

**Pathways to Work for Low-Income Workers:  
The Effect of Work in the Temporary Help Industry.**

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This research was conducted under a contract from the Department of Health and Human Services (Contract No. HHS-100-99-0003). Thanks to Alana Landey and Kelleen Kaye for their helpful comments.

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**Pathways to Work for Low-Income Workers:  
The Effect of Work in the Temporary Help Industry.**

This paper provides new evidence to inform the policy debate about the effect of a newly important industry - the temporary help industry – on the labor market outcomes of low-income workers and those at risk of being on public assistance. We use several years of CPS data to document differences in characteristics and employment outcomes between temporary help workers and those in traditional work arrangements. We then use a model-based approach, exploiting SIPP data and using propensity score matching techniques, to compare outcomes for low-income and at-risk workers in the temporary help industry both with those of similar workers in traditional employment and of nonworkers. The analysis shows that workers who are at risk of welfare reciprocity are more than twice as likely to be in alternative work arrangements as other workers. An examination of outcomes one year later, including wages, employment duration, and benefits, indicate that, not surprisingly, temporary workers had worse earnings and employment outcomes a year later than did similar individuals initially working in standard employment. Temporary workers fared substantially better one year later than did those who were initially not employed; temporary workers are nearly twice as likely to be working one year later. Although temporary workers do fare worse than those employed in traditional work, their outcomes one year later are much closer to those of standard workers than those of unemployed workers.

Key words: Temporary help; welfare recipients; earnings and employment outcomes

## Introduction

“In an effort to remain competitive and profitable in today’s global economy, U.S. businesses have sought ways to cut labor costs as much as possible, resulting in transformed relationships between millions of workers and their employers. Many of these changed relationships have come to be called "nonstandard work" or "contingent work," terms encompassing short-term and part-time work, outsourcing, independent contracting and subcontracting, reliance on temporary and staffing services, and other phenomena.

What these increasingly prevalent employment relationships have in common are reduced labor costs for businesses and decreased wages, benefits, and protections for workers. Contingent workers face discrimination, violations of labor and employment law, dangerous working conditions, and an almost total lack of job security. And they come from some of the most vulnerable sectors of the workforce, including women, immigrants, and unorganized, low-skill, and low-wage workers. The rise of contingent work has been facilitated by changes in both federal and state law, changes that have contributed to the widening wage gap in this country and to the increasingly precarious economic circumstances of millions of Americans.” National Employment Law Project <http://www.nelp.org/nwp/index.htm>

As the quote above indicates, the growth of work in the temporary help industry has caught the attention of both policy makers and academic researchers alike. Part of the attention is due to the number of workers in the sector—Bureau of Labor Statistics (BLS) data indicate that employment in temporary help is now one fifth of employment in manufacturing.<sup>1</sup> Another reason is the growth of the temporary help services industry. Employment in the temporary help services industry grew five times as fast as overall non-farm employment between 1972 and 1997—an average annual growth rate of 11 percent.<sup>2</sup> By the 1990s, this sector accounted for 20 percent of all employment growth.<sup>3</sup>

The growth of temporary help employment is important for another reason. The recent transformation of the nation’s welfare system<sup>4</sup> combined with a strong economy has resulted in more individuals, many of whom have little employment experience, entering the labor force. Placement agencies have turned to temporary help agencies as a placement source – indeed, New York City’s official policy is to refer all workers approaching time limits to TempForce. This has met with resistance from union and worker action groups, who argue that the growth of temporary jobs threatens the creation of “good” jobs – and

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<sup>1</sup> Bureau of Labor Statistics. "Contingent and Alternative Employment Arrangements, February 1999." U.S. DOL/BLS. <<ftp://ftp.bls.gov/pub/news.release/History/conemp.12211999.news>>. December 1999; Bureau of Labor Statistics. "Contingent and Alternative Employment Arrangements, February 1997." U.S. DOL/BLS. <<ftp://ftp.bls.gov/pub/news.release/History/conemp.020398.news>>. December 1997; Bureau of Labor Statistics. "New Data on Contingent and Alternative Employment Examined by BLS." U.S. DOL/BLS. <<ftp://ftp.bls.gov/pub/news.release/History/conemp.082595.news>>. August 1995.

<sup>2</sup> Autor, David H. "Outsourcing at Will: Unjust Dismissal Doctrine and the Growth of Temporary Help Employment," February, 2000; Estevao, Marcello M. and Saul Lach. "The Evolution of the Demand for Temporary Help Supply." *NBER Working Paper* No. 7427, December 1999.

<sup>3</sup> Segal, Lewis M. and Daniel G. Sullivan. "The Growth of Temporary Services Work." *Journal of Economic Perspectives* Spring 1997b.

<sup>4</sup> The Temporary Assistance for Needy Families (TANF) block grant, which was authorized in 1996 under the Personal Responsibility and Work Opportunity Reconciliation Act, emphasizes temporary assistance and a relatively fast transition to employment.

pushed for legislation to disallow placement of welfare recipients in temporary help employment. Despite the importance of this debate, there is little empirical evidence about the importance of work in the temporary help industry for workers at risk of welfare receipt or the resulting labor market outcomes.

We fill this gap in two ways. We first provide an environmental scan of the characteristics of the workers, jobs, and labor market outcomes associated with temporary help, and compare them with those associated with standard work. We particularly focus on the interaction between temporary help jobs and those workers at risk of welfare receipt. We then use a model-based approach to describe how employment in the temporary help sector affects subsequent labor market outcomes for different types of workers—particularly at-risk workers.

The paper is structured as follows. The next section reviews the evidence from the literature—both to come to grips with some of the definitional ambiguities and to present preliminary evidence on outcomes for workers in temporary help employment. This is followed by presentation of fresh evidence on the nature of temporary help work, particularly with respect to the at-risk population. We then examine the impact of employment in the temporary help industry on workers in general and at-risk individuals in particular. We conclude by discussing the results derived from the two different components of the study and discuss steps for future research.

## *2. Background and Literature Review*

### *2.1 Temporary help employment*

Temporary help services began in the late 1920s, and major temporary service firms began to operate shortly after World War II. Two of the largest temporary help services firms that still exist today—Manpower, Inc. and Kelly Girl, Inc.—were started in the late 1940s.<sup>5</sup> Manpower, Inc (established in 1948) is the largest temporary help services firm and is the largest private employer in the country. With \$11.5 billion in sales, Manpower employed 2.1 million employees worldwide in 1999.<sup>6</sup>

Estimates of the size of the current temporary-help work force come from worker-based surveys (the Current Population Survey (CPS)) and establishment-based surveys (the Current Employment Statistics

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<sup>5</sup> Moore, Mack A. "The Temporary Help Service Industry: Historical Development, Operation, and Scope." *Industrial Labor Relations Review*, 1965.

<sup>6</sup> Manpower Inc. "Manpower Inc. Facts." Manpower Inc. <<http://www.manpower.com/en/story.asp>>. 2000.

survey (CES) and the Occupational Employment Statistics (OES) survey)<sup>7</sup>. Here we focus on the CPS. In the CPS, temporary help agency workers are those workers who said their job was temporary and answered affirmatively to the question, “Are you paid by a temporary help agency?” Workers who said their job was not temporary and answered affirmatively to the question, “Even though you told me your job was not temporary, are you paid by a temporary help agency?” are also included in the estimate of temporary help agency workers.<sup>8</sup> This definition includes both workers placed by the temporary agency and a small number of permanent full-time staff of these agencies—estimated to be about 3.2 percent of all workers employed by a temporary agency.<sup>9</sup>

The growth in the number of temporary help jobs suggests that firms have responded to market stimuli on both the demand and supply side. On the demand side, firms have developed alternative work arrangements because technological advances and the consequent job specialization make it possible for firms to hire employees for specialized tasks rather than relying on employees with broad, generalized job descriptions. Firms can then both respond to the needs of consumers by expanding or contracting the size of the workforce and changing the mix of skills of employees. In sum, however, empirical evidence suggests that while firms use alternative work arrangements for many reasons, their staffing needs—primarily short term—are the main source of demand for agency temporaries. Firms do not often use alternative work arrangements to screen employees for full-time, permanent positions—although some firms do use these workers for their special expertise in a particular area. Only five percent of companies report hiring agency temporaries to save on training costs or wages and benefits. On the supply side, the increased number of women and young people in the workforce has increased the total number of workers in the labor force available for flexible employment.<sup>10</sup>

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<sup>7</sup> In establishment-based surveys, such as the CES, the measure refers to the temporary help agency workers using the Standard Industrial Classification (SIC) code 7363—help supply services. Thus, while the CPS surveys *people* the CES surveys firms and, thus, counts the total number of temporary help services *jobs*. The help supply services code includes: “Establishments primarily engaged in supplying temporary or continuing help on a contract or fee basis. The help supplied is always on the payroll of the supplying establishments, but is under the direct or general supervision of the business to whom the help is furnished.” Thus, help supply services include employee leasing services workers and permanent staff at temporary help agencies as well as temporary help service workers.

<sup>8</sup> Cohany, Sharon R. “Workers in Alternative Employment Arrangements.” *Monthly Labor Review* October 1996.

<sup>9</sup> Houseman, Susan N. and Anne E. Polivka. “The Implications of Flexible Staffing Arrangements for Job Stability.” *Upjohn Institute Staff Working Paper No. 99-056*, May 1999.

<sup>10</sup> Lee, Dwight R. “Why Is Flexible Employment Increasing?” *Journal of Labor Research* XVII, no. 4, Fall 1996: 543-53.

Increased government regulation of employment has also increased firms' demand for temporary workers.<sup>11</sup> The past three decades have seen substantial changes to the common law doctrine "employment at will" which held that employers and employees have unlimited discretion to terminate the employment relationship at any time for any reason unless a contract exists stating otherwise. By 1995, 46 state courts limited employers' discretion to terminate workers, thus opening employers up to potentially costly litigation. The effect of state courts' changes to the employment-at-will doctrine has been estimated to explain up to 20 percent of the growth in the temporary help services industry, accounting for 336,000 to 494,000 additional workers daily in 1999, although a recent NLRB ruling may change this.<sup>12</sup>

The change in the nation's welfare system has led many state agencies to use temporary help agencies as a source of employment. A recent (January 5, 2002) New York Times article reported that all New York City workers approaching their time limits are referred to a temporary help agency. Chicago has developed a program called "Suburban Job Link" that uses temporary help agencies as a source of work experience for welfare recipients.

At the same time, union and action groups have argued that these jobs are dead end jobs: the Campaign on Contingent Work in Massachusetts argues that: "the expansion of the temporary help industry contributes to undermining the base of good jobs in Massachusetts. By creating an industrial infrastructure that allows firms to hire workers on an "as-needed" basis the temporary help industry is promoting a shift from permanent to temporary—and insecure—employment. The result is a significant reason why—despite the longest economic boom in US history—median wages fell for 90% of Massachusetts workers between 1989 and 1998"<sup>13</sup> (p.1). They conclude by recommending that the Commonwealth of Massachusetts require that unemployed workers and former welfare recipients be placed "in permanent jobs, with living wages, benefits, and a reasonable expectation of long-term employment" (p28). Similarly, a recent Economic Policy Institute report concluded by arguing that public policy should focus on the danger that temporary work develop into an institutional mechanism to pay workers substandard pay and benefits.<sup>14</sup>

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<sup>11</sup> Autor, David H. "Outsourcing at Will: Unjust Dismissal Doctrine and the Growth of Temporary Help Employment," February, 2000; Lee, Dwight R. "Why Is Flexible Employment Increasing?" *Journal of Labor Research* XVII, no. 4 (Fall 1996): 543-53.

<sup>12</sup> Autor, David H. "Outsourcing at Will: Unjust Dismissal Doctrine and the Growth of Temporary Help Employment," February, 2000.

<sup>13</sup> Campaign on Contingent Work "What's Wrong With Temp Work?" Boston, Massachusetts, June 2001.

<sup>14</sup> Hudson, Ken "No Shortage of "NonStandard" Jobs, Economic Policy Institute, December 1999.

The next section establishes some basic facts about workers in the temporary help industry.

## 2.2 *What share of workers work in the temporary help industry, and who are they?*

An examination of the Contingent Work supplement to the CPS in 1995, 1997, and 1999 reveals that the proportion of workers in temporary help services is approximately one percent, and has not changed substantially over time.<sup>15</sup> Results derived from establishment-based data suggest that temporary help employment grew from 1.4 percent of total employment in 1991 to almost 3 percent of total employment by 1999. The reasons for this discrepancy are not fully understood by the Bureau of Labor Statistics, which publishes both series, so here we are unable to do more than simply note the difference.<sup>16</sup>

Agency temporaries are more likely than the average worker in a traditional work arrangement to be female (58 percent compared to 48 percent), black (21 percent compared to 11 percent), and Hispanic (14 percent compared to 10 percent).<sup>17</sup> Agency temporaries are the least educated group of workers, on average, and 79 percent are full-time workers, compared to 83 percent of traditional workers. Somewhat surprisingly, similar shares work in the services industry (40 percent compared to 35 percent); the most common occupations among agency temporaries are administrative support and clerical positions (36 percent).

Earnings in this sector tend to be lower than for traditional work (although this depends on the type of arrangement). In 1999, median pay for workers in traditional arrangements was \$540 per week, which was nearly \$200 higher than the median pay of agency temporaries at \$342 per week. Part of this difference is due to differences in education: temporary help workers are much more likely to be high

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<sup>15</sup> Many of the results in this section are provided in tabular form in a report to the Assistant Secretary for Planning and Evaluation at the U.S. Department of Health and Human Services that is available at <http://aspe.hhs.gov/hsp/temp-workers01/index.htm>

<sup>16</sup> It is worth discussing the discrepancy between these results and those reported based on establishment employment statistics in some detail. The Current Population Survey (CPS), which covers households, and the Current Employment Statistics survey (CES), which covers firms, do not agree on the level of employment in the United States for a number of reasons, but primarily because the former series covers workers and the latter covers jobs. However, in the 1990s the *gap* between the two series grew markedly: employment as measured by the CPS grew by only 8 million (from 110 million to 118 million) from 1994 to 1998 while the CES showed an employment growth of more than 12 million (from 113 million to over 125 million) (Nardone 1999). The reason for this discrepancy is not known—it could be due to changes in multiple job holding, undocumented illegal immigration, Census undercounts (and hence misweighting in the CPS), or changes in establishment reporting practices. Although understanding the causes for these differences has important implications for knowing how much true employment growth has actually occurred in the temporary help sector, and is an important area for future research, it is beyond the scope of the current study.

<sup>17</sup> For the CPS analysis, the traditional workers category excludes temporary agency and on-call workers and independent contractors, who do not have a continuous employment relationship with a particular firm.

school dropouts and much less likely to be college graduates than are workers in standard employment. Indeed, in a study that controlled for some of these differences, Segal and Sullivan (1998)<sup>18</sup> find only a 15 to 20 percent wage differential between wages earned in temporary work and the wages expected from traditional work based on the work history of the individuals in the sample. This differential dropped to about 10 percent when wages were compared to those earned at the types of jobs that the individuals would probably find if not involved in temporary work.

Table 1: Percent of Employed Workers with Health Insurance Coverage and Eligibility for Employer-Provided Pension Plans for Traditional Work Arrangement and Temporary Help Agency Workers, February 1999

Characteristic	Percent with health insurance coverage		Percent eligible for employer-provided pension plan	
	Total	Provided by employer	Total	Included in employer-provided pension plan
With traditional arrangements	82.8%	57.9%	54.1%	48.3%
Temporary help agency workers	41.0%	8.5%	11.8%	5.8%

Source: BLS 1999.

Not only are earnings lower in temporary help work, but these jobs are less likely to provide either health insurance or employer-provided pension plans. As Table 1 indicates, BLS data show that 83 percent of workers in traditional arrangements have health insurance coverage and 58 percent have coverage provided by their employer.

By contrast, only 41 percent of temporary workers have health insurance from any source and 9 percent have employer-provided insurance. Fifty-four percent of workers in traditional arrangements are eligible for an employer-provided pension plan and nearly half are included in their employer's pension plan. Only 12 percent of agency temporaries are eligible for an employer-provided pension plan and 6 percent are actually included.

Tenure is also (not surprisingly) lower. Workers in traditional arrangements had a median tenure of 4.8 years while temporary help agency workers have only six months tenure<sup>19</sup> This is reinforced by Segal and Sullivan's (1997a) research, which finds that temporary employment spells are dramatically shorter than

<sup>18</sup> The authors use Unemployment Insurance (UI) data from the State of Washington to examine wage differentials and employment duration, respectively, among workers in the temporary help supply services industry.

permanent spells. Their estimates lead them to conclude that 32 percent of temporary employment spells for one employer last for only one quarter (compared to 11 percent of permanent spells), 78 percent last four quarters or fewer (compared to 35 percent of permanent spells), and the average is about two quarters.

Finally, these jobs are not taken by choice. Agency temporaries were more than twice as likely to cite economic reasons (60 percent) as personal reasons (29 percent). Temporary workers most often said that this was the only type of work they could find and that they hoped this job leads to a permanent position.<sup>20</sup>

### 2.3 *Temporary Help and Workers at Risk of Welfare Reciprocity*

Some TANF agencies have begun using temporary help agencies to place welfare recipients in jobs.<sup>21</sup> This may become an important trend—as more former welfare recipients go to work and the caseload becomes harder to serve, welfare agencies are likely to rely more heavily on intermediaries that either provide services to help clients with employment barriers (e.g., substance abuse treatment), assist with job search activities including teaching clients “soft skills” necessary to succeed in interviews, or help place clients directly into employment. While this may be helpful to some workers with few skills and little or no work history, there is concern that the temporary agency jobs into which clients may be placed are low paying and unlikely to become permanent positions.<sup>22</sup>

Although a number of measures could be used to define workers “at risk” of welfare reciprocity, in this study we use two types of measures: those who live in families with incomes that are low relative to the poverty level and those who have received welfare in the past year. The cutoff relative to the poverty level is adjusted to take into account the available sample size: 150 percent is used for analyzing the CPS and 200 percent for analyzing SIPP.

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<sup>19</sup> Cohany, Sharon R. "Workers in Alternative Employment Arrangements: A Second Look." *Monthly Labor Review* November 1998.

<sup>20</sup> Cohany, Sharon R. "Workers in Alternative Employment Arrangements: A Second Look." *Monthly Labor Review* November 1998.

<sup>21</sup> Pavetti, LaDonna, Michelle Derr, Jacquelyn Anderson, Carole Trippe, and Sidnee Paschal. *The Role of Intermediaries in Linking TANF Recipients with Jobs*. Mathematica Policy Research, Inc. U.S. DHHS/ASPE, February 2000; Houseman 1999.

<sup>22</sup> Houseman, Susan N. "Flexible Staffing Arrangements: A Report on Temporary Help, On-Call, Direct-Hire Temporary, Leased, Contract Company, and Independent Contractor Employment in the United States." DRAFT, June 1999.

No CPS-based study has focused exclusively on low-income workers in temporary help work, possibly because of the small number of workers so employed. However, there is some evidence that workers in alternative work arrangements more generally are over-represented among low-wage workers and workers with incomes below or near the poverty line.<sup>23</sup> In a recent study analyzing the 1999 February CPS<sup>24</sup>, GAO found that about 8 percent of standard full-time workers had annual family incomes below \$15,000, as compared with 30 percent among agency temporaries. The GAO study found that nearly every category of alternative workers—including agency temporaries, direct-hire temporaries, on-call workers, independent contractors, and part-time workers—had a greater percentage of workers with family incomes below \$15,000. In fact, only self-employed and contract workers had a lower or similar percentage of workers with family incomes below \$15,000 annually.<sup>25</sup>

Unemployment Insurance (UI) wage record data provides additional evidence that temporary help jobs for welfare recipients are not of high quality. Pawasarat (1997) examines over 42,000 jobs held between January 1996 through March 1997 by over 18,000 single parents who received Aid to Families with Dependent Children (AFDC) benefits in December 1995. He finds that temporary help jobs were often part time or short term: of those hired by a temporary agency over the five quarters, only 30 percent used that agency as the sole source of employment. Additionally, earnings were low, with half of those employed by temporary employment agencies earning under \$500 per quarter in wages. However, Pawasarat finds that temporary agencies play an important role in the job experience of working recipients -- 42 percent of AFDC recipients who had a job were employed at least once by a temporary agency.

The CPS data also show that a greater percentage of agency temporaries earn near the minimum wage than do regular employees. Combined with the fact that temporary workers are more likely to work intermittently and or fewer than full-time hours, these low wages typically translate into a greater percentage of temporary agency workers with incomes below or near the poverty line as compared with regular workers.

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<sup>23</sup> U.S. General Accounting Office. "Contingent Workers: Incomes and Benefits Lag Behind Those of Rest of Workforce." GAO/HEHS-00-76, June 2000; Houseman 1999; Houseman, Susan N. *Temporary, Part-Time, and Contract Employment in the United States: A Report on the W.E. Upjohn Institute's Employer Survey on Flexible Staffing Policies*. U.S. Department of Labor. June 1997.

<sup>24</sup> All of the studies with income information for alternative workers discussed here rely on data from the February Contingent Workers and Alternative Work Arrangements supplement to the CPS or March CPS.

<sup>25</sup> U.S. General Accounting Office. "Contingent Workers: Incomes and Benefits Lag Behind Those of Rest of Workforce." GAO/HEHS-00-76, June 2000.

These findings are reinforced by Houseman's (1997) analysis of the February 1995 CPS. She finds that workers in alternative work arrangements are "much more likely to receive low wages, live in poverty, and have no benefits, than are workers in regular full-time jobs." Further evidence indicates that while workers in alternative work arrangements account for about 25 percent of wage and salary workers, they account for 57 percent of those in the bottom ten percent of the wage distribution, 56 percent of those not eligible to receive employer-provided health insurance, and 42 percent of the working poor.<sup>26</sup>

The evidence shows that workers in alternative work arrangements are more likely to have earnings below the poverty line; however, it generally does not address whether alternative workers are hurt by their alternative work arrangements. (An exception is the paper by Segal and Sullivan cited earlier.) It is not clear that without these alternative work arrangements these workers would be better off since many might be unemployed or discouraged workers, particularly in view of the low levels of human capital held by these workers

Survey-based evidence suggests that few temporary jobs lead to permanent employment—only 5 percent of companies report hiring agency temporaries to fill positions for more than a year, but there is no evidence about the hiring rate for welfare recipients. A recent study using CPS data confirms that there is a significant amount of job turnover for agency temporaries. In an analysis of labor market transitions for personnel supply services workers (SIC 736) between 1983 and 1993, Segal (1996) found that half of personnel supply services workers were employed in a different industry after one year. In *each* year between 1983 and 1993, on average, 20 percent of those who were personnel supply services workers in the preceding year were without a job in the subsequent year, either out of the labor force (13.8 percent) or unemployed (6.3 percent).<sup>27</sup>

UI wage record data also suggest that few temporary jobs held by those at risk of welfare become permanent. In Washington, fewer than half of temporary employment spells (42 percent) result in a transition to a permanent job (Segal and Sullivan 1997a). In Wisconsin, only 5 percent of the single parents who worked for temporary agencies at any point in the five quarters had nontemporary agency earnings over \$2500 during the first quarter of 1997. Roughly 6 percent of persons with temporary agency jobs may have obtained full-time nontemporary employment through a temporary job. Most of these successful persons had the characteristics of the population most likely to leave AFDC with or

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<sup>26</sup> Houseman, Susan N. Temporary, Part-Time, and Contract Employment in the United States: A Report on the W.E. Upjohn Institute's Employer Survey on Flexible Staffing Policies. U.S. Department of Labor. June 1997.

<sup>27</sup> Segal, Lewis M. "Flexible Employment: Composition and Trends." *Journal of Labor Research* XVII, no. 4 Fall 1996: 523-42. See Table 6 on page 539.

without a temporary job placement, i.e., 69 percent had 12 or more years of schooling and 57 percent were already employed in first quarter 1996 at the start of the study period.<sup>28</sup> Even after controlling for demographic characteristics as well as work and welfare histories, the Pawasarat (1997) study generally found significantly lower probabilities of working in all four quarters in the year after leaving welfare if a welfare recipient had worked in a temporary agency as compared to other industries.

Although most jobs do not convert to permanent jobs, some firms do provide the opportunity. The Upjohn Institute's survey found that about 43 percent of employers using agency temporaries said they often, occasionally, or sometimes move employees into permanent positions. This is confirmed by a survey conducted by the National Association of Temporary Staffing Services, which found that more than one-third of temporary agency workers surveyed said they had been offered a permanent job by their employers.<sup>29</sup> Results like these motivated our interest in examining the link between temporary work and employment and earnings outcomes for welfare recipients.

### **3. New Evidence for At-Risk and Low-Income Workers in Temporary Help Employment**

In this section, we use the Current Population Survey to compare temporary help arrangements with traditional work arrangements over a five-year period. Two different definitions of at-risk or low-income individuals are used—namely, individuals who either had received public assistance or had a family income below 150 percent of the poverty line in the previous year.<sup>30</sup> The sample sizes of at-risk temporary workers in each year are small (50-100), suggesting that only relatively large differences are likely to be meaningful.

#### *3.1 Prevalence of Temporary Jobs for “At-Risk” Workers*

Our examination of the CPS data in Table 2 reveals that workers who are at risk of welfare reciprocity by either of our two definitions are more than twice as likely to be in temporary help employment as are other workers, but that there are no observable trends in this over time.

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<sup>28</sup> Pawasarat, John. “The Employment Perspective: Jobs Held by the Milwaukee County AFDC Single Parent Population (January 1996-March 1997). Milwaukee, WI: Employment and Training Institute, December 1997.

<sup>29</sup> Houseman, Susan N. Temporary, Part-Time, and Contract Employment in the United States: A Report on the W.E. Upjohn Institute's Employer Survey on Flexible Staffing Policies. U.S. Department of Labor. June 1997.

<sup>30</sup> A full discussion of the details surrounding this decision is provided in Appendix A.

Table 2: Prevalence of Temporary Help  
(weighted % in each work arrangement)

Work Arrangement	1995	1997	1999
All Workers			
Agency Temps	0.8%	1.0%	0.9%
Regular Workers	84.1	84.9	85.9
Public Assistance Recipients			
Agency Temps	2.2%	1.4%	2.3%
Regular Workers	85.6	86.8	85.6
Workers Below 150% Poverty			
Agency Temps	2.5%	2.2%	2.3%
Regular Workers	79.9	82.2	80.7

Source: Current Population Survey, matched February to March

An inspection of Table 3 reveals that at-risk workers who get jobs in temporary help do not differ much from at-risk workers who get standard jobs — they have similar education levels and age distributions. However, the education level of these workers is very low—about one third are high school dropouts;

Table 3  
Characteristics of Workers Below 150% Poverty

	1995		1997		1999	
	agency temps	regular workers	agency temps	regular workers	agency temps	regular workers
Age						
16-24	24.3%	25.8%	29.4%	25.7%	33.4%	25.7%
25-54	64.9	66.8	65.1	67.2	62.6	67.2
Sex						
Male	51.2%	46.6%	50.8%	45.9%	30.8%	43.9%
Education						
Less than HS Diploma	33.5%	30.8%	25.5%	28.8%	29.5%	29.4%
HS Diploma	43.2	38.5	36.8	40.4	38.1	37.3
Number of Jobs Held						
More than one	8.1%	5.5%	7.7%	5.2%	5.1%	4.5%
Industries						
ag/mining/fishing	2.4%	3.7%	2.0%	4.0%	1.1%	2.7%
construction	5.6	5.4	1.8	4.7	4.5	5.3
manufacturing	24.5	15.6	21.0	16.0	26.4	14.2
transp/commun/utills	4.0	4.6	2.1	4.1	2.6	5.2
trade	5.8	30.6	6.2	31.6	1.2	32.4
services	57.0	35.5	65.4	36.4	63.2	37.0
other	0.7	4.5	1.6	3.2	0.9	3.2

Source: Current Population Survey, matched February to March

three out of four have a high school education level or less. The only salient difference is the sex of the workers: in 1995, over half of at-risk temporary workers were male, but by 1999, this had fallen to less than one-third. In comparison, among at-risk workers in regular employment, 44 percent were male, and this remained relatively unchanged between 1995 and 1999. Substantial differences in the industry in which at-risk workers work are observed, with at-risk workers in temporary help employment almost twice as likely to be employed in the service sector as at-risk workers in regular employment, and one sixth as likely to be in trade.

What are the implications of industry structure for temporary workers? A detailed industry analysis revealed that the number of industries drawing on temporary help workers of all income levels has increased, and that the median education level of temporary workers employed in these industries is quite high. In almost all of the industries in 1997 and 1999 (but not 1995), the median education level of workers is beyond high school, and in some (notably telephone communications and computer and data processing services), the median worker is a college graduate. Comparisons across years show increased demand for higher education qualifications among temporary help workers. All of the “newly important” industries that emerge by 1999—namely, telephone communications and hospitals—report a majority of temporary help workers with at least some college ; the one “important” industry in 1995 that was no longer important by 1999 was construction, which had more high school graduates and dropouts than not. This trend stands in marked contrast to the average education level of the at-risk group in which we are interested, where only about one in four workers has education beyond a high school diploma, as described previously. Finally, while the median temporary worker is usually less educated than the median regular worker in the firm that hires her, the level of skill required for the temporary job is usually below that of the median regular worker. This introduces the possibility that as skill levels in the economy as a whole increase, so will the demand for the skills of temporary help workers, with clear implications for at-risk temporary workers, who are generally less educated.

Although only a few industries account for the bulk of temporary worker hiring, the occupational distribution of temporary help workers is less dominated by just a few sectors . A large number of workers classify themselves as working in administrative support occupations (almost one in three), but many also work as machine operators, assemblers, inspectors, handlers, equipment cleaners, helpers, and laborers.

In general, just as with the industry analysis, the type of temporary help worker that is needed appears to be changing. In 1995, the education level of temporary help workers matched the education level of the

regular workers in their occupations. By 1999, the median temporary help worker's education exceeded that of regular workers in three of the eight most important occupations. Indeed, the median education level for temporary help workers in five of these eight occupations was "some college," which is well above the education level of at-risk temporary workers.

### *3.2 The Characteristics of Jobs for At-Risk Workers in Temporary Help Employment*

Although temporary help jobs have often been characterized as peripheral and marginal in nature, little is known about whether these jobs are substantially different for at-risk workers than for the workforce in general. This section examines several aspects of jobs in temporary help employment—the quantity of work (hours and job duration), the price of work (the wage rate), and other measures of the quality of work (benefit information). Although these measures are of interest in any analysis of the labor market, they are of particular interest to those at risk of welfare receipt. It is self-evident that low wages are an important contributing factor to poverty—and it is also well known that a key difference between low-wage workers below poverty and low-wage workers above poverty is the number of weeks and hours worked per year.<sup>31</sup> In addition, work by Farber (1997) shows that the availability of health and pension benefits for low-skill workers is steadily decreasing, lowering the quality of jobs available to this group.

#### 3.2.1 Hours and Job Duration

A number of quite interesting facts emerge from an examination of the evidence on part-time employment and job duration presented in Table 4. The first set of rows, for all workers, reveal that the rate of part-time work is much higher for workers in temporary help employment than those in regular employment, and job tenure is shorter. Although fewer than one in six regular workers works part time, more than one in five agency temps works under 30 hours a week. Similarly, although nine in ten regular workers have been in their jobs more than six months, only slightly more than half of agency temps have been. This has already been well documented by Polivka (1996a), and is not surprising, given the inherently transient and part-time nature of temporary employment. It is interesting to note, however, that there has been no discernable change in this pattern over the past five years.

A similar pattern does not hold, however, among at-risk workers (see the second and third sets of rows in Table 4). As expected, at-risk workers are much more likely to work part time than all workers,

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<sup>31</sup> Lane, Julia. "The Role of Job Turnover in the Low-Wage Labor Market." In *Low-Wage Labor Market: Challenges and Opportunities for Economic Self-Sufficiency*, edited by Kelleen Kaye and Demetra Smith Nightingale, pp. 185-198. Urban Institute Press, 2000.

regardless of what kind of job they hold. However, this increased likelihood of part-time work is greater for at-risk workers in regular jobs than for at-risk workers in temporary work.

Table 4: Part-Time Employment and Job Tenure  
(weighted % working part-time and with tenure over six months and one year)

Work Arrangement	1995			1997			1999		
	Part-Time % part-time	Job Tenure % more than 6 months	Job Tenure % more than one year	Part-Time % part-time	Job Tenure % more than 6 months	Job Tenure % more than one year	Part-Time % part-time	Job Tenure % more than 6 months	Job Tenure % more than one year
All Workers									
Agency Temps	21.4%	54.5%	38.8%	19.2%	57.6%	39.1%	20.6%	59.9%	43.6%
Regular Workers	16.9	90.0	81.5	16.6	89.9	81.8	15.7	90.2	81.6
Public Assistance Recipients									
Agency Temps	22.8%	48.4%	37.4%	25.2%	54.0%	35.2%	29.3%	52.2%	32.4%
Regular Workers	24.3	81.0	67.4	23.2	82.4	69.7	23.4	82.7	69.4
Workers Below 150% Poverty									
Agency Temps	26.2%	52.2%	39.1%	20.2%	44.7%	31.3%	26.0%	50.7%	29.0%
Regular Workers	28.5	75.5	59.9	29.5	78.0	63.7	27.9	77.5	62.3

Source: Current Population Survey, matched February to March.

In keeping with this finding, it is also clear from Table 4 that job duration in general is also lower for at-risk workers in temporary help regardless of whether the comparison group is their cohort in regular work or all agency temps. If we compare at-risk workers who are agency temps with at-risk workers who have regular employment, only about one in two at-risk workers who are agency temps have been in their job more than six months, while eight in ten at-risk workers who have regular employment have been in their job at least six months. If we compare at-risk agency temps to all agency temps, the proportion of at-risk workers with job tenure greater than either six months or one year is typically somewhat less than all agency temps. All of these groups have much lower job duration than do regular workers in general, where nine in ten have a job that has lasted at least six months, and eight in ten have a job that has lasted at least one year.

Finally, there appears to have been little change in these patterns over time. Neither the rate of part-time work nor job duration has changed substantially, either among all workers or those at risk of welfare receipt.

### 3.2.2 Wages

Our second component of job quality is wages. Table 5 shows that earnings of all workers in temporary help are substantially below those in regular work, although average earnings in this sector have showed a slightly stronger upward trend than overall earnings.

Table 5  
Wage Levels  
(Mean and Median Wage Levels by Work Arrangement)

Work Arrangement	1995		1997		1999	
	Mean Wage	Median Wage	Mean Wage	Median Wage	Mean Wage	Median Wage
All Workers						
Agency Temps	\$9.32	\$7.56	\$10.84	\$7.66	\$10.58	\$8.25
Regular Workers	13.34	10.80	13.14	10.72	13.96	11.40
Public Assistance Recipients						
Agency Temps	\$6.81	\$6.48	\$7.73	\$6.38	\$8.39	\$7.43
Regular Workers	9.05	7.56	9.16	7.66	9.66	7.93
Workers Below 150% Poverty						
Agency Temps	\$7.15	\$6.48	\$7.87	\$6.13	\$7.75	\$7.43
Regular Workers	7.58	6.48	7.80	6.64	8.20	6.94

Source: Current Population Survey, matched February to March

Note: All wages are in 1998 dollars.

At-risk workers have earnings are about one-third less than the average for all temporary help workers, who in turn make about one-third less than regular workers. This is not surprising, given that we chose the sample based on income and program participation in the previous year. That said, at-risk workers in temporary help make about 50 percent less than regular workers for two, roughly equal, reasons—their at-risk status and their employment in temporary help. Indeed, the median at-risk worker who worked full-time year-round in this sector (which is unlikely, given the information on job duration and the incidence of part-time work) would just barely earn enough to be above poverty for a family of four.

### 3.2.3 Benefits

The final piece of the puzzle in assessing job quality is assembled by examining the availability and coverage of employer-provided benefits—particularly health and pension benefits. As one would expect, very few workers in alternative work arrangements are either covered by health insurance or have it available to them - roughly one in four have health insurance available; fewer than one in ten are actually covered, compared with almost two out of three regular workers. If we examine at-risk workers, the

availability is not markedly different, but the coverage is roughly half an already low rate—about one in twenty at-risk workers in temporary work are actually covered by health insurance. A very similar picture emerges for employer-provided pensions.

### 3.2.4 Preferences

In order to understand the circumstances associated with employment in temporary help, particularly for those workers most at risk of welfare receipt, we examine the reasons for their employment in the industry and the satisfaction associated with this employment. Worker responses to the CPS question that examined the reasons for the choice of temporary employment found overwhelmingly that workers are in the temporary help industry for economic reasons—that is, it was the only type of work that they could find; that they hoped it would lead to permanent employment; or that the nature of the work was seasonal. Workers in the temporary help industry are not there for personal reasons such as schedule flexibility, child care, school scheduling, or family and personal obligations. This holds just as much (but not more) for at-risk workers as for all workers—roughly three out of five workers in the temporary help industry work for economic reasons, regardless of economic status. The slight decrease between 1995 and 1999 in temporary workers who cite economic reasons (from 63 percent to 56 percent) could be a reflection of improved economic conditions and options, however, this does not trickle down to at-risk workers—among whom just as many workers cited economic conditions for their employment choice in 1999 as in 1995.

Table 6  
Reasons for Working in Alternative Work Arrangements  
(% who cited an economic reason\* as opposed to a personal reason)

Work Arrangement	1995	1997	1999
All Workers	63.2%	60.6%	56.3%
Public Assistance Recipients	65.9%	64.5%	61.9%
Workers Below 150% Poverty	67.2%	68.7%	68.5%

Source: Current Population Survey, matched February to March

Not surprisingly, given this information about the reason for work in the alternative sector, most workers in temporary work are not particularly happy with their jobs. Almost one in four is looking for new work, and about two-thirds report that they would prefer a different job. This response is slightly higher for at-risk workers than for all workers, and there appears to have been a sharp increase in both measures of

dissatisfaction in 1999. This stands in marked contrast to regular workers, who are, by and large, quite satisfied with their jobs (95 percent of these workers are not looking for new jobs). It also stands in marked contrast to at-risk workers in regular jobs, who are only marginally more likely to be looking for new work than are all workers.

#### **4: What Happens To At-Risk Workers After Temporary Help Employment?**

This section analyses the impact of work in temporary help on subsequent labor market outcomes for at-risk workers. This, of course, entails setting up a counterfactual—namely, how did an alternative work arrangement affect earnings and employment relative to what the at-risk worker would have been doing otherwise. There are two possible options for the counterfactual: the worker could have been in traditional employment, or could have not been employed at all. Fully analyzing this question requires the development of a model to construct appropriate comparison groups, controlling for demographic characteristics and employment histories. Subsequent earnings and employment outcomes can then be compared for those in alternative work arrangements and those in the comparison groups. A good source of data for such an analysis is the Survey of Income and Program Participation (SIPP). Although the Current Population Survey has excellent data on employment in alternative work arrangements and good outcome measures, it provides neither the sample size nor the data on work histories required for analyzing the impact of temporary work relative to a matched counterfactual. The SIPP provides relatively large sample sizes, good outcome measures, and considerable data on work history. The work history data is particularly important for trying to match temporary workers with appropriate comparison groups.<sup>32</sup>

##### *4.1 Setting Up the Analysis*

The research task is to describe the effect of temporary work on at-risk disadvantaged workers. Three key issues are of interest here. The first is to define the counterfactual; the second is, for each counterfactual, to develop a comparison group of workers possessing a set of characteristics as close as possible to the characteristics of those workers who have experienced temporary employment; and the third is to describe the differences in outcomes for the treatment and comparison groups.

Since defining the counterfactual and developing a comparison group are critical to the analysis, we briefly discuss the approach here, and provide detailed discussion in Appendix B. The effect of entering

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<sup>32</sup> Again, full details on these issues are provided in Appendices A and B.

into temporary help employment is clearly conditioned on the state from which the worker entered: whether the worker was employed or not employed to start with. Thus, we define two separate groups of workers: those who enter temporary help employment from traditional employment, and those who enter temporary help employment from nonemployment. We then need to construct a comparison group—and it is also clear that there are two possible counterfactuals. One alternative to temporary work is traditional employment; the other is not having a job at all. Thus two sets of comparison groups need to be constructed—each of which, again, will be conditioned on the initial state. So the first “treatment” group—individuals who went into temporary work from traditional employment—will be compared to two possible counterfactuals—individuals who went from traditional employment to nonemployment and those who went from traditional employment to traditional employment. The second “treatment” group—individuals who went into temporary work from nonemployment—will be compared to two different possible counterfactuals—individuals who went from nonemployment to nonemployment and those who went from nonemployment to traditional employment.

Defining the comparison group is also an important component of answering the research question. Here we use not only baseline demographic characteristics, but we also exploit the richness of the SIPP data to construct employment histories. We use matched propensity score techniques to “match” individuals in each treatment and comparison group as closely as possible.

Clearly, the analysis of the results is quite complex. First, since for at-risk workers, often the alternative to temporary help work is no employment at all, we provide results for four sets of counterfactuals: those who have jobs, and those who are not employed—conditional on two sets of initial employment states. Second, since the validity of the results is critically dependent on the quality of the matching procedure, and one reason to use SIPP was the availability of a rich employment history, we provide a detailed discussion of the quality of the match for each of these four comparison groups. This discussion is reported in Appendix B for reasons of brevity. Third, since there are multiple ways to define the effect of temporary work, we use several outcome measures for a year later—ranging from public assistance receipt, to employment and earnings. Finally, since the focus of analysis is on disadvantaged workers, we provide results for both the full sample of workers, and workers within 200 percent of poverty in the initial period.<sup>33</sup>

#### *4.2 What Is The Effect Of Temporary Help Work on At-Risk Workers?*

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<sup>33</sup> We define at risk as 200 percent of the federal poverty level rather than 150 percent (our definition of at risk for the CPS analysis) to ensure the sample size is adequate for analysis.

The results are striking. In sum, it matters whether the alternative to temporary work is employment or nonemployment. In the former case, it appears as though temporary workers are less likely to have a job, and less likely to have one with employer-provided health insurance. If they have a job, the job is one with lower earnings than if they had not had temporary work, and overall, they work fewer hours. However, if the counterfactual of having a temporary job is to be not employed, it is very clear that having a temporary job does provide some pathway out of poverty. Individuals who have experienced a spell of temporary work are more likely to have a job, and more likely to have a job with health insurance. If they have a job, the job is likely to have higher earnings than if they had not had a temporary help job. Overall, they are likely to have longer hours of work and less likely to have incomes below 200 percent of the poverty line than individuals who remained out of employment.

Another important result is that work histories clearly matter in determining the comparison groups. Although we were unable to fully control for work histories, it is likely that our efforts allow a better match than would be possible using cross-sectional data—again suggesting that simple tabulations of outcomes for different groups of workers are likely to be misleading.

We look at the effects of temporary work a year later along three different dimensions: employment and earnings outcomes, job quality and welfare receipt. The first set—work-related outcomes—consists of the likelihood of employment, earnings levels if the individual gets a job, and the hours worked. The second set—job quality—is measured by whether the worker has private health insurance or, more specific to job quality, employer-provided health insurance. Finally, we examine the effect on the worker’s welfare receipt and poverty status a year later.

The clearest result that comes out of an analysis of job outcomes is that workers who get temporary jobs fare much better in terms of job and job quality outcomes a year later than do workers who were not employed in the same time period; but they fare slightly worse than those who were employed in nontemporary employment.<sup>34</sup> The effect of temporary work on reducing the likelihood of welfare receipt and poverty is unambiguously positive. Most importantly for this study, these results hold true for both the full sample and for at-risk workers, both in terms of the direction and the order of magnitude of the effects.

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<sup>34</sup> Although the results that are presented here reflect the simple quintile approach discussed in the previous section, the results are substantively unchanged when additional controls are added, or when a difference-in-difference approach is used.

### 4.2.1 Job Outcomes

Turning to the specifics, an examination of the first column in Table 7 shows the results of comparing workers who were initially not employed and then took temporary help work with those who were not employed in either month. The latter had only a 35 percent chance of being employed a year later. By contrast, the group that moved from nonemployment to temporary employment had almost twice the likelihood of being employed, at 68 percent.<sup>35</sup>

Temporary work appears to have positive effects even when we compare the set of workers who moved from nontemporary employment to temporary employment to workers with similar characteristics who moved initially from nontemporary employment to nonemployment. Again, while the latter group have a 57 percent chance of being employed a year later, the temporary workers most like this comparison group improved these odds by 27 percentage points, and had an 83 percent chance of having a job a year later. These probabilities were quite similar for the at-risk groups of initially not employed and initially employed temporary workers, sitting at 68 percent (34.6 percent + 32.9 percent) and 76 percent (55.6 percent + 20.0 percent), respectively.

This picture changes markedly when we examine the cohort of workers who moved from nonemployment to temporary work and compare them to a set of similar workers who went from nonemployment to nontemporary employment in the initial period. Nearly three-quarters (73 percent) of the latter group was employed a year later, compared with 68 percent of the temporary work group. The same is evident when we compare the group that moved from nontemporary employment to temporary work to those that stayed in nontemporary employment. The movement to temporary work dropped the probability of being in employment a year later from 88 percent to 83 percent. It is worth noting that the drop is about twice as large for the at-risk group of workers—their employment probabilities drop from 84 percent to 76 percent

The story is very much the same for earnings outcomes. Temporary help employment generally improves earnings outcomes among those employed when the comparison group is those who were not

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<sup>35</sup> The predicted probability for temporary workers can be calculated from Table 7 by taking the estimated probability of .345 for the comparison group plus the temporary worker differential of .336.

Table 7

Outcomes a Year Later: Means by Comparison Groups and Differences in Means for Temporary Workers as Compared with Comparison Groups  
(t-statistics in parentheses)

Outcome a year later	Status in base period							
	Comparison Group 2b: Not Employed to Not Employed		Comparison Group 1b: Employed to Not Employed		Comparison Group 2a: Not Employed to Employed		Comparison Group 1a: Employed to Employed	
	Full Sample	At-Risk	Full Sample	At-Risk	Full Sample	At-Risk	Full Sample	At-Risk
Job Outcomes								
Employment:								
Comparison Mean	0.345	0.346	0.566	0.556	0.730	0.718	0.876	0.840
Temporary Job Differential	0.336	0.329	0.268	0.200	-0.048	-0.043	-0.043	-0.083
	(18.19)*	(13.33)*	(11.75)*	(4.80)*	(-2.07)*	(-1.36)	(-2.86)*	(-2.92)*
Hourly wages among those employed:								
Comparison Mean	8.23	7.60	9.68	8.28	8.72	9.00	11.45	8.57
Temporary Job Differential	-0.080	0.182	1.535	1.092	-0.567	-1.220	-0.237	0.805
	(-0.24)	(0.73)	(3.99)*	(1.82)	(-1.45)	(-2.43)*	(-0.84)	(1.67)
Hours per week:								
Comparison Mean	11.67	12.10	19.95	20.65	25.95	25.66	33.14	30.58
Temporary Job Differential	13.04	12.52	11.22	8.26	-1.24	-1.03	-1.97	-1.66
	(17.49)*	(12.61)*	(11.66)*	(4.62)*	(-1.28)	(-0.79)	(-2.89)*	(-1.29)
Job Quality Outcomes								
Private health insurance coverage:								
Comparison Mean	0.570	0.414	0.594	0.363	0.628	0.513	0.767	0.568
Temporary Job Differential	0.018	0.047	0.119	0.201	-0.040	-0.051	-0.054	-0.004
	(0.90)	(1.78)	(4.79)*	(4.53)*	(-1.58)	(-1.48)	(-2.96)	(-0.11)
Health insurance from employer:								
Comparison Mean	0.138	0.132	0.203	0.147	0.279	0.274	0.501	0.377
Temporary Job Differential	0.109	0.134	0.173	0.135	-0.031	-0.008	-0.124	-0.095
	(6.50)*	(5.99)*	(7.31)*	(3.61)*	(-1.35)	(-0.27)	(-6.40)*	(-3.13)*
Welfare Reciprocity/Poverty Status								
Public assistance:								
Comparison Mean	0.184	0.281	0.145	0.269	0.129	0.184	0.065	0.143
Temporary Job Differential	-0.035	-0.062	-0.066	-0.124	0.020	0.035	0.014	0.003
	(-2.31)*	(-2.71)*	(-3.93)*	(3.28)*	(1.08)	(1.25)	(1.24)	(0.12)
Medicaid receipt:								
Comparison Mean	0.150	0.231	0.112	0.205	0.098	0.140	0.042	0.088
Temporary Job Differential	-0.038	-0.068	-0.066	-0.124	0.014	0.022	0.004	-0.007
	(-2.81)*	(-3.31)*	(-4.57)*	(-3.82)*	(0.86)	(0.89)	(0.47)	(-0.37)
Less than 200% poverty:								
Comparison Mean	0.500	0.737	0.447	0.728	0.421	0.612	0.321	0.676
Temporary Job Differential	-0.091	-0.123	-0.126	-0.118	-0.012	0.003	-0.001	-0.065
	(-4.53)*	(-4.73)*	(-5.03)*	(-2.77)*	(-0.45)	(0.08)	(-0.04)	(-2.02)*

Source: SIPP 1990-1993 panels, calculations by the Urban Institute.

Note: At risk defined as below 200% of family poverty level in month prior to reference month.

employed (although this is not statistically significant); earnings are lower when compared to the experience of similar workers who got nontemporary jobs. The sole exception to this is the at-risk workers who moved from nontemporary employment to temporary employment rather than stay in nontemporary employment—their earnings gain was substantial (about 10 percent). We suspect, however, that this is a result of using earnings as a selection criterion for the at-risk group.

The third set of rows investigates the effect of temporary work on hours worked (including the effect of non-work). Again, the results are strikingly different depending on which comparison group is used. Workers who were not employed in both initial periods or transitioned from nontemporary employment to nonemployment had quite low hours a year later—ranging from 12 to 20 hours a week. Those who transitioned into temporary employment worked almost twice as many hours as those who were not employed in both of the initial periods, and half as many again as those who transitioned into nonemployment from nontemporary employment. The effect is slightly lower for at-risk workers, however.

The negative effects of temporary work when compared to nontemporary employment are quite small—they are completely insignificant when the comparison group is workers who moved from nonemployment to nontemporary employment, and only just over an hour a week when compared to those who stayed in nontemporary employment.

#### 4.2.2 Job Quality Outcomes

Another important dimension that we would like to capture is the quality of the jobs that the workers get. We capture one component of this by finding out whether the worker has health insurance a year later, as well as whether the insurance comes from an employer. We find the same general results: the quality of jobs a year later, in general, differs in a systematic way across the comparison groups. Quality is worst for the group that were not employed in both months in the initial period; best for those who were employed in nontemporary work in both months, and the rest falling on a natural continuum in between). Although workers who took temporary help jobs had better outcomes than those who went to nonemployment, they fared worse relative to those who went into nontemporary help employment. While the at-risk group did worse than the full sample in terms of their job quality outcomes, their gains from temporary work, when they were to be had, were greater in percentage terms, and often even in relative terms than for the full sample.

The second group of rows in Table 7 provides more detail. While 57 percent of those workers who were not employed in both initial periods had health insurance a year later (41 percent of at-risk workers), about 14 percent had this provided by the employer. In both this case, and the case where workers had moved from nontemporary employment to nonemployment, however, similar workers who had moved into temporary work did better—almost doubling their chances of getting employer-provided health insurance. In both cases, the effects reflect large effects of temporary work on the probability of employment.

When we turn to comparing outcomes for temporary workers with those who had regular employment rather than temporary help employment in the second month of the initial period, temporary help workers do significantly worse in getting a job with employer-provided health insurance than those who were continuously employed in nontemporary positions (but not those who were not employed in the previous period).

#### 4.2.3 Public Assistance Receipt and Poverty Status

The key result in this section is that temporary help work appears to substantially reduce the likelihood of a worker receiving public assistance or having low income a year later—sometimes by more than a third. The gains are particularly marked for at-risk workers.

For example, individuals who were not employed for both of the months in the initial period have an 18 percent chance of getting public assistance (28 percent if they are at risk), a 15 percent chance of Medicaid receipt (23 percent if at risk) and a 50 percent chance of being below 200 percent of the poverty level (74 percent if at risk). These odds drop substantially if an individual with similar characteristics were to go from nonemployment to temporary work. Public assistance receipt would drop by 19 percent (22 percent if at risk); Medicaid by 25 percent (29 percent if at risk) and the incidence of income below 200 percent of the poverty level by 18 percent (17 percent if at risk). This effect is more pronounced for individuals who move from regular employment to nonemployment as opposed to temporary work. Workers with similar characteristics who choose temporary work (rather than nonemployment) have substantially better outcomes a year later.

### **5: Summing Up**

This research was motivated by the policy controversy generated by the confluence of three events: the surge in importance of temporary help in the overall workforce; the policy decision on the part of states to place individuals “at risk of welfare reciprocity” in temporary jobs, and the resultant debate about the quality of such work.

This paper provides some empirical evidence to inform the policy debate on two core policy questions: the importance of temporary help to workers at risk of welfare reciprocity and the impact of these jobs relative to their alternative options. While we have been able to provide some answers to these questions, data restrictions have limited the scope of the analysis<sup>36</sup>.

The analysis of the CPS data uncovered a series of useful preliminary facts about at-risk temporary help workers. In particular, our preliminary analysis provided some evidence that supported fears that workers at risk of public assistance receipt fare worse in temporary help employment than do other workers in such arrangements. This held true across a variety of dimensions: wages, incidence of part-time work, job duration and employer-provided benefits. The CPS analysis also demonstrated that at-risk workers are also less happy with their work, and more likely to be in the job for reasons of necessity than are other temporary help workers.

However, the CPS analysis found that at-risk temporary help workers, by and large, had much lower levels of education than did other workers—suggesting that the alternative to temporary help employment for this group might well be nonemployment rather than employment.<sup>37</sup> This finding led us to use the SIPP data to make comparisons between individuals who were in temporary work and those who were not employed as well as between individuals who were in temporary work and regular employment.

The results of the SIPP analysis were quite striking. As expected, we found that work histories were an important contributor to whether or not individuals were employed by temporary agencies. Although we were unable to fully control for work histories, it is likely that our efforts improved the match by much

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<sup>36</sup> In particular, small sample sizes and inadequate work history information in the CPS meant that the dataset could only be used for tabular purposes. While the SIPP provided better work history information, the definition of temporary work was not nearly as rich as the one provided by the CPS, and, again, insufficient sample size meant that only one definition of at-risk workers could be used, rather than the plethora of possible measures. Furthermore, although the work history data in the SIPP improve our ability to obtain good matched comparison groups, the match remains problematic for some of the comparisons. In addition, the differences between temporary help employment estimates derived from household surveys, such as the CPS, and establishment surveys, such as the CES, are troublingly large.

more than would be possible using cross-sectional data—suggesting that simple tabulations of outcomes for different groups of workers are likely to be misleading. In addition, we found that while individuals who had a spell in temporary work definitely had worse earnings and employment outcomes than did those who worked in the “nontemporary” sector, they did much better than similar individuals who had a spell in nonemployment. The incidence of welfare receipt and income below twice the poverty line was also reduced as compared with individuals.

These results raise important questions about the policy debate. The core issue is whether temporary help work “hurts” or “harms” the long term prospects of disadvantaged individuals. Our research suggests that the answer to the question “Does temporary help employment improve outcomes for at-risk workers?” depends critically on what those workers alternatives are. It is worth noting that those alternatives may vary substantially over the business cycle – since it is clear that businesses use temporary work as a response to short-term demand fluctuations, rather than as a long-term production decision. It is also worth noting that the alternatives may deteriorate: workers in temporary help who are also at risk of welfare reciprocity are, by and large, less skilled than their counterparts and there is a secular decline in the demand for unskilled workers.

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<sup>37</sup> This is confirmed by the distribution of temporary workers in our sample (see Table A.1). Roughly, two-thirds of at-risk temporary work spells were preceded by nonemployment and one third by employment.

## **Appendix A: Data Sources and Definitions**

### **The Current Population Survey (CPS)**

The CPS data appropriate to analyze the characteristics of temporary help employment and workers for low-income households come entirely from the 1995, 1997 and 1999 February and March Basic Surveys and the supplements to these surveys. These provide data on the types of work arrangements held by working respondents and on benefits provided by employers. All questions refer to the week prior to the survey date. The March Demographic supplement, administered each year, provides detailed demographic data and information on income levels and receipt of public assistance in the calendar year preceding the survey.

#### *Definitions*

The definition of at risk of welfare reciprocity is conceptually difficult to pin down. There are different types of public assistance—Aid to Families with Dependent Children/Temporary Assistance for Needy Families, Medicaid, and Food Stamps—and eligibility measures vary by state and family background. Thus, workers with identical earnings, but in different states and in different environments, might well be at different levels of risk of welfare reciprocity. Therefore, we use two measures of at-risk workers: those workers who live in households with incomes below 150 percent of the federal poverty level in the previous year and those who have received public assistance in the previous year (who may not be current welfare recipients).<sup>38</sup>

#### *Sample Size*

In the CPS, respondents are included in the survey for four consecutive months, left off for the following eight months, then included again in the survey for four months. This pattern permits us to match observations across different months of the survey and gather information on work arrangements and income at several points in time. Approximately three-fourths of the cases interviewed in the February supplement are also interviewed in March. The matched data from the February and March surveys from 1995, 1997, and 1999 provide information on current work arrangements and benefits provided by the job held in February as well as receipt of public assistance and income from the previous (even-numbered) year. Almost three-fourths of the observations in each February supplement can be matched to March of the same year. While the sample sizes are adequate for tabular purposes (ranging from 52 to 77 for agency temporaries who are also public assistance recipients and from 82 to 99 for agency temporaries who live in households below 150% of the poverty level), they do not suffice for regression analysis.

### **Survey of Income and Program Participation (SIPP)**

The SIPP is a large-scale survey sponsored by the Census Bureau. For the years 1990 to 1993, fresh national samples were drawn annually. Each fresh annual sample constitutes a panel. Each panel is interviewed 8-10 times; each household is interviewed every fourth month, with successive quarters of the sample interviewed in each month. We analyzed the 1990, 1991, 1992, and 1993 SIPP panels.

In each wave, the basic questionnaire provides data on the primary jobs held during the previous four months. Questions focus on the two jobs held for the largest number of hours. For these jobs, we know

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<sup>38</sup> We define at risk as 150 percent of the federal poverty level rather than 200 percent (our definition of at risk for the SIPP analysis, described below). The lower cutoff is used here because the sample size is adequate for analysis and the lower cutoff provides a sample at greater risk of receipt than is the case with the higher cutoff.

earnings or wage rate, months the job was held, usual hours worked per week, industry, and receipt of health insurance coverage. These variables, together with measures of income and public assistance receipt, are our primary outcome. The SIPP supplements the basic survey in each wave with detailed topical modules that provide information including employment and welfare reciprocity history. These modules are used to select comparison groups with relatively similar work histories.

### *Definitions*

Our ability to determine alternative work arrangements in the SIPP is limited to identifying workers likely to be employed by temporary help agencies. The industry categorization of the two principal jobs, which is based on a 3-digit SIC code, can be used to learn whether the worker is employed in the temporary help services industry. We categorize a person as being employed in the temporary help services industry if he/she reports that either of the two reported jobs for a given wave is in SIC 736. SIC 736 includes those working for temporary help agencies and employment agencies. The four-digit category for temporary work (which includes some leasing companies) accounts for 89 percent of employment in SIC 736; the category for employment agencies accounts for the remaining 11 percent. Because individuals self-report the SIC code, we expect relatively few persons who work at companies managed by leasing companies will report in SIC 736; they would seem more likely to report the industry in which they work.

One question that arises when using SIC 736 to define temporary help workers is how well SIC 736 identifies agency temporary workers. We examine this using the February Contingent Workers Supplement to the CPS. Using CPS data for 1995 through 1999, we find that 57-70 percent of those in SIC 736 are classified as agency temporaries based on the supplement. In addition, roughly half of those who are identified as agency temporaries in the supplement reported SIC 736 as their industry. A large share of the latter mismatch appears to result from respondents reporting the industry of the place where the temporary agency assigned them to work rather than the industry of the temporary agency. Although these findings suggest caution in using the industry code to define temporary agency workers, we believe the share of agency workers within SIC 736 is high enough that strong differentials associated with agency work will be picked up by our analysis.

Similar to the CPS, in addition to examining temporary workers as a whole, we also use the SIPP to examine the subset of workers who may be at risk of welfare reciprocity. Again, we use definitions of at risk of welfare receipt based on public assistance receipt as well as income relative to the federal poverty level. Income is based on family income from the month prior to either the start of temporary work or a randomly chosen month (for members of the comparison group), multiplied by 12 to get an annual equivalent. This annualized income is then compared to the federal poverty level. This balances the need to have enough cases for our analysis with a low enough income cutoff such that the sample members are at significant risk of welfare receipt.

### *Sample Size*

Table A.1 reports the number of spells of temporary work in the 1990-1993 panels of the SIPP. The start of each spell is sampled and used as the base period in the analysis of the effects of temporary work. These numbers include only those temporary workers with data available one year later, a necessary requirement to measure outcomes. In addition to showing sample sizes for the full sample, Table A.1 shows various possible definitions of at risk or low income, including public assistance receipt, income below 150 percent of the poverty line, and income below 200 percent of the poverty line. Given the small sample sizes, we use the broadest of the three definitions—under 200 percent of poverty—for at risk or low income. This serves to balance the need for adequately-sized samples for analysis with the need to focus on a group with sufficiently low income to be at risk of receipt of public assistance.

Appendix Table A.1

Unweighted Number of Temporary Workers in the 1990-1993 SIPP, by Employment Status and Poverty Level in Prior Month

	Previously Employed	Previously Unemployed
Received Public Assistance in Prior Month	65	152
Individuals below 150% of Federal Poverty Level	143	345
Individuals below 200% of Federal Poverty Level	234	425
All Individuals	648	738

Source: SIPP 1990-1993 panels, calculations by the Urban Institute.

Note: Sample sizes include all cases that are observed a year after their first month in SIC 736. Poverty figures are based on income in the month prior to employment in SIC 736.

## **Appendix B: Methodology for SIPP Analysis**

To undertake this analysis, we need to define employment in temporary work and identify plausible comparison groups to serve as counterfactuals. Our sample of temporary agency workers includes all instances in which persons begin work for an agency (as either their primary or secondary job) as measured by the SIC code. The decision to focus on the start of spells of temporary work simplifies the modeling of comparison groups and fits naturally with our interest in the effect of decisions to take temporary work rather than other options.

We measure the effect of temporary work relative to both regular employment and nonemployment.<sup>39</sup> To operationalize this, we compare our sample of temporary agency workers to two comparison groups: one matched sample of persons employed in nontemporary work and another of persons not employed. By using two comparison groups, we hope to learn the subsequent effects of obtaining a temporary agency job as compared with being employed at a “regular” job and with not being employed.

The samples are matched based on propensity scores. Roughly put, we estimate a regression model that describes the probability of starting a job with a temporary agency. The predicted probability from such a model is known as a propensity score. We follow recent research (Dehejia & Wahba (1998), Berk and Newton (1985), and Rosenbaum & Rubin (1984)) in choosing comparison group members who match members of our sample of temporary agency workers in their likelihood of becoming a temporary worker, as measured by their propensity score. An alternative would be to match on many characteristics of the individuals (e.g., those included in the regression model). Rosenbaum and Rubin (1984), however, argue that matching on the propensity score, which is a single variable, is nearly as effective as matching on all of the many variables used in the regression model to predict propensity score.

Using the matched comparison groups, we estimate the effect of entering temporary work on several outcomes measured a year later. The outcome measures include employment status, wages, hours worked, health insurance coverage, and receipt of public assistance. These subsequent outcomes are then compared to those for each of the comparison groups, with the differences in outcomes interpreted as the effects of entering temporary work relative to the counterfactual; that is, working at a nontemporary job or not working.

### **Choice of Temporary Worker and Comparison Groups**

In this section, we first discuss the definitions of the temporary worker groups (referred to as treatment groups) and the nontemporary worker comparison groups (referred to as comparison groups). We then discuss the details of the propensity score regression analysis used to construct the comparison groups. The factors used in the propensity score regression analysis are those thought to affect both labor market outcomes and decisions to work for temporary agencies (e.g., demographic characteristics, work history, family structure). Using the constructed comparison groups, we estimate the effects of temporary employment on outcome measures one year after the start of a spell of temporary employment.

### ***Definitions***

To obtain a sample of persons beginning temporary work, we select all workers in temporary work (SIC 736) from each month who were not in temporary work in the previous month. The sample is limited to workers between ages 18 and 45. Only those temporary workers whose employment begins at least 12 months before the last month of a panel are included in the analysis, as this allows us to observe outcomes

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<sup>39</sup> This is particularly important for our analysis of persons at risk of welfare, for whom nonemployment may be at least as likely of an alternative to temporary work as nontemporary work.

one year later.<sup>40</sup> We include all spells of temporary employment, including multiple spells from the same individual, in our analysis and adjust our model standard errors for correlations among the observations.

This group of temporary workers is further divided into two groups. Prior to entering a temporary job, a person is either employed in nontemporary work or not employed. Since we believe that these two groups may be entering temporary jobs for different reasons, we divide the temporary worker groups into two groups. Treatment Group 1 includes temporary workers who were working in nontemporary employment in the month prior to taking a temporary job. Treatment Group 2 includes temporary workers who were not working in the month prior to taking a temporary job (either unemployed or out of the labor force).

The comparison group contains data for all persons who are not observed in temporary work in any wave of the SIPP.<sup>41</sup> As with the treatment groups, this broad comparison group is divided into two groups. Comparison Group 1 includes persons who were working in the month prior. Comparison Group 2 includes persons who were *not* working in the month prior (either unemployed or out of the labor force). Thus, based on work status in the prior month, we have two comparison groups.

We further divide Comparison Groups 1 and 2 into two groups based on employment status in the *current month*, which allows us to estimate the effect of temporary work as compared with both nontemporary employment and nonemployment. Comparison Group 1 is divided into Comparison Group 1A—those employed in the current month—and Comparison Group 1B—those not employed in the current month. Likewise, Comparison Group 2 is divided into Comparison Group 2A—those employed in the current month—and Comparison Group 2B—those not employed in the current month.

In sum, we have the following six treatment and comparison groups:

	<b>Prior Month</b>	<b>Current Month</b>
Treatment Group 1	Employed in Nontemporary Work	Employed in Temporary Work
Treatment Group 2	Not Employed	
Comparison Group 1A	Employed in Nontemporary Work	Employed in Nontemporary Work
Comparison Group 1B		Not Employed
Comparison Group 2A	Not Employed	Employed in Nontemporary Work
Comparison Group 2B		Not Employed

### ***Constructing Matched Comparison Groups***

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<sup>40</sup> We include in our logit analysis of temporary work observations that are missing data a year later in an attempt to include as many cases as possible in predicting who is likely to be employed in temporary work. These cases are excluded from the matching procedure and from the analysis of the effects of temporary work because they lack the outcome information from a year later.

<sup>41</sup> To make the sample sizes manageable (and to ensure that they reflect the distribution of survey months), we include data for only one month chosen at random per household in the comparison group. The month is chosen from all months that occur at least 12 months before the end of the panel to ensure a sufficient follow-up period.

After defining our treatment and comparison groups, the next step in our methodology is to construct *matched* comparison groups. That is, we select persons from the comparison group who most closely resemble members of the treatment group on a number of key factors (e.g., demographic characteristics, work and welfare history, family structure). We also control for the timing of the survey interviews, so that the labor market conditions faced by temporary agency workers and the comparison groups will be roughly similar. Samples are matched separately for those who start temporary work following employment and nonemployment, since the relationships in the model are likely to vary with work status.<sup>42</sup>

The basic approach is to use a non-linear regression model to describe who becomes a temporary worker, and then use the predicted probabilities of temporary work from that model as the basis for matching samples. Separate models of the probability of starting a temporary agency job are estimated for those with and without employment in the previous month, allowing the factors affecting the probability to differ for these groups. A multinomial logit model is used for the estimation, to allow for joint estimation of temporary work as compared with the two alternatives: employment and nonemployment.

We estimate two multinomial logit models. The first multinomial logit compares temporary workers who *were employed* in nontemporary work in the prior month (Treatment Group 1) to nontemporary workers (Comparison Group 1A) and non-workers (Comparison Group 1B) who *were employed* in nontemporary work in the prior month. The second multinomial logit compares temporary workers who were *not employed* in the prior month (Treatment Group 2) to nontemporary workers (Comparison Group 2A) and non-workers (Comparison Group 2B) *not employed* in the prior month. Independent variables for the logit models include:

1. Human capital variables, including measures of age, education, consistency of labor market attachment, recentness of time out of the labor market, and recent job training;
2. Indicators of a need and ability to work an irregular work schedule, such as number of children, age of youngest child, marital status, number of adults in the household, and measures of recent changes in these variables;
3. Other demographic variables that tend to be linked to quality of job such as sex, race, and ethnicity;
4. For those employed in the prior month, indicators of employment in a low-wage occupation or industry based on data constructed from the CPS, and a recent wage rate; and
5. Measures of the wave and panel of the interview on which the data are based.

The specific measures used are somewhat different for those employed and not employed in the month prior to when we measure temporary work.

We then use a two-step matching procedure. First, using the first multinomial logit model estimated above, for each person in the sample, we predict a propensity score—the probability of employment by a temporary agency (Treatment Group 1) as compared with being employed in a nontemporary job (Comparison Group 1A) or not being employed (Comparison Group 1B).

To assess whether the propensity score from the model adequately controls for differences between temporary workers and each of the comparison groups, we compare the mean characteristics of temporary workers (Treatment Group 1), employed (Comparison Group 1A), and nonemployed (Comparison Group

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<sup>42</sup> Separate analyses by previous employment status are also expected to make the experiences of those categorized as temporary workers more homogeneous within a grouping.

1B) persons with comparable probabilities of temporary work. To do this, we sort the temporary agency cases (Treatment Group 1) by their predicted probability of being a temporary agency worker and find the probabilities associated with each quintile of the distribution. For example, let  $p_{80}$  be the probability associated with the 80<sup>th</sup> percentile and  $p_{\max}$  be the maximum probability for temporary agency cases.

Second, we then compare the mean characteristics of temporary workers (Treatment Group 1) with probabilities in each quintile to those employed/not temporary (Comparison Group 1A) and nonemployed (Comparison Group 1B) persons with probabilities in the same ranges. For instance, we compare the means of variables used in the logit model for those Treatment Group 1, Comparison Group 1A, and Comparison Group 1B cases with probabilities between  $p_{80}$  and  $p_{\max}$ . If the model is appropriate for building matched comparison groups, the mean characteristics of these three groups' cases should be similar for cases with probabilities within each chosen range. If, as occurs in our analysis, some characteristics are not similar, we re-estimate the regression model, including higher order functions of the variables that are not similar across the groupings.

After attempting to make the characteristics of the temporary agency workers and the two comparison groups similar within each range of predicted probabilities (e.g., between  $p_{80}$  and  $p_{\max}$ ), we use the predicted probabilities to create a matched sample. The goal is to choose cases from the Comparison Groups 1A and 1B with the same distribution of propensities as those who start temporary work. The propensity score literature suggests several approaches. The easiest approach is to reweight the data for the comparison group so that a weighted one-fifth of the comparison group members have propensity scores between the cutoffs for each quintile of scores for the temporary agency workers. That is, we weight so that one-fifth of the cases have propensity scores between  $p_{\min}$  and  $p_{20}$ ; a fifth between  $p_{20}$  and  $p_{40}$ ; etc....<sup>43</sup>

One remaining issue is how to treat data from multiple months for a given case. Multiple observations for the same case are likely correlated and thus need to be accounted for in calculating the standard errors. Among the temporary worker cases, approximately 15 percent have multiple spells.

The comparison groups allow more flexibility as to whether to include multiple observations from a case. Each comparison group must represent all months of the data for which our temporary agency workers are included to avoid misattributing the effects of different labor market conditions to temporary work. However, we expect the data for the comparison group persons to be highly correlated over time and as a consequence, little gain from including multiple observations for the same person in the analysis. Furthermore, because we are aiming to obtain comparison groups roughly similar in size to our sample of temporary workers, we do not anticipate needing multiple observations per case.

Our solution is to randomly include one month of data for each person in the comparison groups. Each observation is assigned to comparison groups according to its employment status in the sampled and previous month. By randomly choosing the selected months, we maintain the representativeness of our sample while ensuring that individuals do not show up more than once.

### **How Good Is The Comparison?**

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<sup>43</sup> The quintiles procedure was suggested by Rosenbaum and Rubin (1984). A second approach would be to choose for each temporary agency person, the comparison group person with the most similar propensity score. Both approaches will lead to similar distributions of propensity scores for the two comparison groups and the treatment group of temporary workers. For relatively rare transitions, such as those from employment to nonemployment, the reweighting approach is more feasible for our analysis, since it requires fewer observations than a one-to-one match.

A commonly accepted method of evaluating the quality of the match is to examine whether or not the comparison and treatment groups differ in their observable characteristics.<sup>44</sup> We therefore perform a series of t-tests that compare the characteristics of the two treatment groups to the characteristics of each of their potential comparison groups. Table B.2 reports the t-statistics derived from comparing the mean of each characteristic of the treatment group with that of the comparison groups for both the full and the low-income samples.

An analysis of this table reveals that the matching procedure generally worked well in grouping like individuals based on demographic characteristics. There is little significant difference between either set of treatment and comparison groups on the basis of age, sex, race, and education. There is also little difference between the two groups in terms of household structure—marital status, number of children—or changes in the household structure. An exception is in matching temporary workers who were previously employed to those who moved to non-work. For that comparison, many demographic characteristics show significant differences between the comparison and treatment groups.

The only set of characteristics in which the matching procedure consistently performed poorly was on the work history variables: particularly the measures of long- and short-term work history and unemployment duration. This suggests that the models that we use fail to capture the full process by which individuals select into each group, and hence that our estimates are likely to be biased by the degree to which this failure occurs. This is not surprising; it would be difficult to argue that individuals take temporary jobs without the existence of work history factors that affect that choice. The construction of more detailed work histories might well be a solution to controlling for the differences we observe, but this is not possible with the current SIPP dataset.<sup>45</sup> These results, however, do reinforce our earlier suspicion that datasets that are unable to control for such work history measures (such as the CPS) would not be appropriate for use in such an analysis.

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<sup>44</sup> While it is possible, and even likely, that the groups differ in their unobservable characteristics—and that this may systematically bias the evaluation of the impact—this problem is endemic to evaluation studies (see, e.g., Heckman et al., 2000), and currently unsolved.

<sup>45</sup> A variant of this that was suggested by Rosenbaum and Rubin (1984) is to include in the model interaction terms that capture the variation across sample groups in the effects of work history. For example, work history variables may have different effects on the likelihood of temporary work for older women with no children than for young men. To date, experimentation with such interactions—such as separate models for low- and high-income cases or for men and women did not yield an appreciable improvement in the quality of our match.

Appendix Table B.1

Test Statistics of Differences Between Temporary Agency Workers and  
Comparison Group Cases for Key Variables Used in the Matching Process

	Comparison Group 2b: Not Employed to Not Employed		Comparison Group 1b: Employed to Not Employed		Comparison Group 2a: Not Employed to Employed		Comparison Group 1a: Employed to Employed	
	Full Sample	At-Risk	Full Sample	At-Risk	Full Sample	At-Risk	Full Sample	At-Risk
Demographic Characteristics								
Age	0.18	-0.41	2.67*	0.72	2.59*	1.23	-0.48	-0.34
White	2.01*	1.68	1.59	1.44	-0.93	-0.68	-0.11	-0.01
Edlv11	0.98	1.05	5.60*	3.07*	1.9	0.38	0.38	0.86
High school	-0.15	0.06	-0.48	-1.09	0.21	1.64	-0.29	-0.85
College	0.74	0.86	4.10*	3.06*	1.61	-0.11	0.26	0.78
Job training	-0.18	-0.42	2.50*	-0.01	1.31	1.21	-0.06	-0.36
Household Composition								
Married	0.15	0.16	0.9	-0.42	0.53	-0.27	-0.03	-0.03
Married and female	-0.26	-0.07	0.57	-0.04	1.89	0.14	0.54	0.11
Change in marital status	-0.86	-1.18	1.49	0.28	-0.31	-1	0.49	0.49
Number of children	-1.51	-1.16	-2.67*	-1.55	-0.8	-0.15	-0.14	0.21
Decrease in number of children	-0.64	0.07	-1.37	-1.2	-1.23	-0.78	-0.85	-0.81
Child under one	0.12	0.13	-1.22	-0.19	0.48	0.84	-0.06	0.11
Child under three	-0.66	-0.42	-1.53	-0.12	0.44	1.05	-0.35	0.25
Child under five	-1.13	-0.77	-1.83	-0.35	0.32	1.02	-0.6	0.1
Number of adults	0.65	-0.64	-1.52	-0.92	-1.69	-1.85	-0.42	-0.15
Increase in number of adults	-0.12	-0.43	-3.55*	-1.93	1.09	0.33	-0.07	-0.32
Decrease in number of adults	0.49	0.41	-1.01	-0.5	-4.54*	-4.27*	0.12	0.36
Poverty History								
100 to 200% of poverty	0.01	0.42	0.75	3.67*	-1.05	-0.24	0.39	-0.35
200% of poverty	0.79		2.47*		1.64		-0.77	
Work History								
Short term work history	2.66*	2.50*	2.87*	1.42	-2.22*	-3.01*	0.15	1.2
Percent of last 10years working	-2.12*	1.79	5.46*	2.85*	-0.7	-1.06	-0.21	-0.6
Percent of time in welfare	-1.13	-1.03			1.34	1.75		
Duration unemployment	-3.42*	-2.8			1.57	1.56		
Duration of current job			1.57	1.05			-2.94*	-1.35
Duration between jobs			-2.48*	-1.08			-0.34	-0.41
One job			-2.16*	-0.5			-0.2	0.39
Previous wage			3.22*	1.12			-1.4	-0.5
Low wage occupation			-2.41*	-1.44			-0.54	-0.35
Low wage industry			-2.48*	-0.01			-0.51	-0.07
Sample Size	19,613	9,867	1,620	600	1,769	1005	49,449	9,820
Number of Temp Workers	738	425	648	234	738	425	648	234

Source: SIPP 1990-1993 panels, calculations by the Urban Institute.

Note: At risk defined as below 200% of family poverty level in month prior to reference month. The comparison group mean is the average of the mean within each of the five quintiles.

\* Significance of the t-statistics at the 0.05 level.

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