. "The Determinants of Welfare Exit and Employment," chapter 3 in Christopher King and Peter Mueser, *Welfare and Work: Experiences in Six Cities*, Upjohn.

Houseman, Susan N. and Anne E. Polivka 1999. "The Implications of Flexible Staffing Arrangements for Job Stability. Working paper, W.E. Upjohn Institute.

Lane, Julia, Kelly S. Mikelson, Pat Sharkey and Doug Wissoker. 2001. "Low-income and Low-skilled Workers' Involvement in Non-standard Employment." Report to the U.S. Department of Health and Human Services, The Urban Institute.

Lane, Julia, Kelly S. Mikelson, Pat Sharkey and Doug Wissoker. 2003. "Pathways to Work for Low-Income Workers: The Effect of Work in the Temporary Help Industry." *Journal of Policy Analysis and Management* 22 (4, Fall): 581-598.

Nollen, Stanley D. 1996. "Negative Aspects of Temporary Employment." *Journal of Labor Research* 17 (4), Fall, pp. 567-581.

Pavetti, LaDonna, M. Ihcelle K. Derr, Jacquelyn Anderson, Carole Trippe, and Sidnee Paschal 2000. The role of intermediaries in linking TANF recipients with jobs. Paper presented at the Federal Reserve Bank of New York.

Pawasarat, John. 1997. "The Employment Perspective: Jobs Held by the Milwaukee County AFDC Single Parent Population (January 1996-March 1997). Working paper, Employment and Training Institute, Milwaukee, Wisconsin.

Poppe, Nan, Julie Strawn and Karin Martinson. 2003. "Whose Job Is It? Creating Opportunities for Advancement." In *Workforce Intermediaries in the 21st Century*, Robert P. Giloth (ed.), Temple University Press.

Segal, Lewis M. and Daniel G. Sullivan (1997). "The Growth of Temporary Services Work." *Journal of Economic Perspectives* 11(2), Spring, pp. 117-136.

U.S. Bureau of Labor Statistics (2005) "Discontinued CES data on SIC," http://www.bls.gov/ces/cesoldsic.htm.

Table 1: Means and Standard Deviations for Individuals Entering Programs in 1997

	Females						Males			
	TANF		JTPA		ES		JTPA		ES	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	28.05	7.58	37.17	10.46	34.53	11.08	38.86	10.63	34.09	10.99
Age squared	844.06	477.45	1490.80	838.32	1315.32	835.08	1622.60	861.08	1282.63	822.53
Number of years of education	11.31	1.60	12.42	1.61	12.31	1.66	13.00	2.27	12.31	1.69
High school degree[1]	0.578	0.494	0.869	0.337	0.872	0.334	0.866	0.341	0.872	0.334
College degree	0.011	0.104	0.055	0.228	0.078	0.268	0.169	0.375	0.078	0.269
Nonwhite	0.381	0.486	0.329	0.470	0.266	0.442	0.280	0.449	0.232	0.422
Proportion of previous 8 quarters working	0.511	0.363	0.627	0.383	0.628	0.394	0.658	0.374	0.640	0.394
Working all of previous 8 qtrs	0.174	0.379	0.359	0.480	0.390	0.488	0.378	0.485	0.407	0.491
No work in any of previous 8 qtrs	0.193	0.395	0.159	0.366	0.179	0.383	0.143	0.350	0.176	0.381
Total annual earnings in the prior year	3,904	4,809	8,965	10,988	8,946	10,356	13,842	16,942	13,565	16,264
Total annual earnings two years prior	3,564	5,058	8,929	10,629	7,810	10,155	14,162	16,751	12,033	16,139
St. Louis County and St. Louis City	0.248	0.432	0.270	0.444	0.214	0.410	0.292	0.455	0.204	0.403
Kansas City central area (Jackson County)	0.161	0.367	0.135	0.342	0.109	0.312	0.148	0.355	0.110	0.313
Suburban areas	0.106	0.308	0.151	0.358	0.125	0.331	0.200	0.400	0.146	0.353
Small metro	0.121	0.326	0.099	0.299	0.125	0.331	0.081	0.273	0.131	0.338
Outside metro	0.365	0.481	0.343	0.475	0.420	0.493	0.277	0.448	0.399	0.490
Quarter 1997:1	0.213	0.409	0.288	0.453	0.249	0.432	0.341	0.474	0.286	0.452
Quarter 1997:2	0.237	0.425	0.242	0.428	0.237	0.425	0.239	0.427	0.207	0.405
Quarter 1997:3	0.283	0.450	0.289	0.453	0.280	0.449	0.225	0.417	0.254	0.435
Quarter 1997:4	0.268	0.443	0.182	0.386	0.234	0.424	0.195	0.396	0.253	0.435
Earnings in quarter following program entry	710	1,200	1,576	2,533	1,847	2,931	2,757	6,105	2,804	4,070
Earnings 8 quarters after reference quarter	1,420	1,889	2,748	5,895	2,468	6,778	3,797	9,509	3,585	8,184
Employment 8 quarters after reference quarter	0.570	0.495	0.687	0.464	0.639	0.480	0.651	0.477	0.629	0.483
Industry 4 quarters prior to program entry										
No job	0.475	0.499	0.366	0.482	0.363	0.481	0.334	0.471	0.353	0.478
Only one sector										
Temp help	0.028	0.165	0.027	0.162	0.019	0.137	0.033	0.178	0.021	0.144
Manufacturing	0.040	0.196	0.139	0.346	0.096	0.295	0.178	0.383	0.143	0.350
Retail trade	0.158	0.365	0.108	0.310	0.147	0.354	0.083	0.276	0.112	0.316
Service (excluding temp help)	0.168	0.374	0.193	0.394	0.199	0.399	0.123	0.329	0.093	0.290
Other	0.042	0.200	0.094	0.292	0.100	0.300	0.160	0.366	0.205	0.404
Multiple sectors										
Temp Help and Any Other Industry	0.031	0.172	0.025	0.156	0.020	0.139	0.033	0.178	0.020	0.139
Any industry not temp help	0.059	0.235	0.049	0.216	0.056	0.231	0.057	0.233	0.053	0.225
Industry in Reference Quarter										
No job	0.527	0.499	0.408	0.491	0.334	0.472	0.347	0.476	0.321	0.467
Only one sector										
Temp help	0.046	0.210	0.048	0.214	0.041	0.199	0.053	0.224	0.043	0.203
Manufacturing	0.031	0.173	0.069	0.254	0.097	0.297	0.115	0.319	0.142	0.349
Retail trade	0.126	0.332	0.082	0.274	0.126	0.331	0.067	0.251	0.093	0.290
Service (excluding temp help)	0.147	0.354	0.199	0.399	0.190	0.392	0.129	0.335	0.086	0.280
Other	0.036	0.185	0.092	0.289	0.085	0.279	0.154	0.361	0.195	0.396
Multiple sectors										
Temp Help and Any Other Industry	0.039	0.195	0.043	0.203	0.046	0.209	0.058	0.233	0.045	0.207
Any industry not temp help	0.048	0.215	0.060	0.237	0.081	0.272	0.076	0.265	0.077	0.266
Industry 8 quarters after reference quarter										
No job	0.430	0.495	0.313	0.464	0.361	0.480	0.349	0.477	0.371	0.483
Only one sector										
Temp help	0.033	0.180	0.030	0.170	0.023	0.150	0.038	0.192	0.024	0.152
Manufacturing	0.046	0.209	0.073	0.260	0.092	0.290	0.139	0.346	0.142	0.350
Retail trade	0.133	0.339	0.085	0.279	0.113	0.317	0.058	0.233	0.081	0.273
Service (excluding temp help)	0.199	0.399	0.283	0.450	0.216	0.412	0.136	0.343	0.091	0.288
Other	0.063	0.243	0.133	0.339	0.112	0.316	0.200	0.400	0.216	0.411
Multiple sectors										
Temp Help and Any Other Industry	0.037	0.189	0.031	0.174	0.024	0.153	0.031	0.173	0.023	0.150
Any industry not temp help	0.058	0.235	0.053	0.223	0.058	0.234	0.050	0.218	0.052	0.221
Number of observation	26,172		5,391		133,766		3,028		163,080	

[1]The high school degree dummy is coded 1 for those with at least a high school degree.

Table 2: Multinomial Logit Estimation of Job Choice: Quarter Following Program Entry

	Females									Males					
	TANF			JTPA			ES			JTPA			ES		
	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	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	-6.648	-6.019	-1.724	-7.374	-5.936	-1.408	-4.483	-4.351	-0.186	-4.346	-4.371	-0.032	-3.711	-3.551	0.129
	(0.574)	(0.647)	(0.241)	(1.198)	(1.272)	(0.526)	(0.262)	(0.255)	(0.113)	(1.412)	(1.379)	(0.685)	(0.224)	(0.228)	(0.103)
Age	0.131	0.133	0.026	0.071	0.071	0.045	0.054	0.018	-0.013	0.108	0.057	0.080	0.053	0.039	-0.026
	(0.030)	(0.036)	(0.013)	(0.049)	(0.052)	(0.021)	(0.009)	(0.009)	(0.004)	(0.061)	(0.059)	(0.029)	(0.008)	(0.009)	(0.004)
Age square *100	-0.203	-0.237	-0.065	-0.093	-0.103	-0.063	-0.092	-0.063	-0.008	-0.126	-0.083	-0.119	-0.089	-0.095	0.002
	(0.048)	(0.058)	(0.020)	(0.061)	(0.065)	(0.026)	(0.013)	(0.013)	(0.005)	(0.076)	(0.075)	(0.035)	(0.012)	(0.012)	(0.005)
Years of education	0.063	0.031	0.055	0.226	0.067	0.038	0.084	0.117	0.041	-0.019	0.060	-0.143	0.022	0.019	0.014
	(0.034)	(0.036)	(0.015)	(0.070)	(0.078)	(0.033)	(0.019)	(0.018)	(0.008)	(0.078)	(0.076)	(0.038)	(0.016)	(0.016)	(0.008)
High school degree	-0.022	0.015	-0.030	-0.553	-0.208	-0.259	0.084	0.149	0.206	-0.121	-0.312	0.456	0.035	0.204	0.371
	(0.100)	(0.108)	(0.045)	(0.275)	(0.290)	(0.126)	(0.062)	(0.062)	(0.028)	(0.313)	(0.310)	(0.167)	(0.053)	(0.053)	(0.026)
College degree	-0.220	-0.278	-0.127	-0.577	-0.272	0.121	-0.131	-0.219	0.101	-0.171	-1.309	0.171	-0.063	-0.079	-0.093
	(0.315)	(0.363)	(0.145)	(0.390)	(0.443)	(0.189)	(0.098)	(0.092)	(0.044)	(0.430)	(0.454)	(0.190)	(0.088)	(0.087)	(0.041)
Nonwhite	0.884	0.714	0.248	0.520	0.686	0.121	0.445	0.336	-0.103	0.994	1.082	0.225	0.501	0.386	-0.169
	(0.082)	(0.087)	(0.037)	(0.181)	(0.198)	(0.088)	(0.038)	(0.038)	(0.019)	(0.235)	(0.226)	(0.120)	(0.034)	(0.034)	(0.017)
Proportion of previous 8 quarters working	1.224	1.545	1.130	1.817	2.373	0.968	1.033	1.383	1.152	1.419	0.839	0.888	1.275	1.719	1.187
	(0.176)	(0.199)	(0.079)	(0.393)	(0.450)	(0.175)	(0.089)	(0.091)	(0.041)	(0.478)	(0.520)	(0.245)	(0.079)	(0.081)	(0.038)
Working all of previous 8 qtrs	0.072	0.340	0.183	-0.308	-0.232	0.007	-0.045	0.134	0.307	-0.186	0.460	-0.059	0.260	0.402	0.424
	(0.104)	(0.108)	(0.051)	(0.221)	(0.229)	(0.105)	(0.054)	(0.051)	(0.025)	(0.280)	(0.282)	(0.140)	(0.049)	(0.047)	(0.023)
No work in any of previous 8 quarters	-0.328	-0.038	-0.233	-0.232	0.328	-0.433	-0.396	-0.296	-0.451	-0.992	-0.399	-0.412	-0.481	-0.269	-0.388
	(0.134)	(0.158)	(0.054)	(0.319)	(0.366)	(0.125)	(0.063)	(0.069)	(0.028)	(0.412)	(0.423)	(0.183)	(0.055)	(0.059)	(0.026)
Total annual earnings in the prior year /1000	0.029	0.046	0.051	0.007	0.008	0.005	-0.008	0.012	0.015	-0.025	0.007	0.017	-0.032	-0.015	0.020
	(0.009)	(0.009)	(0.004)	(0.011)	(0.012)	(0.005)	(0.003)	(0.003)	(0.001)	(0.013)	(0.011)	(0.004)	(0.003)	(0.002)	(0.001)
Total annual earnings two years prior /1000	-0.041	-0.032	-0.035	-0.032	-0.023	0.001	-0.021	-0.027	-0.015	-0.027	-0.019	-0.006	-0.024	-0.035	-0.013
	(0.009)	(0.009)	(0.004)	(0.013)	(0.013)	(0.005)	(0.003)	(0.003)	(0.001)	(0.012)	(0.011)	(0.004)	(0.003)	(0.003)	(0.001)

Table 2 -- Continued

	Females									Males					
	TANF			JTPA			ES			JTPA			ES		
	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	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
St. Louis central	0.606	0.248	-0.014	1.476	0.780	0.195	0.711	0.574	-0.159	0.193	0.769	0.170	0.555	0.356	-0.040
	(0.104)	(0.110)	(0.044)	(0.274)	(0.246)	(0.101)	(0.046)	(0.046)	(0.021)	(0.289)	(0.307)	(0.128)	(0.041)	(0.042)	(0.019)
Kansas City central	0.855	0.662	-0.074	1.637	0.795	0.035	0.764	0.742	-0.223	0.535	1.016	0.294	0.689	0.827	0.138
	(0.107)	(0.111)	(0.047)	(0.284)	(0.266)	(0.114)	(0.054)	(0.052)	(0.026)	(0.332)	(0.343)	(0.161)	(0.049)	(0.047)	(0.024)
Suburban metro	0.684	0.431	-0.088	1.174	0.385	-0.011	0.679	0.755	-0.059	0.452	0.755	-0.107	0.696	0.855	0.250
	(0.125)	(0.130)	(0.050)	(0.287)	(0.269)	(0.101)	(0.054)	(0.050)	(0.023)	(0.324)	(0.337)	(0.140)	(0.050)	(0.046)	(0.022)
Small metro	0.659	0.569	0.006	1.277	-0.037	-0.185	0.646	0.724	0.086	0.347	0.800	-0.267	0.719	0.893	0.133
	(0.124)	(0.125)	(0.048)	(0.299)	(0.333)	(0.113)	(0.055)	(0.051)	(0.023)	(0.371)	(0.371)	(0.173)	(0.046)	(0.043)	(0.021)
Quarter 2	0.235	0.029	0.155	-0.110	0.173	-0.012	0.080	0.208	0.100	0.169	0.045	0.140	0.212	0.288	0.132
	(0.093)	(0.094)	(0.041)	(0.185)	(0.189)	(0.083)	(0.047)	(0.044)	(0.021)	(0.229)	(0.234)	(0.114)	(0.044)	(0.041)	(0.020)
Quarter 3	0.149	0.050	0.229	-0.228	-0.073	0.107	0.090	0.168	0.212	-0.320	-0.200	0.026	0.165	0.181	0.119
	(0.091)	(0.090)	(0.039)	(0.181)	(0.192)	(0.079)	(0.042)	(0.041)	(0.019)	(0.251)	(0.240)	(0.114)	(0.039)	(0.037)	(0.018)
Quarter 4	0.071	-0.505	-0.114	0.090	0.038	0.056	0.012	-0.118	0.028	-0.135	0.197	-0.072	0.031	-0.167	-0.056
	(0.091)	(0.100)	(0.041)	(0.195)	(0.217)	(0.091)	(0.045)	(0.045)	(0.020)	(0.250)	(0.235)	(0.123)	(0.040)	(0.039)	(0.018)
Unemployment rate in county at current qtr	-0.905	-3.359	-3.188	-7.893	-3.065	-1.356	-4.664	-5.628	-2.822	0.341	-3.807	-0.191	-1.187	-2.017	-2.352
	(1.721)	(1.976)	(0.719)	(4.133)	(3.811)	(1.501)	(0.725)	(0.744)	(0.243)	(5.610)	(5.648)	(2.574)	(0.597)	(0.638)	(0.247)

Table 3: Predicted Earnings and Impact by Industry of Employment in Quarter Following Program Entry

	One Industry						Multiple Industries	
	No Job	Temp Help	Manufacturing	Retail Trade	Service	Other	Temp Help and Any Other Industry	Any Industry Not Temp Help
	Panel A - Females							
TANF								
1. Initial mean earnings	0	1,126	1,761	1,191	1,550	2,153	1,632	1,764
	(0)	(35)	(52)	(19)	(22)	(59)	(38)	(42)
2. Mean earnings 8 quarters later	1,008	1,812	1,829	1,593	1,953	2,449	2,060	1,920
	(14)	(58)	(75)	(31)	(34)	(80)	(66)	(57)
3. Mean earnings 8 quarters later controlling characteristics	1,163	1,584	1,847	1,556	1,747	2,051	1,737	1,729
	(15)	(51)	(62)	(31)	(29)	(58)	(55)	(49)
4. Impact on earnings, relative to no job category	0	421	684	393	584	887	573	566
	(0)	(54)	(64)	(35)	(33)	(61)	(57)	(52)
5. Impact on earnings based on difference-in-difference	0	525	682	491	678	949	655	614
	(0)	(62)	(74)	(40)	(38)	(70)	(66)	(60)
JTPA								
1. Initial mean earnings	0	1,529	2,748	1,724	2,964	3,315	2,494	2,846
	(0)	(95)	(122)	(100)	(98)	(147)	(148)	(147)
2. Mean earnings 8 quarters later	2,114	2,838	2,968	2,659	3,464	3,300	3,140	3,348
	(180)	(172)	(138)	(139)	(101)	(130)	(172)	(174)
3. Mean earnings 8 quarters later controlling characteristics	2,365	2,796	2,717	2,762	3,146	3,101	3,089	3,194
	(127)	(366)	(315)	(283)	(186)	(267)	(383)	(323)
4. Impact on earnings, relative to no job category	0	431	353	397	782	736	724	829
	(0)	(390)	(338)	(310)	(229)	(297)	(407)	(351)
5. Impact on earnings based on difference-in-difference	0	610	244	490	712	736	787	959
	(0)	(407)	(353)	(324)	(239)	(310)	(425)	(366)
ES								
1. Initial mean earnings	0	1,733	3,834	1,868	2,610	3,599	2,605	3,038
	(0)	(22)	(48)	(13)	(15)	(38)	(28)	(25)
2. Mean earnings 8 quarters later	1,222	2,715	3,974	2,187	2,946	3,708	3,086	3,337
	(19)	(170)	(123)	(18)	(36)	(32)	(36)	(80)
3. Mean earnings 8 quarters later controlling characteristics	1,608	2,875	3,395	2,446	2,846	3,169	2,974	3,143
	(37)	(99)	(79)	(61)	(49)	(75)	(94)	(71)
4. Impact on earnings, relative to no job category	0	1,267	1,788	838	1,238	1,561	1,366	1,535
	(0)	(106)	(88)	(71)	(62)	(84)	(101)	(81)
5. Impact on earnings based on difference-in-difference	0	1,333	1,853	943	1,306	1,486	1,424	1,569
	(0)	(109)	(91)	(73)	(64)	(87)	(105)	(84)

Table 3 -- Continued

	One Industry						Multiple Industries	
	No Job	Temp Help	Manufacturing	Retail Trade	Service	Other	Temp Help and Any Other Industry	Any Industry Not Temp Help
				Panel B - Males				
JTPA								
1. Initial mean earnings	0	1,661	3,789	2,412	4,739	5,552	3,014	5,648
	(0)	(158)	(172)	(233)	(230)	(514)	(190)	(676)
2. Mean earnings 8 quarters later	2,837	2,590	4,605	2,894	4,774	5,005	3,822	4,484
	(458)	(249)	(201)	(226)	(269)	(243)	(302)	(260)
3. Mean earnings 8 quarters later controlling characteristics	3,050	3,481	4,218	3,149	4,417	4,675	4,271	4,166
	(300)	(749)	(519)	(672)	(499)	(448)	(724)	(622)
4. Impact on earnings, relative to no job category	0	430	1,168	98	1,367	1,625	1,221	1,115
	(0)	(813)	(601)	(742)	(587)	(547)	(794)	(700)
5. Impact on earnings based on difference-in-difference	0	853	1,141	902	1,361	1,811	1,323	1,803
	(0)	(858)	(631)	(783)	(603)	(571)	(834)	(743)
ES								
1. Initial mean earnings	0	1,698	5,641	2,627	3,386	4,889	2,658	4,249
	(0)	(24)	(31)	(22)	(28)	(27)	(24)	(48)
2. Mean earnings 8 quarters later	1,530	2,525	6,136	3,115	3,695	5,227	3,127	4,586
	(17)	(131)	(109)	(27)	(33)	(35)	(86)	(54)
3. Mean earnings 8 quarters later controlling characteristics	2,258	3,368	4,822	3,490	3,749	4,332	3,689	4,262
	(38)	(98)	(64)	(70)	(73)	(53)	(94)	(73)
4. Impact on earnings, relative to no job category	0	1,109	2,564	1,231	1,491	2,073	1,431	2,004
	(0)	(105)	(76)	(80)	(82)	(66)	(102)	(84)
5. Impact on earnings based on difference-in-difference	0	1,300	2,507	1,376	1,684	2,046	1,670	2,147
	(0)	(113)	(81)	(86)	(88)	(71)	(110)	(90)

Table 4: Predicted Probabilility of Employment by Industry in Quarter Following Program Entry

	One Industry						Multiple Industries	
	No Job	Temp Help	Manufacturing	Retail Trade	Service	Other	Temp Help and Any Other Industry	Any Industry Not Temp help
	Panel A - Females							
TANF								
1. Probability of employment in reference quarter	0	1	1	1	1	1	1	1
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2. Probabilty of employment 8 quarters later	0.454	0.680	0.649	0.678	0.706	0.723	0.744	0.727
	(0.004)	(0.013)	(0.017)	(0.008)	(0.007)	(0.015)	(0.014)	(0.013)
3. Probability of employment 8 quarters later controlling characteristics	0.494	0.628	0.657	0.643	0.663	0.668	0.670	0.671
	(0.004)	(0.014)	(0.017)	(0.008)	(0.008)	(0.016)	(0.015)	(0.013)
4. Impact on probability of employment, relative to no job category	0	0.134	0.163	0.149	0.169	0.174	0.176	0.177
	(0)	(0.014)	(0.017)	(0.009)	(0.009)	(0.016)	(0.015)	(0.014)
5. Impact on probability of employment based on difference-in-difference	0	0.154	0.171	0.180	0.204	0.207	0.186	0.173
	(0)	(0.018)	(0.021)	(0.012)	(0.011)	(0.020)	(0.019)	(0.017)
JTPA								
1. Probability of employment in reference quarter	0	1	1	1	1	1	1	1
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2. Probabilty of employment 8 quarters later	0.575	0.753	0.761	0.732	0.768	0.741	0.819	0.808
	(0.011)	(0.027)	(0.022)	(0.021)	(0.013)	(0.020)	(0.025)	(0.022)
3. Probability of employment 8 quarters later controlling characteristics	0.603	0.736	0.733	0.718	0.750	0.726	0.791	0.773
	(0.010)	(0.028)	(0.024)	(0.022)	(0.014)	(0.020)	(0.029)	(0.025)
4. Impact on probability of employment, relative to no job category	0	0.132	0.130	0.115	0.147	0.122	0.188	0.170
	(0)	(0.030)	(0.026)	(0.024)	(0.018)	(0.023)	(0.031)	(0.027)
5. Impact on probability of employment based on difference-in-difference	0	0.179	0.120	0.104	0.159	0.110	0.187	0.153
	(0)	(0.036)	(0.032)	(0.029)	(0.021)	(0.028)	(0.038)	(0.033)
ES								
1. Probability of employment in reference quarter	0	1	1	1	1	1	1	1
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2. Probabilty of employment 8 quarters later	0.406	0.697	0.782	0.710	0.748	0.786	0.786	0.798
	(0.002)	(0.006)	(0.004)	(0.004)	(0.003)	(0.004)	(0.005)	(0.004)
3. Probability of employment 8 quarters later controlling characteristics	0.473	0.694	0.738	0.691	0.727	0.741	0.755	0.754
	(0.002)	(0.006)	(0.005)	(0.004)	(0.003)	(0.005)	(0.006)	(0.005)
4. Impact on probability of employment, relative to no job category	0	0.221	0.265	0.218	0.254	0.268	0.281	0.281
	(0)	(0.007)	(0.006)	(0.005)	(0.004)	(0.005)	(0.006)	(0.005)
5. Impact on probability of employment based on difference-in-difference	0	0.223	0.291	0.241	0.270	0.290	0.294	0.296
	(0)	(0.008)	(0.007)	(0.005)	(0.005)	(0.006)	(0.008)	(0.006)

Table 4 -- Continued

	One Industry						Multiple Industries	
	No Job	Temp Help	Manufacturing	Retail Trade	Service	Other	Temp Help and Any Other Industry	Any Industry Not Temp help
	Panel B - Males							
JTPA								
1. Probability of employment in reference quarter	0	1	1	1	1	1	1	1
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2. Probabilty of employment 8 quarters later	0.469	0.646	0.791	0.706	0.711	0.764	0.806	0.783
	(0.015)	(0.038)	(0.022)	(0.032)	(0.023)	(0.020)	(0.030)	(0.027)
3. Probability of employment 8 quarters later controlling characteristics	0.516	0.658	0.753	0.682	0.703	0.729	0.782	0.737
	(0.014)	(0.035)	(0.025)	(0.032)	(0.024)	(0.021)	(0.034)	(0.029)
4. Impact on probability of employment, relative to no job category	0	0.142	0.236	0.166	0.187	0.213	0.266	0.221
	(0)	(0.038)	(0.028)	(0.035)	(0.028)	(0.026)	(0.038)	(0.033)
5. Impact on probability of employment based on difference-in-difference	0	0.130	0.297	0.173	0.202	0.228	0.291	0.249
	(0)	(0.046)	(0.034)	(0.042)	(0.033)	(0.031)	(0.045)	(0.040)
ES								
1. Probability of employment in reference quarter	0	1	1	1	1	1	1	1
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2. Probabilty of employment 8 quarters later	0.365	0.634	0.800	0.721	0.722	0.764	0.720	0.798
	(0.002)	(0.006)	(0.003)	(0.004)	(0.004)	(0.002)	(0.005)	(0.004)
3. Probability of employment 8 quarters later controlling characteristics	0.453	0.662	0.738	0.695	0.705	0.710	0.711	0.742
	(0.002)	(0.006)	(0.004)	(0.004)	(0.004)	(0.003)	(0.005)	(0.004)
4. Impact on probability of employment, relative to no job category	0	0.210	0.286	0.242	0.252	0.257	0.258	0.289
	(0)	(0.006)	(0.004)	(0.005)	(0.005)	(0.004)	(0.006)	(0.005)
5. Impact on probability of employment based on difference-in-difference	0	0.208	0.319	0.267	0.286	0.282	0.278	0.317
	(0)	(0.007)	(0.005)	(0.006)	(0.006)	(0.005)	(0.007)	(0.006)

Table 5: Transition between Sectors Over Eight Quarters

	Reference Quarter Employment	Employment Eight Quarters Later: No Job	Service, including temp help	Manufacturing	Retail trade	Other	Multiple sectors	
				Panel A - Females				
TANF	No job	54.57%	18.8%	3.9%	11.4%	4.5%	6.7%	100.0%
One	Temp help	31.9%	28.0%	6.3%	10.2%	10.2%	13.2%	99.8%
Sector	Manufacturing	35.3%	14.6%	23.9%	11.3%	4.2%	10.7%	100.0%
	Retail trade	32.2%	18.0%	4.0%	28.5%	5.2%	12.0%	99.9%
	Service	29.4%	42.4%	3.2%	8.9%	5.1%	10.8%	99.9%
	Other	27.8%	19.1%	2.2%	9.8%	29.8%	11.2%	100.0%
Multiple	Temp help and any other industry	25.6%	30.2%	4.3%	10.2%	10.4%	19.3%	100.0%
Sectors	Any industry not temp help	27.4%	26.0%	4.9%	15.7%	9.1%	16.9%	100.0%
JTPA	No job	42.5%	28.2%	6.0%	7.8%	9.3%	6.2%	100.0%
One	Temp help	24.8%	28.1%	7.3%	5.4%	21.7%	12.7%	100.0%
Sector	Manufacturing	23.8%	16.0%	39.2%	7.8%	8.5%	4.6%	100.0%
	Retail trade	26.8%	22.7%	2.7%	28.9%	10.7%	8.2%	100.0%
	Service	23.2%	54.3%	2.3%	4.7%	7.9%	7.7%	100.1%
	Other	25.9%	15.2%	3.1%	5.2%	40.5%	10.2%	100.0%
Multiple	Temp help and any other industry	18.1%	35.3%	7.0%	7.4%	13.5%	19.1%	100.5%
Sectors	Any industry not temp help	19.2%	28.5%	9.7%	8.0%	18.2%	16.4%	100.0%
ES	No job	59.4%	17.2%	3.9%	8.5%	6.6%	4.4%	100.0%
One	Temp help	30.4%	27.5%	8.7%	8.4%	13.5%	11.6%	100.0%
Sector	Manufacturing	21.7%	8.8%	52.1%	4.9%	5.6%	6.8%	100.0%
	Retail trade	29.0%	14.9%	3.8%	36.0%	6.8%	9.5%	100.0%
	Service	25.2%	51.9%	2.7%	5.8%	6.2%	8.3%	100.0%
	Other	21.4%	13.3%	3.3%	6.6%	46.8%	8.6%	100.0%
Multiple	Temp help and any other industry	21.4%	28.8%	9.8%	9.2%	14.6%	16.2%	100.0%
Sectors	Any industry not temp help	20.2%	24.7%	9.6%	13.5%	15.4%	16.7%	100.1%
				Panel B - Males				
JTPA	No job	53.1%	13.0%	9.1%	5.0%	15.3%	4.5%	100.0%
One	Temp help	35.3%	19.9%	13.7%	4.3%	15.6%	11.1%	100.0%
Sector	Manufacturing	20.9%	6.6%	46.7%	4.9%	12.9%	8.0%	99.9%
	Retail trade	29.4%	18.5%	5.3%	24.0%	10.2%	12.3%	99.9%
	Service	28.9%	41.4%	7.9%	4.1%	11.8%	5.9%	100.0%
	Other	23.6%	10.7%	6.6%	3.2%	48.3%	7.5%	100.0%
Multiple	Temp help and any other industry	19.4%	25.1%	15.4%	4.0%	18.3%	17.6%	99.8%
Sectors	Any industry not temp help	21.7%	18.3%	17.0%	5.3%	21.7%	16.1%	100.0%
ES	No job	63.5%	8.9%	5.7%	5.7%	12.3%	3.8%	100.0%
One	Temp help	36.5%	20.7%	12.8%	6.7%	12.3%	10.9%	100.0%
Sector	Manufacturing	20.0%	4.2%	57.2%	3.0%	9.3%	6.4%	100.0%
	Retail trade	27.9%	10.2%	5.7%	34.5%	11.1%	10.5%	99.9%
	Service	27.8%	40.1%	5.4%	6.2%	11.1%	9.3%	99.9%
	Other	23.6%	5.1%	4.9%	3.2%	57.6%	5.6%	100.1%
Multiple	Temp help and any other industry	27.9%	16.3%	14.7%	8.7%	17.0%	15.2%	99.8%
Sectors	Any industry not temp help	20.2%	13.4%	14.7%	11.0%	23.5%	17.3%	100.1%

Table 6: Predicted Earnings and Impact by Employment in Reference and Outcome Quarter

						Multiple Industries	
Impacts Relative to No Job	Temp Help	Manufacturing	Retail Trade	Service	Other	Temp Help and Any Other	Any Industry Not Temp Help
				Panel A - Females			
TANF							
1. Impact of reference quarter industry on earnings	421	684	393	584	887	573	566
	(54)	(64)	(35)	(33)	(61)	(57)	(52)
2. Impact of reference quarter industry, controlling outcome industry	123	204	97	187	280	184	124
	(40)	(48)	(26)	(25)	(46)	(43)	(39)
3. Impact of outcome quarter industry, controlling reference quarter industry	1250	3054	1920	2371	3314	1928	2346
	(46)	(41)	(26)	(23)	(36)	(44)	(36)
JTPA							
1. Impact of reference quarter industry on earnings	431	353	397	782	736	724	829
	(390)	(338)	(310)	(229)	(297)	(407)	(351)
2. Impact of reference quarter industry, controlling outcome industry	-128	-614	192	252	138	96	116
	(373)	(333)	(300)	(222)	(291)	(390)	(336)
3. Impact of outcome quarter industry, controlling reference quarter industry	2152	5373	2585	3746	4302	2660	3375
	(460)	(332)	(298)	(203)	(258)	(454)	(358)
ES							
1. Impact of reference quarter industry on earnings	1,267	1,788	838	1,238	1,561	1,366	1,535
	(106)	(88)	(71)	(62)	(84)	(101)	(81)
2. Impact of reference quarter industry, controlling outcome industry	484	243	236	414	380	333	468
	(103)	(91)	(71)	(62)	(85)	(100)	(80)
3. Impact of outcome quarter industry, controlling reference quarter industry	1973	5129	2677	3269	4172	2680	3505
	(135)	(85)	(71)	(58)	(73)	(133)	(90)

Table 6 -- Continued

Impacts Relative to No Job	Temp Help	Manufacturing	Retail Trade	Service	Other	Multiple Industries: Temp Help and Any Other	Multiple Industries: Any Industry Not Temp Help
				Panel B - Males			
JTPA							
1. Impact of reference quarter industry on earnings	430 (813)	1,168 (601)	98 (742)	1,367 (587)	1,625 (547)	1,221 (794)	1,115 (700)
2. Impact of reference quarter industry, controlling outcome industry	-221 (787)	-685 (603)	-403 (724)	413 (577)	305 (539)	-109 (774)	-185 (680)
3. Impact of outcome quarter industry, controlling reference quarter industry	3274 (900)	7285 (570)	4098 (761)	5211 (549)	6107 (498)	3531 (996)	5267 (803)
ES							
1. Impact of reference quarter industry on earnings	1,109 (105)	2,564 (76)	1,231 (80)	1,491 (82)	2,073 (66)	1,431 (102)	2,004 (84)
2. Impact of reference quarter industry, controlling outcome industry	234 (101)	672 (77)	300 (79)	393 (81)	645 (66)	216 (98)	544 (81)
3. Impact of outcome quarter industry, controlling reference quarter industry	2426 (132)	6179 (71)	3850 (80)	4375 (76)	5365 (60)	3154 (132)	4679 (94)

Table A-1: Estimates for Regression Equations Predicting Earnings Eight Quarters After Reference Quarter

	Earnings Eight Quarters After Reference Quarter					Differenced Earnings				
	Females			Males		Females			Males	
Dependent Variable	TANF	JTPA	ES	JTPA	ES	TANF	JTPA	ES	JTPA	ES
Constant	-230.73	-3179.44	-1997.71	-3543.80	-2592.53	298.32	-506.06	116.82	-802.43	-351.4406
	(184.26)	(1392.79)	(343.23)	(2806.43)	(338.13)	(211.26)	(1433.33)	(350.16)	(2960.47)	(361.79)
Age	9.58	116.65	66.69	121.71	119.93	-5.21	30.78	1.67	47.99	51.69546
	(9.50)	(55.16)	(11.82)	(116.69)	(12.06)	(10.93)	(57.25)	(12.10)	(124.04)	(12.94)
Age square/100	-31.89	-182.24	-104.15	-221.88	-186.30	-29.70	-105.34	-43.76	-205.44	-149.084
	(14.94)	(68.30)	(15.61)	(143.10)	(16.00)	(17.22)	(71.06)	(16.03)	(152.29)	(17.22)
Years of education	64.78	200.44	133.24	134.58	121.00	42.74	114.43	51.09	-23.16	60.07962
	(11.29)	(87.44)	(24.87)	(153.07)	(24.45)	(13.04)	(90.82)	(25.57)	(162.14)	(26.32)
High school degree	154.57	-421.74	27.39	554.32	305.27	82.76	-409.07	117.49	521.47	282.9876
	(34.81)	(329.69)	(84.96)	(674.39)	(84.45)	(40.19)	(343.75)	(87.58)	(717.90)	(90.96)
College degree	230.71	252.11	348.21	360.97	76.24	-22.06	98.74	139.06	-428.09	-375.3249
	(112.12)	(483.55)	(127.63)	(780.61)	(128.68)	(129.39)	(502.21)	(131.36)	(829.64)	(138.40)
Nonwhite	117.29	-184.81	-64.37	-814.28	-479.62	200.39	82.43	95.99	-135.71	-177.8807
	(29.29)	(230.30)	(55.67)	(480.91)	(55.96)	(33.81)	(239.85)	(57.31)	(509.55)	(60.11)
Proportion of previous 8 quarters working	-36.58	-497.60	-55.65	1197.86	-229.21	-1149.74	-2505.56	-1269.44	-2780.12	-2137.244
	(71.07)	(514.73)	(136.10)	(1111.35)	(136.56)	(70.26)	(496.90)	(134.05)	(1105.05)	(141.64)
Working all of previous 8 qtrs	-3.61	-195.90	77.38	-749.12	352.23	-378.96	-657.31	-861.18	-847.68	-900.2092
	(40.27)	(275.65)	(74.04)	(569.84)	(73.58)	(45.03)	(280.30)	(74.86)	(595.66)	(78.17)
No work in any of previous 8 quarters	-49.21	36.74	91.07	1491.76	6.02	88.88	435.25	346.15	3635.93	362.3684
	(41.98)	(350.32)	(93.48)	(798.88)	(94.21)	(48.46)	(365.18)	(96.36)	(847.64)	(101.46)
Total annual earnings in the prior year/1000	71.77	47.60	72.70	49.95	71.23					
	(3.52)	(13.54)	(3.94)	(17.12)	(2.77)					
Total annual earnings two years prior/1000	45.38	68.55	34.98	37.22	36.42					
	(3.27)	(14.69)	(3.99)	(17.65)	(2.76)					
St. Louis central	238.36	577.42	365.21	1005.62	443.34	160.26	143.56	142.62	412.67	106.1156
	(34.94)	(266.56)	(62.09)	(528.52)	(61.52)	(40.27)	(275.49)	(63.62)	(561.35)	(66.00)
Kansas City central	244.72	588.63	236.32	336.33	255.48	175.49	215.70	46.88	255.62	22.98555
	(36.71)	(297.77)	(76.89)	(627.81)	(75.18)	(42.33)	(309.04)	(79.08)	(667.62)	(80.91)
Suburban metro	148.22	909.94	572.17	1909.21	889.36	110.58	589.21	449.80	1579.89	545.7389
	(39.11)	(265.67)	(67.90)	(561.31)	(66.37)	(45.15)	(276.03)	(69.84)	(595.88)	(71.15)
Small metro	-35.25	198.72	-71.75	198.03	-79.12	4.56	183.78	-40.88	433.42	-18.69374
	(38.10)	(299.24)	(68.15)	(714.99)	(67.69)	(44.01)	(312.05)	(70.25)	(760.97)	(72.91)

Table A-1 -- Continued

	Earnings Eight Quarters After Reference Quarter					Differenced Earnings				
	Females			Males		Females			Males	
Dependent Variable	TANF	JTPA	ES	JTPA	ES	TANF	JTPA	ES	JTPA	ES
Quarter 2	62.57	72.45	63.42	141.91	131.25	25.40	93.61	14.95	510.28	54.9731
	(32.03)	(216.93)	(62.46)	(456.16)	(63.82)	(37.01)	(226.05)	(64.39)	(485.12)	(68.75)
Quarter 3	149.93	619.22	162.23	345.75	282.48	154.07	727.52	220.35	946.45	195.8191
	(31.61)	(215.21)	(56.87)	(479.82)	(57.06)	(36.52)	(224.45)	(58.62)	(510.07)	(61.47)
Quarter 4	68.96	539.40	246.65	756.92	167.39	27.41	537.53	163.27	803.86	25.57402
	(31.21)	(237.19)	(58.89)	(490.06)	(56.74)	(36.05)	(247.31)	(60.71)	(520.98)	(61.12)
Industry in Prior Year										
Temp Help	60.24	62.41	-169.18	-314.75	-325.96	201.04	466.79	101.10	720.86	150.0321
	(43.02)	(326.09)	(101.34)	(656.99)	(97.92)	(49.26)	(336.98)	(104.15)	(692.66)	(105.14)
Manufacturing	-29.10	1004.64	177.84	1043.55	28.02	157.98	1450.76	332.67	1899.03	328.5646
	(43.73)	(294.96)	(85.76)	(559.82)	(76.31)	(50.36)	(305.93)	(88.24)	(593.21)	(82.00)
Retail Trade	15.93	604.84	-20.78	1194.03	-87.73	381.71	1214.97	517.96	2707.63	685.524
	(31.30)	(263.08)	(68.80)	(605.95)	(73.43)	(35.27)	(271.04)	(70.12)	(636.64)	(78.49)
Service Prior	-0.22	410.56	-68.30	293.68	-314.23	326.23	989.47	368.05	1826.51	377.7083
	(30.70)	(239.44)	(65.38)	(562.61)	(73.83)	(35.03)	(247.15)	(67.01)	(592.04)	(79.15)
Other	-1.79	-56.82	-13.15	228.12	-84.37	195.47	542.47	249.10	1565.60	460.3564
	(43.47)	(284.03)	(75.66)	(531.24)	(68.16)	(50.02)	(291.86)	(77.62)	(556.63)	(73.02)
Temp Help and Any Other Industry	41.67	-138.79	4.85	-360.78	-265.16	293.09	306.62	384.42	347.22	362.948
	(38.65)	(306.51)	(89.85)	(601.89)	(88.31)	(44.45)	(317.99)	(92.33)	(637.08)	(94.70)
Any Industry Not Temp help	13.77	-8.12	-26.60	736.26	-0.75	233.65	332.41	236.20	1198.01	451.7607
	(31.12)	(240.14)	(59.60)	(511.37)	(61.45)	(35.69)	(249.11)	(61.23)	(542.02)	(65.91)
Industry in Reference Quarter										
Temp help	421.09	431.04	1267.11	430.13	1109.30	524.98	610.31	1332.79	802.12	1300.025
	(53.51)	(389.81)	(105.58)	(812.89)	(104.77)	(61.82)	(407.21)	(108.85)	(867.61)	(112.83)
Manufacturing	684.07	352.94	1787.57	1167.54	2563.88	681.99	243.69	1852.96	1191.37	2506.744
	(63.88)	(337.97)	(88.49)	(600.72)	(75.66)	(73.82)	(352.74)	(91.16)	(638.98)	(81.34)
Retail trade	392.64	397.32	837.76	98.41	1231.37	491.11	490.16	942.87	552.87	1376.109
	(34.77)	(310.31)	(71.26)	(741.52)	(80.28)	(40.13)	(323.89)	(73.44)	(790.85)	(86.46)
Service	583.55	781.64	1238.40	1366.83	1490.64	678.21	711.82	1305.63	1338.13	1683.504
	(33.07)	(229.34)	(61.94)	(587.42)	(81.98)	(38.14)	(238.81)	(63.85)	(624.90)	(88.28)
Other	887.28	736.16	1560.88	1625.06	2073.32	949.21	735.60	1486.02	1897.47	2046.004
	(60.62)	(297.36)	(84.08)	(546.63)	(66.34)	(69.96)	(310.34)	(86.64)	(580.56)	(71.33)
Temp help and any other Industry	573.50	724.09	1366.11	1220.51	1431.09	654.83	787.22	1423.82	1317.86	1669.531
	(57.29)	(406.74)	(101.48)	(793.84)	(101.97)	(66.19)	(425.05)	(104.62)	(847.05)	(109.82)
Any industry not temp help	566.07	829.12	1534.93	1115.15	2003.87	614.30	958.56	1568.63	1571.85	2146.907
	(51.69)	(350.68)	(81.50)	(700.40)	(83.83)	(59.73)	(366.21)	(84.01)	(746.07)	(90.27)
Unemployment rate in county in outcome quarter	-2229.06	2927.76	-5395.67	-2373.66	-4363.32	-1517.71	6696.09	-4125.79	9347.04	-805.6357
	(707.16)	(5290.90)	(1082.47)	(13435.37)	(1157.71)	(816.85)	(5500.37)	(1115.25)	(14261.32)	(1246.21)
Adj. R^2	0.1637	0.0528	0.0487	0.0438	0.0877	0.0679	0.0400	0.0214	0.0423	0.0324

Table A-2: Estimates for Regression Equations Predicting Employment Eight Quarters Later

	Employment Eight Quarters After Reference Quarter					Differenced Employment				
	Females			Males		Females			Males	
Dependent Variable	TANF	JTPA	ES	JTPA	ES	TANF	JTPA	ES	JTPA	ES
Constant	0.333	0.211	0.164	0.159	0.233	0.084	-0.018	-0.010	0.036	0.064
	(0.049)	(0.107)	(0.022)	(0.133)	(0.019)	(0.061)	(0.128)	(0.026)	(0.157)	(0.023)
Age	-0.002	0.011	0.008	0.005	0.002	0.007	0.015	0.010	0.001	0.002
	(0.003)	(0.004)	(0.001)	(0.006)	(0.001)	(0.003)	(0.005)	(0.001)	(0.007)	(0.001)
Age square/100	-0.005	-0.020	-0.013	-0.012	-0.006	-0.016	-0.024	-0.015	-0.006	-0.006
	(0.004)	(0.005)	(0.001)	(0.007)	(0.001)	(0.005)	(0.006)	(0.001)	(0.008)	(0.001)
Years of education	0.009	0.006	0.002	0.004	0.004	0.005	0.010	0.001	0.009	0.005
	(0.003)	(0.007)	(0.002)	(0.007)	(0.001)	(0.004)	(0.008)	(0.002)	(0.009)	(0.002)
High school degree	-0.003	0.060	0.020	0.015	0.009	-0.014	0.049	0.022	0.007	0.009
	(0.009)	(0.025)	(0.005)	(0.032)	(0.005)	(0.012)	(0.031)	(0.007)	(0.038)	(0.006)
College degree	-0.029	-0.052	0.000	-0.074	-0.011	0.004	-0.027	0.006	-0.112	-0.009
	(0.030)	(0.037)	(0.008)	(0.037)	(0.007)	(0.038)	(0.045)	(0.010)	(0.044)	(0.009)
Nonwhite	0.036	-0.012	0.001	-0.039	-0.028	0.066	0.001	0.004	-0.018	-0.024
	(0.008)	(0.018)	(0.004)	(0.023)	(0.003)	(0.010)	(0.021)	(0.004)	(0.027)	(0.004)
Proportion of previous 8 quarters working	0.237	0.130	0.232	0.293	0.265	-0.772	-0.844	-0.635	-0.763	-0.647
	(0.019)	(0.040)	(0.009)	(0.053)	(0.008)	(0.020)	(0.044)	(0.010)	(0.059)	(0.009)
Working all of previous 8 qtrs	-0.015	-0.007	0.014	0.011	0.029	-0.104	-0.053	-0.164	0.003	-0.120
	(0.011)	(0.021)	(0.005)	(0.027)	(0.004)	(0.013)	(0.025)	(0.006)	(0.032)	(0.005)
No work in any of previous 8 quarters	-0.055	-0.075	-0.060	0.049	-0.039	0.084	0.070	0.084	0.202	0.092
	(0.011)	(0.027)	(0.006)	(0.038)	(0.005)	(0.014)	(0.033)	(0.007)	(0.045)	(0.007)
Total annual earnings in the prior year/1000	0.003	0.001	0.001	0.001	0.001					
	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)					
Total annual earnings two years prior/1000	0.001	0.002	-0.001	0.000	0.000					
	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)					
St. Louis central	0.046	0.014	0.053	0.079	0.041	0.038	0.001	0.052	0.058	0.039
	(0.009)	(0.021)	(0.004)	(0.025)	(0.004)	(0.012)	(0.025)	(0.005)	(0.030)	(0.004)
Kansas City central	0.026	0.031	0.029	0.028	0.029	0.007	0.011	0.012	0.014	0.011
	(0.010)	(0.023)	(0.005)	(0.030)	(0.004)	(0.012)	(0.028)	(0.006)	(0.035)	(0.005)
Suburban metro	0.015	0.008	0.032	0.062	0.046	0.011	0.007	0.031	0.072	0.047
	(0.010)	(0.020)	(0.004)	(0.027)	(0.004)	(0.013)	(0.025)	(0.005)	(0.032)	(0.005)
Small metro	0.006	0.034	0.021	0.070	0.013	0.011	0.016	0.018	0.040	0.016
	(0.010)	(0.023)	(0.004)	(0.034)	(0.004)	(0.013)	(0.028)	(0.005)	(0.040)	(0.005)

Table A-2 -- Continued

	Employment Eight Quarters After Reference Quarter					Differenced Employment				
	Females			Males		Females			Males	
Dependent Variable	TANF	JTPA	ES	JTPA	ES	TANF	JTPA	ES	JTPA	ES
Quarter 2	0.006	0.023	0.025	0.018	0.011	-0.014	0.003	0.006	0.043	-0.004
	(0.009)	(0.017)	(0.004)	(0.022)	(0.004)	(0.011)	(0.020)	(0.005)	(0.026)	(0.004)
Quarter 3	0.007	0.072	0.017	0.028	0.006	-0.011	0.060	0.000	0.073	-0.011
	(0.008)	(0.017)	(0.004)	(0.023)	(0.003)	(0.011)	(0.020)	(0.004)	(0.027)	(0.004)
Quarter 4	-0.003	0.022	0.009	0.047	0.006	-0.024	-0.002	-0.010	0.058	-0.004
	(0.008)	(0.018)	(0.004)	(0.023)	(0.003)	(0.010)	(0.022)	(0.005)	(0.028)	(0.004)
Industry in Prior Year										
Temp help	-0.01	0.01	-0.02	-0.01	-0.02	0.10	0.08	0.08	0.08	0.07
	(.012)	(.025)	(.006)	(.031)	(.006)	(.014)	(.030)	(.008)	(.037)	(.007)
Manufacturing	-0.01	0.03	0.00	0.02	0.00	0.18	0.21	0.16	0.19	0.17
	(.012)	(.023)	(.005)	(.026)	(.004)	(.015)	(.027)	(.007)	(.031)	(.005)
Retail trade	0.01	0.00	0.00	0.00	0.00	0.21	0.16	0.17	0.18	0.16
	(.008)	(.020)	(.004)	(.029)	(.004)	(.010)	(.024)	(.005)	(.034)	(.005)
Service	0.00	-0.01	-0.01	0.00	-0.02	0.21	0.18	0.16	0.17	0.14
	(.008)	(.018)	(.004)	(.027)	(.004)	(.010)	(.022)	(.005)	(.031)	(.005)
Other	-0.01	-0.03	-0.02	0.01	-0.01	0.16	0.18	0.16	0.22	0.17
	(.012)	(.022)	(.005)	(.025)	(.004)	(.015)	(.026)	(.006)	(.030)	(.005)
Temp help and any other industry	0.03	0.00	-0.01	-0.03	-0.01	0.12	0.08	0.05	0.05	0.05
	(.010)	(.024)	(.006)	(.028)	(.005)	(.013)	(.028)	(.007)	(.034)	(.006)
Any industry not temp help	0.01	0.03	0.01	-0.02	0.01	0.07	0.07	0.04	0.02	0.04
	(.008)	(.018)	(.004)	(.024)	(.004)	(.010)	(.022)	(.005)	(.029)	(.004)
Industry in Reference Quarter										
Temp help	0.134	0.132	0.221	0.142	0.210	0.154	0.179	0.223	0.130	0.208
	(0.014)	(0.030)	(0.007)	(0.038)	(0.006)	(0.018)	(0.036)	(0.008)	(0.046)	(0.007)
Manufacturing	0.163	0.130	0.265	0.236	0.286	0.171	0.120	0.291	0.297	0.319
	(0.017)	(0.026)	(0.006)	(0.028)	(0.004)	(0.021)	(0.032)	(0.007)	(0.034)	(0.005)
Retail trade	0.149	0.115	0.218	0.166	0.242	0.180	0.104	0.241	0.173	0.267
	(0.009)	(0.024)	(0.005)	(0.035)	(0.005)	(0.012)	(0.029)	(0.005)	(0.042)	(0.006)
Service	0.169	0.147	0.254	0.187	0.252	0.204	0.159	0.270	0.202	0.286
	(0.009)	(0.018)	(0.004)	(0.028)	(0.005)	(0.011)	(0.021)	(0.005)	(0.033)	(0.006)
Other	0.174	0.122	0.268	0.213	0.257	0.207	0.110	0.290	0.228	0.282
	(0.016)	(0.023)	(0.005)	(0.026)	(0.004)	(0.020)	(0.028)	(0.006)	(0.031)	(0.005)
Temp help and any other industry	0.176	0.188	0.281	0.266	0.258	0.186	0.187	0.294	0.291	0.278
	(0.015)	(0.031)	(0.006)	(0.038)	(0.006)	(0.019)	(0.038)	(0.008)	(0.045)	(0.007)
Any industry not temp help	0.177	0.170	0.281	0.221	0.289	0.173	0.153	0.296	0.249	0.317
	(0.014)	(0.027)	(0.005)	(0.033)	(0.005)	(0.017)	(0.033)	(0.006)	(0.040)	(0.006)
Unemployment rate in county at outcome qtr	-0.436	0.523	-0.234	0.633	-0.168	-0.270	0.221	-0.220	0.377	-0.046
	(0.189)	(0.407)	(0.069)	(0.635)	(0.067)	(0.237)	(0.492)	(0.083)	(0.756)	(0.080)
Adj. R^2	0.1276	0.0940	0.1727	0.1478	0.2013	0.1532	0.2372	0.2197	0.2097	0.2056