

# Making Work More Central to Work Disability Policy

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**W**ORK DISABILITY HELD CENTER STAGE IN PUBLIC policy debates during the late 1970s and early 1980s (Ber-kowitz 1987; Stone 1984; Derthick 1990), but as a result of the reforms in disability compensation programs and the dramatic expansion of employment opportunities generally, it receded from view for much of the ensuing decade. However, it has again taken center stage, propelled this time by both the positive impetus offered through the equal employment provisions of the Americans with Disabilities Act of 1990 (West 1991) and the negative impetus of renewed growth in the number of beneficiaries of disability compensation programs (U.S. Department of Health and Human Services 1993).

In this article, we show how persons with disabilities have fared in the labor market, how they have become one of the principal means for the labor market to accommodate expansion and contraction, and how their own work histories affect this process of accommodation.

The concern about work disability stems, on the one hand, from a fear that the aging of the population places increasing proportions of the population at risk from work loss caused by chronic disease and impairment and, on the other, from the notion that disability compensation

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programs create a disincentive to work. The work disability literature, however, provides only weak evidence that either the demographic structure of society or medical need correlates with employment among persons with disabilities (Haber 1971; Nagi 1976; Yelin, Nevitt, and Epstein 1980). More important, the font of objective medical need in populations is unlikely to change very much on a year-to-year basis, but the prevalence of self-reported limitation in work activities has changed dramatically several times in the last two decades. Similarly, the results of studies of the impact of disability compensation on employment are contradictory: a few show that compensation profoundly reduces the probability of employment (Parsons 1980; Boskin and Hurd 1984; Tuma and Sandefur 1988), whereas others reveal little or no effect (Haveman and Wolfe 1984; Yelin 1986; Bound 1989). Whatever the impact on employment of reducing compensation levels, there can be no doubt that this strategy reduces the income of persons with severe disabilities who cannot work and of those with lesser disabilities who might work to the same degree (Haveman and Wolfe 1990). Equally important, reducing access to disability compensation programs has proved to be unpopular and thus not sustainable as policy (Stone 1984; Derthick 1990).

The stakes in work disability policy continue to be high. Public and private expenditures for work disability exceed 100 billion dollars a year: approximately 80 percent take the form of public and private disability compensation payments; 15 percent constitute medical care expenditures under workers' compensation and vocational rehabilitation programs; and the remainder flows directly from employment programs under vocational rehabilitation or tax credits on behalf of persons with disabilities (U.S. Department of Health and Human Services 1992; U.S. Bureau of the Census 1992). Medicare, Medicaid, and private health insurance expenditures on behalf of persons with disabilities who have left work, although not counted in this sum, are also substantial.

An emerging alternative to the aging-medical need and disability compensation models of work disability focuses on the way work itself affects the probability of work loss in the face of illness or injury. This model was initiated with studies showing that work disability correlates with unemployment (Berkowitz, Johnson, and Murphy 1976; Levitan and Taggart 1977; Lando, Coate, and Kraus 1979) and with research indicating how the physical limitations due to illness interact with the physical requirements of jobs (Luft 1978). More recently, the model has been buttressed by evidence showing how conflicts between the nature

of chronic disease and the nature of modern jobs impede employment among persons with disabilities (Yelin, Nevitt, and Epstein 1980; Reisine et al. 1989; Murphy 1991; Blanc and Yelin 1991) and how overall employment dynamics are concentrated among persons with disabilities, subjecting them to a disproportionate share of displacement from industries in decline (Yelin 1992).

This article presents additional evidence for the work-based model of work disability. We use data from the March Supplement to the *Current Population Survey (CPS)* for 1981 through 1993 to show how the change in the labor market constrains opportunities among persons with disabilities, setting the boundaries for their employment prospects, and then how individuals' specific work histories largely determine whether they will retain, lose, or find jobs.

Specifically, we display trends over time in disability rates defined by health, labor force, and compensation criteria; we show how the labor force participation of persons with and without disabilities defined by health criteria has changed over the past decade; and we then demonstrate the relative impact of disability per se while also examining the characteristics of persons with disabilities and the effect that the work history of persons with disabilities has on labor force participation at any one time and on transitions into and out of the labor force. To show the stakes in work disability policy, we next describe the economic impact of work loss among persons with disabilities. Finally, we estimate the magnitude of potential expenditures to reduce this impact. Drawing upon unique features of the March Supplement to the *CPS*, this article represents the first systematic effort to study labor market transitions among persons with disabilities.

## Methods

### *Data Sources*

The data source for the analyses reported here is the annual March Supplement to the monthly *CPS* for the years 1981 through 1993. The *CPS* is the principal venue for the estimation of national employment statistics, and it includes questions about work history; the annual March Supplement provides information on labor force participation in the year prior to the survey and on the amount and source of income of each household member (U.S. Bureau of the Census 1993).

In addition to collecting information on whether individuals are or were in the labor force, the *CPS* asks respondents to report the extent of their participation, the reason for unemployment, and, among those employed, the reason for less than full-time employment.

The *CPS* uses a two-stage probability sampling procedure covering the noninstitutionalized population of each state and Washington, D.C. The 1993 *CPS* public use file contains information about 57,000 households composed of approximately 112,000 individuals aged 15 or older and 33,500 children. The analyses reported here are limited to the 93,222 individuals aged 18 through 64, the traditional age range included in labor force participation studies. All analyses use the sampling weights, allowing inferences about the approximately 152 million U.S. citizens of working ages, of whom about 110.9 million were in the labor force in 1993.

### *Definitions*

In the work disability literature, disability is defined by health criteria (e.g., capacity for work) and receipt of disability compensation of different kinds (Bennefield and McNeil 1989; Wolfe and Haveman 1990; Haveman and Wolfe 1990). We report the prevalence of health and compensation definitions for the years 1981 through 1993 in figures 1 through 4, but in the remainder of the analyses we explore the labor force participation of persons who do and do not meet a health criterion: the presence of a self-reported limitation that prevents work or limits the amount or kind of work.

In addition to the time trends in the principal work limitation measure, we display the trends in the proportion both of working-age adults who state that they retired for health reasons and of those who meet any of the health-related criteria, including the principal work limitation measure, the retirement measure, or any of these other measures: part-time work because of health, a temporary leave owing to health, and the presence of a medical condition precluding a job search.

Following Wolfe and Haveman (1990), we report time trends in Social Security Disability Insurance (SSDI) beneficiary status, enumerating all those under age 65 who receive Medicare and those under 60 who receive Social Security on their own account, and in a measure incorporating all forms of disability compensation, including SSDI, Supplemental Secu-

rity Income (SSI), veterans' disability benefits, and workers' compensation payments.

In the *CPS*, respondents report on their employment situation: working, on leave or layoff, unemployed and looking for work, unable to work or disabled, retired, attending school, or keeping house in the prior week. If working, they report their occupation and industry. Those working report their hours of work and usual hours of work; those not working report when they last worked and what they are doing, if anything, to find work. In the March Supplement, respondents report their labor force participation during the entire prior year. In this article we combine the reports about labor force participation in the prior year and prior week to define groups of persons (1) who did not work at all in the prior year and were working in the past week (those finding jobs); (2) who did work in the prior year and who were not working in the prior week (those losing jobs); (3) who worked in both periods; and (4) who worked in neither. Because of the asymmetry of the time frames, the number of persons losing jobs is necessarily larger than the number finding them because the former group includes many who may have worked for very short periods in the prior year and who are now very temporarily unemployed, whereas the latter includes only those who had no employment whatsoever in the past year.

### *Analysis*

We begin by tabulating the proportion of working-age adults meeting health and compensation criteria for disability in the years 1981 through 1993. In the remainder of the article, we analyze the labor force situation of those who do and do not meet the principal health definition of disability: the presence of a health problem that prevents work or limits the amount or kind of work.

After tabulating the proportion of persons with and without disabilities working and experiencing transitions in their labor force status, we use logistic regression to estimate the impact of disability status and other characteristics of the respondents, their families, their regions, and their work on employment. The personal characteristics include age, gender, race, and education level; the family characteristics include size, kind (male head, female head, or husband-wife), and whether family income is less than 100 percent of the poverty level for the particular

family size; the regional characteristics include region of the country and whether the individual lives in a large or small city or rural area; the work characteristics include occupation divided into 12 categories, industry divided into nine categories, union status, and whether the respondent had worked in the private or governmental sectors or had been self-employed.

We then use the results of these regressions to perform policy simulations, specifically calculating the possible magnitude of the effect on employment of moving from the worst to best combination of occupation and industry, and to estimate how much of the difference in the labor force status of persons with disabilities is due to their disability and how much can be attributed to their social characteristics and work history.

Given the sample size in the *CPS*, employment status correlates significantly with virtually all the independent variables, and the confidence intervals surrounding the estimates of the parameters is uniformly narrow. Accordingly, to save space, we omit the confidence intervals from our tables.

In the last set of analyses, we estimate family and personal income and earnings of persons with and without disabilities. We report unadjusted income for both and then use linear regressions to adjust these estimates for the personal, family, regional, and work characteristics listed above. We then calculate the amount of money necessary to bring workers with and without disabilities to the poverty level and to other benchmark levels of income and the money needed to bring persons with disabilities to the labor force participation rates of those without disabilities and then to the poverty line, assuming that such persons would have an earnings distribution equivalent to that currently attained by persons without disabilities.

## Results

### *Trends in Work Disability Measures*

The concern with work disability issues rises and falls with the proportion of persons meeting health, labor force, and disability compensation criteria for work disability. The concern in the late 1970s and early 1980s was fueled by dramatic increases in the proportion of working-age adults who claimed to be limited in activities (Verbrugge 1984) and in the

number of disability beneficiaries (Stone 1984). The current concern with work disability is fueled by renewed growth in all measures of work disability prevalence, but especially by the growth in the number of disability insurance beneficiaries (U.S. Department of Health and Human Services 1993; Lewin/VHI 1994).

The CPS began collecting work disability data in a systematic fashion in 1981. In the ensuing several years, the prevalence of each of the health and labor force measures of work disability either held steady or declined slightly, but in the last several years each has risen substantially (figs. 1 and 2). For example, the proportion of persons reporting work limitation has been rising steadily since 1989, registering about a 9 percent increase during this time. Similarly, the proportion meeting any of the health definitions of work disability in the CPS began to increase in 1988, rising by about 15 percent in the interim (fig. 1). The proportion stating that they had retired for health reasons began to increase in 1987, rising by about two-thirds in the subsequent six-year period (fig. 2).

Naturally, increases in the proportions claiming work limitations or stating that they actually left work because of illness put substantial pressure on disability compensation programs (figs. 3 and 4). Thus, after

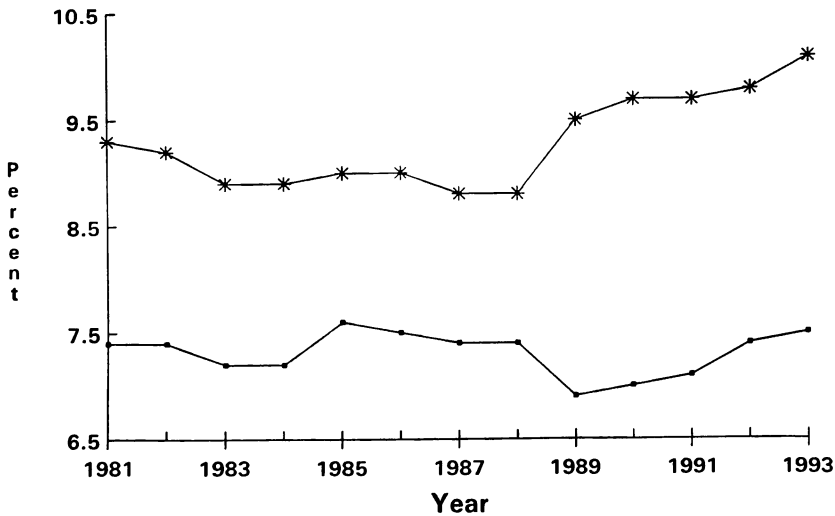


FIG. 1. Work disability prevalence, by health criteria, in the United States from 1981 through 1993 (based on authors' analysis of the CPS). \*—\*—\*, any health definition; ■—■—■, work limitation.

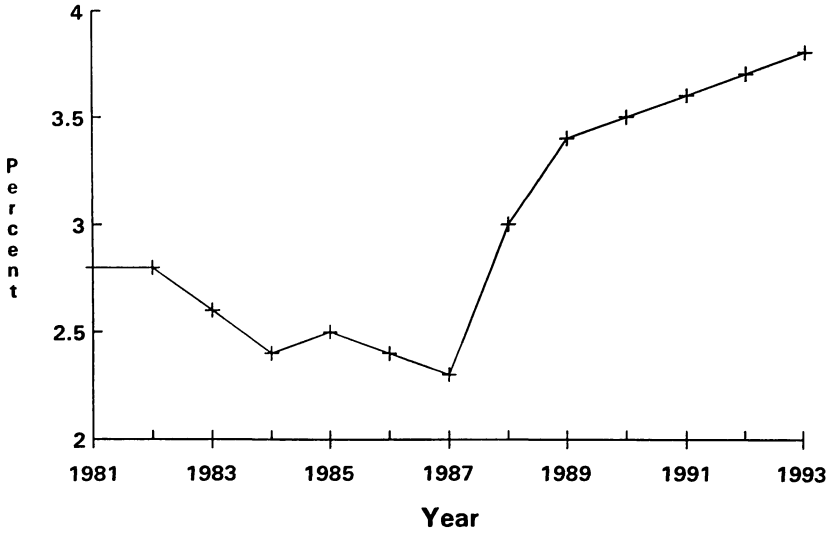


FIG. 2. Work disability prevalence, by labor force criteria, in the United States from 1981 through 1993 (based on authors' analysis of the CPS). +--+—+, retired because of health.

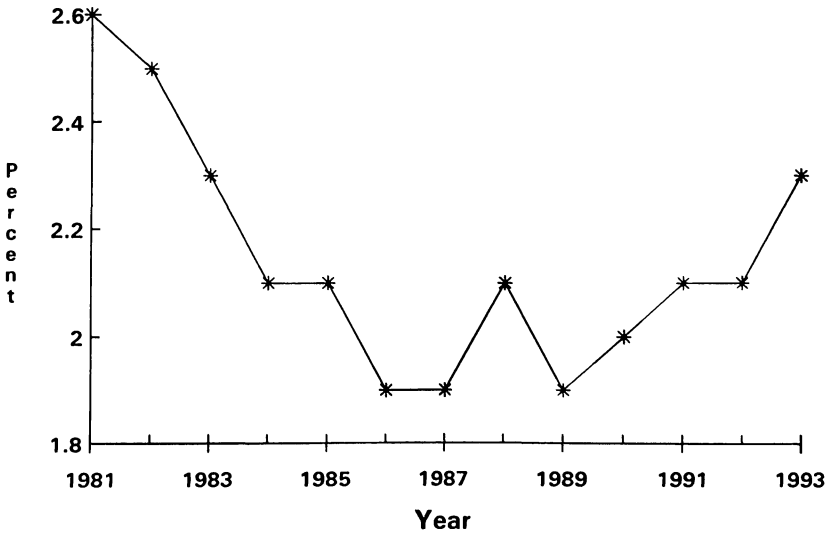


FIG. 3. Prevalence rate of SSDI benefits in the United States from 1981 through 1993 (based on authors' analysis of the CPS).



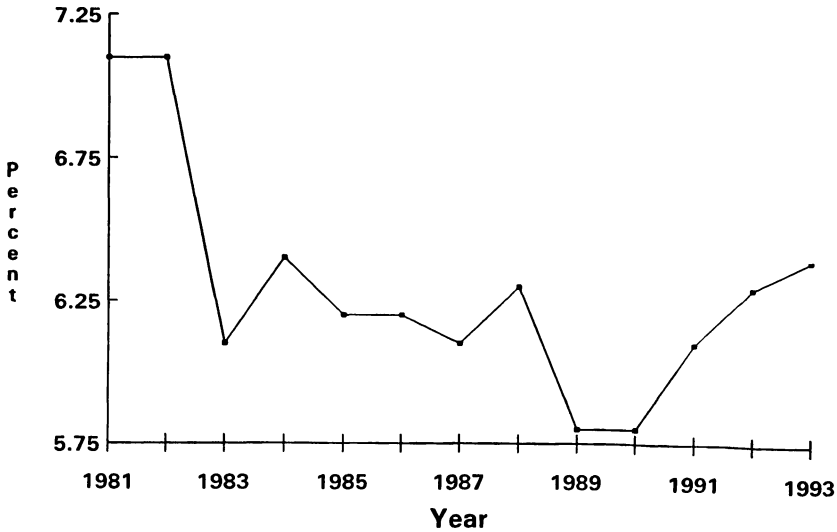


FIG. 4. Receipt of any form of disability benefits in the United States from 1981 through 1993 (based on authors' analysis of the CPS).

having fallen in the early 1980s, the proportion of working-age persons receiving disability compensation rose steadily in the last several years. Between 1981 and 1989, the proportion of working-age adults receiving SSDI fell substantially, but in the interim it has risen by more than 20 percent (fig. 3). Similarly, the proportion of the working-age population receiving any form of disability compensation declined during most of the 1980s, but has since risen by more than 10 percent (fig. 4).

### *Trends in Labor Force Participation*

During the 1980s, the proportion of all working-age adults actually in the labor force increased, principally by the entrance of younger women, a trend partially offset by the exit of older men (Yelin 1989). This expansion benefited persons with disabilities. The proportion of persons with disabilities in the labor force increased by about 19 percent between 1981 and 1990. (The increase between 1983, when the economy was at its worst, and 1990 was even larger: more than 28 percent.) Even after the effects of the recent recession are taken into account, the labor force participation rate among persons with disabilities was 8.2 percent higher

in 1993 than in 1981 (table 1). The increases among persons with disabilities exceeded those experienced by persons without disabilities during the same years, albeit from a much lower base. The increase in the proportion of persons with disabilities in the labor force meant that about 200,000 such persons were working who would not have done so had the 1981 employment rates continued.

Unfortunately, the recent recession disproportionately affected persons with disabilities, causing their labor force participation rates to fall by more than 9 percent in relative terms between 1990 and 1993, in contrast to the 1 percent decline among persons without disabilities. Nevertheless, even after this recent downturn, a substantially higher proportion of persons with disabilities had access to employment than in the early 1980s, suggesting that they benefit from a generalized expansion of employment opportunities.

Although persons with disabilities fared well after 1981 in terms of the overall proportion working, the proportion working full-time declined substantially. Concurrently, the proportion of persons with disabilities claiming to be working part-time for noneconomic reasons (meaning they believed they were choosing to work part-time) increased from 21.6 percent of all workers in 1981 to 25.0 percent in 1993, or by more than 17 percent in relative terms. The proportion of persons without disabilities claiming to be working part-time for noneconomic reasons declined slightly during this time. Similarly, the proportion of persons with disabilities working part-time for economic reasons rose during the 1980s even while the labor market as a whole was expanding, whereas the proportion of those without disabilities working part-time for economic reasons was falling. It has since increased for both groups. Overall, however, the proportion of persons with disabilities working part-time for economic reasons increased by 54 percent between 1981 and 1993, whereas the increase among those without disabilities was about 23 percent. Thus, persons with disabilities experienced a disproportionate amount of the overall growth in part-time employment. Combined with the evidence provided earlier that persons with disabilities experienced a disproportionate decline in labor force participation in the recent recession, this suggests that persons with disabilities have become one of the principal venues for accommodating retrenchment, either from complete to partial employment or from any employment to none.

It is said that American workers are increasingly overworked (Schor 1991). If so, one might also say that persons with disabilities are increas-

TABLE 1  
Labor Force Participation of Persons with and without Disabilities in the United States, 1981-93

| Year           | Persons currently working |           |           |           |                             |           |                                |           |                |           |         |           |
|----------------|---------------------------|-----------|-----------|-----------|-----------------------------|-----------|--------------------------------|-----------|----------------|-----------|---------|-----------|
|                | All working-age persons   |           |           |           |                             |           | Persons currently working      |           |                |           |         |           |
|                | Worked prior week         |           | Full-time |           | Part-time, economic reasons |           | Part-time, noneconomic reasons |           | Hours per week |           |         |           |
|                | w. dis.                   | w.o. dis. | w. dis.   | w.o. dis. | w. dis.                     | w.o. dis. | w. dis.                        | w.o. dis. | w. dis.        | w.o. dis. | w. dis. | w.o. dis. |
| 1981           | 19.5%                     | 64.9%     | 72.1%     | 83.3%     | 6.3%                        | 4.3%      | 21.6%                          | 12.4%     | 37.2           | 40.8      | 37.2    | 40.8      |
| 1982           | 19.2                      | 63.6      | 71.0      | 82.0      | 9.7                         | 5.8       | 19.3                           | 12.2      | 37.6           | 41.2      | 37.6    | 41.2      |
| 1983           | 18.1                      | 62.4      | 69.3      | 81.4      | 10.1                        | 6.3       | 20.6                           | 12.3      | 36.6           | 40.3      | 36.6    | 40.3      |
| 1984           | 20.0                      | 64.7      | 70.5      | 82.5      | 9.3                         | 5.3       | 20.2                           | 12.2      | 37.5           | 40.7      | 37.5    | 40.7      |
| 1985           | 20.4                      | 66.2      | 71.8      | 82.9      | 7.9                         | 5.2       | 20.3                           | 11.9      | 37.5           | 41.2      | 37.5    | 41.2      |
| 1986           | 20.2                      | 66.5      | 70.0      | 83.2      | 8.3                         | 5.0       | 21.7                           | 11.8      | 37.2           | 41.3      | 37.2    | 41.3      |
| 1987           | 21.0                      | 67.6      | 71.1      | 83.1      | 8.0                         | 4.7       | 20.9                           | 12.2      | 37.6           | 41.3      | 37.6    | 41.3      |
| 1988           | 20.6                      | 68.6      | 70.5      | 83.4      | 8.0                         | 4.4       | 21.5                           | 12.2      | 37.4           | 41.6      | 37.4    | 41.6      |
| 1989           | 22.4                      | 69.0      | 65.1      | 83.4      | 9.0                         | 4.0       | 25.9                           | 12.6      | 36.6           | 41.6      | 36.6    | 41.6      |
| 1990           | 23.2                      | 69.3      | 66.2      | 83.5      | 9.1                         | 4.1       | 24.7                           | 12.4      | 36.5           | 41.5      | 36.5    | 41.5      |
| 1991           | 20.6                      | 68.4      | 66.5      | 82.6      | 10.6                        | 5.1       | 22.9                           | 12.3      | 36.9           | 41.2      | 36.9    | 41.2      |
| 1992           | 20.5                      | 68.5      | 67.6      | 82.7      | 10.0                        | 5.6       | 22.4                           | 11.7      | 36.7           | 41.3      | 36.7    | 41.3      |
| 1993           | 21.1                      | 68.6      | 65.9      | 82.8      | 9.7                         | 5.3       | 25.0                           | 12.0      | 36.4           | 41.3      | 36.4    | 41.3      |
| Percent change | 8.2                       | 5.7       | -8.6      | -0.6      | 54.0                        | 23.3      | 17.4                           | -3.2      | -2.2           | 1.2       | -2.2    | 1.2       |

Source: Authors' analysis of the *Current Population Survey* (1981-93).

ingly underutilized, as their average hours per week are declining slightly at a time both of steadily rising hours among those without disabilities and of steadily rising rates of labor force participation among both groups.

### *Labor Force Transitions*

The overall improvement in labor force participation rates among persons with disabilities during the 1980s increased the proportion of people working steadily and able to obtain work, and it decreased the proportion not working over longer periods (table 2). Between 1981 and 1990, the proportion of persons with disabilities stating that they worked at some point in the year prior to interview and who were working in the week prior to interview rose from 18.3 percent to 22.2 percent, or by more than 21 percent in relative terms; even after taking the effects of the recent recession into account, this proportion increased by more than 10 percent. Thus, although the proportion working in the week prior to interview and the proportion that had also worked in the year prior to interview was small relative to persons without disabilities, both rates had improved during the 1980s, again suggesting that persons with disabilities shared in the expansion in the labor market. Between 1981 and 1990, the proportion of persons with disabilities not working in the entire year prior to interview who were working in the prior week (a measure of the extent of job growth) averaged 1.14 percent, slightly more than the 1.04 percent among persons without disabilities. From 1991 to 1993, the proportion of both groups not working in the prior year reporting that they did work in the week prior to interview averaged 1.04 percent, a slight reversal for persons with disabilities (data on the proportions finding jobs are not in the table).

Between 1981 and 1990, the proportion of persons with disabilities who neither worked in the year or week prior to interview—a measure of the hard-core unemployed—declined by 5.1 percent, to just under 60 percent of such persons, although this proportion increased in the recent recession. Similarly, the proportion that worked in the year prior to interview but not in the prior week—a measure of those who lost jobs—declined between 1981 and 1993, from 17.6 to 16.7 percent of all working-age persons with disabilities, or by more than 5 percent in relative terms.

TABLE 2  
Transitions in Labor Force Participation of Persons with and without Disabilities in the United States, 1981-93

| Year           | Worked in prior year,<br>worked in prior week |           | Did not work in prior year,<br>did not work in prior week |           | Worked in prior year,<br>did not work in prior week |           |
|----------------|---|-----------|---|-----------|---|-----------|
|                | w. dis.                                       | w.o. dis. | w. dis.   | w.o. dis. | w. dis.   | w.o. dis. |
| 1981           | 18.3%   | 63.9%     | 62.9%   | 16.8%     | 17.6%   | 18.3%     |
| 1982           | 18.1  | 62.6      | 63.1  | 17.0      | 17.7  | 19.4      |
| 1983           | 17.2  | 61.4      | 63.6  | 18.1      | 18.3  | 19.5      |
| 1984           | 18.8  | 63.4      | 63.9  | 17.5      | 16.1  | 17.8      |
| 1985           | 19.3  | 65.1      | 62.9  | 16.1      | 16.7  | 17.7      |
| 1986           | 19.3  | 65.4      | 61.9  | 15.7      | 17.9  | 17.8      |
| 1987           | 19.6  | 66.7      | 61.3  | 15.1      | 17.7  | 17.3      |
| 1988           | 19.7  | 67.7      | 62.4  | 14.7      | 17.0  | 16.8      |
| 1989           | 20.9  | 67.8      | 60.7  | 15.4      | 16.9  | 15.6      |
| 1990           | 22.2  | 68.2      | 59.7  | 14.7      | 17.1  | 16.0      |
| 1991           | 19.6  | 67.4      | 61.7  | 14.7      | 17.8  | 16.9      |
| 1992           | 19.2  | 67.5      | 61.7  | 15.1      | 17.8  | 16.5      |
| 1993           | 20.2  | 67.5      | 62.2  | 15.2      | 16.7  | 16.2      |
| Percent change | 10.4  | 5.6       | -1.1  | -9.5      | -5.1  | -11.5     |

Source: Authors' analysis of the *Current Population Survey (1981-93)*.

Overall, persons with disabilities who were working in 1993 were doing so in a more secure fashion, with a greater proportion working both in the year and week prior to interview and fewer of those working in the year prior to interview reporting unemployment now. Also, those not working experienced increased entree into the labor market, with slightly smaller proportions not being employed either in the year or week prior to interview. However, these employment gains proved fragile because much of the improvement of the 1980s eroded during the recent recession.

Although the expansion in the labor market did improve the employment prospects of persons with disabilities, it did not do so evenly. In previous analyses we have shown that men, particularly older men and especially older nonwhite men, experienced substantial declines in labor force participation rates, whereas the gains were concentrated among women, particularly young women and especially young white women (Yelin 1989). We now begin to explore some of the factors that affect employment in greater depth, in particular emphasizing the combined effects of the characteristics of the person, family, and region and of the individual's work history.

### *Determinants of Current Labor Force Status and of Labor Force Transitions*

Although the overall employment situation of persons with disabilities improved during the 1980s, in 1993 only a third as many such persons worked in the week prior to interview as those without disabilities (table 1). Differences in the characteristics of persons with and without disabilities account for much of the difference in their employment status (table 3). With adjustment for personal, family, and regional characteristics, the probability that the typical person with disabilities worked in the week prior to interview rises to 33.9 percent, or 52 percent of the rate among similar persons without disabilities. However, for those persons with disabilities and a work history, the gap is narrowed much more. About half of such persons worked in the week prior to interview, or more than 16 times the small proportion (2.9 percent) of persons with disabilities and no prior work history. Clearly, only a handful of persons with disabilities will work who had not done so prior to onset.

In the second four rows of table 3, we estimate the probability that an individual who worked in the prior year did not work in the prior week,

TABLE 3  
 Labor Force Participation Rate and Transitions in Labor Force Participation of  
 Persons with and without Disabilities in the United States, 1992-93

| Analysis  | Rate <sup>a</sup> |         |           | Relative risk |
|---|-------------------|---------|-----------|---------------|
|   | All persons       | w. dis. | w.o. dis. |               |
| Worked prior week,<br>all work histories                | 65.1%             | 33.9%   | 67.5%     | .52           |
| Worked prior week,<br>no previous work history          | 9.7               | 2.9     | 10.6      | .27           |
| Worked prior week,<br>previous work history             | 78.7              | 50.3    | 80.4      | .61           |
| Relative risk-work history                              | .12               | .06     | .13       |               |
| Worked in prior year (1992),<br>did not work prior week | 25.6              | 56.2    | 24.7      | 2.28          |
| Best combination of<br>occupation and industry          | 13.4              | 36.5    | 12.8      | 2.85          |
| Worst combination of<br>occupation and industry         | 93.8              | 98.3    | 93.6      | 1.05          |
| Relative risk-occupation<br>and industry                | .14               | .37     | .14       |               |

<sup>a</sup> Rates adjusted for covariates.

Source: Authors' analysis of the *Current Population Survey* (1993).

having eliminated those not working in either period from the analysis. Net of personal, family, and regional characteristics, about a quarter of all those working in the prior year were not working in the week prior to interview. Among persons with disabilities, 56.2 percent of those who had worked in the prior year were no longer doing so, and they were 2.28 times more likely to have stopped working than persons without disabilities. However, the work situation of the individual can alter the probability of job loss dramatically. Persons with disabilities in the best combination of occupation and industry were only about 37 percent as likely to stop working as those in the worst, 98.3 percent of whom were not working in the week prior to interview. Of course, we need to know much more about specific jobs than just the occupation and industry categories, including the physical demands of the job and the flexibility of

its scheduling, but even the *CPS*, the benchmark labor market survey, includes few measures of the qualitative nature of work. We did evaluate the impact of union status on work loss, finding that, when all else is equal, union members with disabilities working in the year prior to interview were less than half as likely as nonunion members with disabilities to stop working by the week prior to interview (27 versus 57 percent, not shown in table).

Table 4 shows estimates of the probability that persons not working in the year prior to interview were working in the prior week; this analysis omits all persons who had worked in the prior year. Even in the best of

TABLE 4  
The Impact of Disability Status, Work History, and Occupation and Industry  
on the Probability of Working in Prior Week among Those Not Working  
in Prior Year in the United States, 1992-93

| Analysis   | Rate <sup>a</sup> |         |           |               |
|--|-------------------|---------|-----------|---------------|
|  | All persons       | w. dis. | w.o. dis. | Relative risk |
| Did not work in prior year (1992),<br>worked prior week,<br>all work histories       | 5.9               | 1.9     | 8.3       | .23           |
| Did not work in prior year (1992),<br>worked prior week,<br>no previous work history | 5.6               | 1.8     | 7.9       | .23           |
| Did not work in prior year (1992),<br>worked prior week,<br>previous work history    | 18.2              | 6.5     | 24.3      | .27           |
| Best combination of<br>occupation and industry                                       | 23.2              | 8.7     | 30.4      | .29           |
| Worst combination of<br>occupation and industry                                      | 0.7               | 0.3     | 1.1       | .27           |
| Relative risk—some versus<br>no work history   | 3.25              | 3.61    | 3.08      |               |
| Relative risk—best versus<br>worst occupation and industry                           | 33.1              | 29.0    | 27.6      |               |

<sup>a</sup> Rates adjusted for covariates.

Source: Authors' analysis of the *Current Population Survey* (1993).



circumstances, the probability that those who did not work in the prior year were working in the prior week is insubstantial. Among persons without disabilities and a previous work history, for example, only 24.3 percent were working in the week prior to interview. Among persons with disabilities, only 1.8 percent of those without a previous work history and only 6.5 percent of those with one who had not worked in the year prior to interview, respectively, reported that they worked in the prior week. Some of the persons who did not work in the prior year may have worked at some point up to but not including the week prior to interview, and thus would not be counted among those finding jobs by the measure reported here. However, unless the week of the interview was aberrant, the measure does provide a good indication of the proportion of long-term unemployed working at any one time, and this proportion is small.

Nevertheless, a previous work history does improve the probability of finding work, especially a work history in a good combination of occupation and industry. Persons with disabilities who have a work history are 3.61 times more likely to find work than those having no work history, and persons in the best combination of occupation and industry are 29 times more likely to find a job than those with a history in the worst combination.

In a separate analysis, we estimated the impact of personal, family, and regional characteristics and disability status on the probability that persons who were not working in 1992 were employed in the week prior to interview in 1993. Those who have disabilities and the characteristics of persons with disabilities stand a 1.5 percent probability of finding work. Among those who have disabilities and the characteristics of persons without disabilities the probability of finding work rises to 5.7 percent; among persons who do not have disabilities but have the characteristics of persons with disabilities, 6.5 percent found jobs; and, finally, among those without disabilities and with the characteristics of persons who do not have disabilities, 21.7 percent found jobs. Having both a disability and the characteristics of a person with disabilities reduces the chance that the person will find work.

### *The Economic Impact of Disability*

Although individuals may value work for its own sake, society evaluates the impact of disability in terms of the income lost among persons with

disabilities and their families, and it evaluates its investment in disability programs in terms of the impact of these programs either in reducing poverty among those who cannot work or in returning those who can to the labor force. Table 5 uses data from the 1993 *CPS* to estimate income losses among persons with disabilities and their families, and table 6 uses these data to estimate the amounts necessary to lift the incomes of persons with disabilities who work to various levels as well as lifting the incomes of those who do not work to the levels of those who do.

Averaged across all working-age persons, the incomes of the families of persons with disabilities, at \$26,344, are only 59 percent as large as the income of the families that do not have individuals with disabilities (table 5, first section). Not surprisingly, the personal earnings of persons with disabilities are \$14,687 lower, principally because few individuals with disabilities work. However, the earnings of other family members are also lower, in this case by \$8,878. Higher transfer payments partially offset \$23,565 in lower family earnings, leaving a net difference of \$18,622 in family income.

Among persons in the labor force, the family incomes of those with disabilities are still lower than those of the families of persons without disabilities, but the difference is much smaller (\$10,786 versus \$18,622). The increment in the family incomes of persons with disabilities who work compared with the family incomes of those who do not is due to the earnings of the persons with disabilities themselves, although this gain is somewhat offset by smaller amounts of income from sources other than earnings.

In the second section of table 5, we show the income totals adjusted for the personal, family, and regional characteristics of persons with and without disabilities. Adjustment reduces the difference in the family income and earnings between persons with and without disabilities by about half. For example, among all working-age persons, the difference in family income after adjustment declines from \$18,622 to \$8,149 and in family earnings from \$23,565 to \$13,357. Adjustment also reduces the difference in personal income and earnings, but the reduction is smaller proportionally, from \$10,504 to \$7,737 in personal income and from \$14,687 to \$9,854 in personal earnings. Overall, the unadjusted income figures suggest that employment goes a long way to reduce the gap in family earnings and income between persons with and without disabilities; the adjusted income figures suggest that some of the gap, resulting from the kinds of people involved and the places in which they

TABLE 5  
Average Family and Personal Income with and without Adjustment for Covariates, and Poverty Rate,  
by Employment and Disability Status in the United States, 1992

|  | All working-age persons |           |          | Persons in labor force |           |          |
|--|-------------------------|-----------|----------|------------------------|-----------|----------|
|  | w. dis.                 | w.o. dis. | Diff.    | w. dis.                | w.o. dis. | Diff.    |
| <b>Unadjusted income totals</b>          |                         |           |          |                        |           |          |
| Family income                            | \$26,344                | \$44,966  | \$18,622 | \$37,153               | \$47,939  | \$10,786 |
| Family earnings                          | 16,251                  | 39,816    | 23,565   | 30,460                 | 43,817    | 13,357   |
| Personal income                          | 11,210                  | 21,714    | 10,504   | 19,350                 | 27,087    | 7,737    |
| Personal earnings                        | 4,912                   | 19,599    | 14,687   | 15,609                 | 25,463    | 9,854    |
| <b>Adjusted income totals</b>            |                         |           |          |                        |           |          |
| Family income                            | 36,021                  | 44,170    | 8,149    | 43,443                 | 47,777    | 4,334    |
| Family earnings                          | 26,549                  | 38,969    | 13,357   | 36,542                 | 43,661    | 7,119    |
| Personal income                          | 13,371                  | 21,537    | 7,737    | 24,115                 | 30,042    | 5,927    |
| Personal earnings                        | 7,654                   | 19,374    | 9,854    | 17,424                 | 25,418    | 7,994    |
| <b>Poverty rate</b>                      |                         |           |          |                        |           |          |
| Family income <125% of poverty level     | 38.3%                   | 14.5%     |          | 18.5%                  | 9.0%      |          |
| Family income <100% of poverty level     | 29.5                    | 10.9      |          | 12.8                   | 9.0       |          |
| Personal earnings <125% of poverty level | 86.2                    | 47.5      |          | 53.6                   | 31.3      |          |
| Personal earnings <100% of poverty level | 83.8                    | 42.2      |          | 47.2                   | 25.0      |          |

Source: Authors' analysis of the *Current Population Survey* (1993).

live, will remain even were persons with disabilities to achieve equity in labor force participation rates.

Persons with disabilities and their families experience much higher rates of poverty than those without disabilities (table 5, third section). Among all working-age persons, 38.3 percent of persons with disabilities are in families with incomes below 125 percent of the poverty level for their family size and 29.5 percent are in families with incomes below 100 percent of this level. Poverty rates among the families of persons with disabilities are more than two and a half times as high as among the families of those without disabilities.

Among the families of persons with disabilities in the labor force, 18.5 percent have family incomes below 125 percent of the poverty level, and 12.8 percent have incomes below 100 percent of poverty. Slightly more than half of persons with disabilities earn less than 125 percent of the poverty level for their family size themselves; slightly less than half earn less than 100 percent of this level themselves. However, relatively high proportions of persons without disabilities also earn less than poverty-level incomes themselves, which may explain why so many families now have multiple earners. All told, 32.4 million workers earn less than 125 percent of the poverty level, of whom only 1.3 million have disabilities, and 25.6 million earn less than 100 percent of that level, of whom only 1.0 million have disabilities (data on absolute number of workers below the poverty line are not in table).

### *Work Disability Programs and Poverty*

A high proportion of persons with disabilities live in families with incomes below the poverty line, but because relatively few persons report disability, relatively small expenditures would bring all present workers with disabilities to more reasonable income levels and could subsidize the income of those not presently working, creating incentives to hire such persons (table 6). To achieve the same results for all persons, regardless of disability status, however, is politically infeasible and perhaps economically infeasible as well. For example, an expenditure of \$8.7 billion would lift all workers with disabilities to the poverty level, but to do so for all poorly remunerated workers would take \$165.4 billion, or just under 3 percent of gross domestic product (GDP). Similarly, even to meet the more limited goal of bringing all full- and part-time workers with disabilities to the level of \$5 per hour for 48 weeks a year would re-

TABLE 6  
 Potential Government Expenditures for Working Age Persons with and without Disabilities,  
 in Billions of Dollars and as Proportion of GDP in the United States, 1992

|   | Persons w. disability | Persons w.o. disability |
|---|-----------------------|-------------------------|
| Amounts to bring . . .  |                       |                         |
| All workers to poverty level  | \$8.7 (.0015 GDP)     | \$165.4 (.0278 GDP)     |
| All full-time workers to .  |                       |                         |
| \$8,400 (\$5/hour @ 35 hours/week @ 48 weeks/yr.)   | 2.5 (.0004)           | 42.0 (.0071)            |
| \$9,600 (\$5/hour @ 40 hours/week @ 48 weeks/yr.)   | 3.1 (.0005)           | 54.5 (.0092)            |
| \$19,200 (\$10/hour @ 40 hours/week @ 48 weeks/yr.)   | 10.6 (.0018)          | 268.6 (.0451)           |
| All part-time workers to . . .  |                       |                         |
| \$4,800 (\$5/hour @ 20 hours/week @ 48 weeks/yr.)   | 1.3 (.0002)           | 11.4 (.0019)            |
| \$9,600 (\$10/hour @ 20 hours/week @ 48 weeks/yr.)  | 3.7 (.0006)           | 41.1 (.0069)            |
| Labor force participation rate of persons with disabilities to level<br>of persons without disabilities and income to poverty level |                       |                         |
| If poverty rate same as currently employed persons with disabilities  | 19.6 (.0033)          |                         |
| If poverty rate same as currently employed persons w.o. disabilities  | 10.4 (.0018)          |                         |

Source: Authors' analysis of the *Current Population Survey* (1993).

quire only \$4.4 billion, or about 7 percent of the amount to lift the income of all workers to this level. Indeed, for \$14.3 billion, or less than three-tenths of 1 percent of GDP, the income of all full- and part-time workers with disabilities could be raised to \$10 per hour, at less than a tenth the cost of lifting the incomes of all workers without disabilities to the less generous standard of the poverty line.

Subsidizing the earnings of persons with disabilities not presently in the labor force as a hiring incentive would also require relatively small expenditures. For example, to increase labor force participation rates among persons with disabilities to the level of persons without disabilities, and then to subsidize their earnings to the poverty level, would require \$19.6 billion if these persons had the same poverty rate as currently employed persons with disabilities; if these persons had the same poverty rate as currently employed persons without disabilities, only \$10.4 billion would be required.

Thus, \$28.3 billion would lift the incomes of all current workers with disabilities and many of those who might work to the poverty level at a fraction of the cost of achieving the same goal for those without disabilities. The \$28.3 billion amount would represent a relatively small increment to current expenditures for work disability (approximately \$100 billion in 1992), even if it could not substitute for any of them. However, increasing the labor force participation rate would substantially reduce expenditures for disability compensation programs.

## Discussion

The employment of persons with disabilities reflects several long-term trends in the labor market and in industrial transformation. Persons with disabilities generally fared well in the 1980s: they experienced larger proportional gains in labor force participation than persons without disabilities as the labor market accommodated a growing fraction of all working-age adults. As part of this improvement, an increasing proportion of persons with disabilities worked in both the prior year and the prior week. Compared with persons who had no disabilities, persons with disabilities who did not work in the prior year were more likely to be working in the week prior to interview. Similarly, during the 1980s a decreasing proportion of persons with disabilities did not work in either the prior year or the prior week, and a decreasing proportion who worked in the prior year were no longer doing so.

However, even after these improvements, the gap between the labor force status of persons with and without disabilities remained wide because the ratio of the employment rates of the two groups rose only from .30 in 1981 to .34 in 1990 (calculated from data in table 1). Moreover, improvement in the employment picture for persons with disabilities proved fragile because their labor force participation rates declined much more rapidly in the recent recession than did those of persons without disabilities, and their proportionate advantage in gaining jobs eroded, leaving persons with and without disabilities not working in the year prior to interview equally likely to be working in the prior week as of 1993. Even before the recession, however, persons with disabilities experienced a disproportionate amount of the growth in part-time work, particularly part-time work for economic reasons, a trend accentuated by the recession.

Thus, persons with disabilities accommodate change in the demand for labor in several ways. When the labor force expanded during the 1980s, they experienced a disproportionate amount of the growth in labor force participation rates. When the labor force contracted in the first part of this decade, they experienced a disproportionate amount of the job loss. Of course, job gains and job losses are not spread across the economy evenly. In prior research, we have shown that persons with disabilities have seen their share of jobs in declining industries (principally the goods-producing sectors) shrink while their share of jobs in growing industries (principally service-producing sectors) has increased (Yelin 1992). In the research reported above, we noted the extent to which persons with disabilities are on the leading edge of the gradual shift to part-time employment too. Together these findings show that persons with disabilities are more likely than persons without disabilities to accommodate change in who works at all, represented by the labor force participation rate; in what kind of work is done, represented by the share of jobs by industrial sector; and in the nature of work, represented by the proportion working full- or part-time. In effect, disability status, like race and gender, plays a fundamental role in distinguishing those prospering from and those paying for economic transformation.

### *Macroeconomic Parameters, Microeconomic Strategies*

Although the long-term macroeconomic trends do set the overall parameters for labor force participation among persons with and without disabilities, work history then goes a long way in determining the members

of each group likely to work and to lose or find jobs. Indeed, work history may play a larger role in determining employment status among persons with disabilities than among those without: such persons with a work history are more than 16 times as likely to be working than those without, whereas, among persons without disabilities, those with a work history are about seven times more likely. Similarly, among persons with disabilities who had not worked in the year prior to interview, those who had a previous work history were more than three times as likely to be working in the prior week. Even among those with a work history, however, occupation and industry can make a big difference in labor force status. Among persons with disabilities who worked in the prior year, those in the best combination of occupation and industry were only 37 percent as likely not to be working in the prior week as those in the worst combination; among persons with disabilities who did not work in the prior year, those with a work history in the best combination of occupation and industry were more than 200 times as likely to be working in the prior week as those in the worst combination.

Some of the impact of work history is due to discrimination in employment. Persons with disabilities may be less likely to work at all, or if they do work, to do so in sectors with high work disability rates because employers fear that they cannot perform well, a fear that often is not based on evidence (Feldblum 1991; West 1991). The Americans with Disabilities Act of 1990 is designed to redress systematic discrimination in employment against persons with disabilities.

Some of the impact may be due to fears persons with disabilities harbor themselves. They may be unwilling to seek jobs in competitive sectors of the economy in the belief that they will not be able to perform up to expectations and thus will be subjected to layoffs.

Similarly, persons with disabilities may experience a disproportionate amount of part-time work because of discrimination or because part-time work may offer the kind of flexibility they need to integrate the world of work with the requirements of their impairments.

Whatever the cause of the relationship between work history and work outcome, it is clear from the data presented here that much of work disability is determined within work itself: by changes in the overall demand for labor, by changes in the nature of work, and by the individual's own employment experience. This is not to say that public policy toward work disability must stop focusing on medical care, vocational rehabilitation, or disability compensation. As long as medical severity cor-



relates with work outcome, treating medical conditions has the potential to reduce the prevalence of work disability. Rather, the strong effect of work history on work outcomes suggests that medical care and vocational rehabilitation should be more tightly integrated with work, guiding the process of accommodating impairments on the job as early after onset as possible. Similarly, some persons with disabilities will never be able to find employment, necessitating disability compensation, and some who can work will choose not to, necessitating vigilance in adjudicating claims. A focus on the impact of work on work disability is designed to provide public policy with an additional set of levers, not to replace medical care, rehabilitation, or compensation.

The cost of work disability is marked, in part, in the poverty rate among persons with disabilities and in expenditures for disability compensation and vocational rehabilitation and, in part, by the loss of self-esteem when people are out of work. As we seek to reduce these costs, we would do well to focus on how the overall labor market conditions the labor force participation of persons with disabilities and on how, given these constraints, their own work experience affects the probability of having, keeping, or finding jobs. In short, we would do well to make work more central to work disability policy.

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