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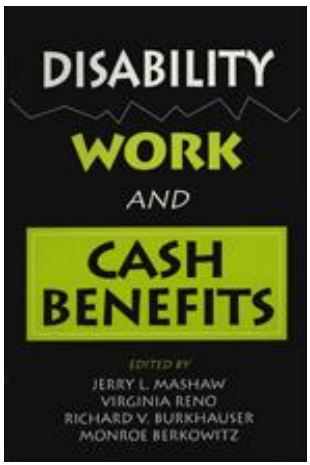

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Employment and Benefits for People with Diverse Disabilities

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The Americans with Disabilities Act (the ADA or, simply, the Act) became the law of the land over four years ago and was supposed to improve the lives of 43 million disabled individuals. It has not produced the anticipated growth in employment. There are proportionally more persons getting disability benefits from the Social Security Administration (SSA) today. Employers are reluctant to talk about the ADA, and the Equal Employment Opportunity Commission (EEOC) has reported a sharp increase in the number of lawsuits filed by disgruntled workers charging that employers are violating the law. The problem can be traced to the fact that the ADA embraced a civil rights approach to achieve its employment goal. As stated by Nancy Lee Jones:

> Seldom do race, sex, or national origin present any obstacle to an individual in performing a job or participating in a program. Disabilities by their very nature, however, may make certain jobs or types of participation impossible (Jones 1991).

Insufficient attention was paid to the nature of a disabling condition and to the wide diversity of such conditions. This paper tries to develop a theory of the labor market for people with disabilities, recognizing the great range and instability of disabling conditions. Work is not the preferred path to a higher level of satisfaction for all disabled persons. The employment goal of the ADA should be coordinated with a larger policy portfolio providing training, income transfers, and medical care to people with disabilities. Further, these policies should recognize the wide differences across individuals identified by the age at onset and the impairment. Not everyone ought to get the same monthly benefit or access to training and job placement services. It is surely true that if you want to treat people fairly, you have to treat them differently.

A Person with a Disability

The ADA implies that there is a minority distinguishable from a majority of nondisabled persons. A large body of literature deals with the concept of disability and its measurement. Johnson and Lambrinos (1985) turned to the definitions set forth by the World Health Organization to distinguish among three terms.

> *Impairment* is a psychological, anatomical, or mental loss or some other abnormality. *Disability* is a restriction on or lack (resulting from an impairment) of an ability to perform an activity in the manner or within the range considered normal. *Handicap* is a disadvantage resulting from an impairment or disability (p. 265, emphasis added).

Policy makers seem to prefer a definition based on functional limitations. A problem arises because the definition for a substantial limitation, "an inability to perform an activity in the manner or within the range considered normal," depends on the activity and the environment. An inability to reach or to lift may be a seriously disabling condition for a lobster fisherman but only a nuisance for a preacher. The latter might not even report such a limitation in a survey. The language of the Act sets forth the following definition.

> *Disability* means with respect to an individual (1) a physical or mental *impairment* that substantially *limits* one or more of the *major life activities* of such individual, (2) a record of such an *impairment*, or (3) being regarded as having such an *impairment*.
>
> *Major life activities* means functions such as caring for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working. There is no requirement for a medical certification of the impairment, a record or being regarded as having such an impairment is sufficient. The interpretative guidance to the Act argues that the ADA is intended to establish a process wherein disability will be determined on an individual basis.
>
> This case by case approach is essential if qualified individuals of varying abilities are to receive equal opportunities to compete for an infinitely diverse range of jobs. For this reason, neither the ADA nor this regulation can supply the *correct* answer in advance

> for each employment decision concerning an individual with a disability (emphasis added).

According to the EEOC regulations, *disability* would seem to be a highly subjective state that defies quantification.

The surveys that have been undertaken mainly rely on self-reporting of functional limitations, activities of daily living (ADL), and impairments or chronic disabling conditions. They yield varying estimates of the overall prevalence of disability but show agreement on differences in the relative incidence rates due to age, race, gender, and education. Based on data from the March 1988 Current Population Survey (CPS), Bennefield and McNeil (1989) estimated that there were 13.4 million working-age Americans (8.6 percent) with a work disability. The proportion with a reported disability is higher in surveys conducted to ascertain health and program participation status; 11.5 percent of working-age adults were disabled in the 1984 Survey of Income and Program Participation (SIPP) and 11.3 percent in the 1983 National Health Interview Survey (HIS). LaPlante (1988) reported that orthopedic impairments were the leading factor, accounting for 29 percent of the 17.4 million adults with a work disability in 1983-1985.[1] The elements of the health capital vector A deteriorate at different rates, with sharply rising incidence rates for cancers, digestive, and circulatory impairments. Only 11.4 percent of work limitations reported by adults 18-44 years old were caused by these three conditions, but this figure climbs to 32 percent for the group aged 45-69. The shorter life expectancy of mentally retarded persons is responsible for the declining importance of mental conditions as a cause for work limitations.

Table 1 presents the LaPlante estimates in relation to the age-specific U.S. populations. Some 5.8 percent of Americans 18-44 years old reported a work limitation, and this incidence rate rose to 21 percent for the group aged 45-69, a 3.6-fold increase in the work disability rate. The work disability rate due to orthopedic impairments rose from 2.4 to 4.8 percent. The functional limitations associated with ulcers are different from those due to hypertension or from partial paralysis of the lower extremities, and these differences will surely affect the kinds and costs of reasonable workplace accommodations.

From an analytic viewpoint, *disability* ought to be described by both the functional limitation and by the impairment. A person's manual

Table 1. Incidence of Work Limitations by Age and Sex

	Percentage of U.S. Population		
Both sexes	**All ages**	**18-44 years**	**45-69 years**
All causes	11.07	5.82	20.98
Percentage caused by			
Musculoskeletal	1.46	0.39	3.49
Orthopedic impairments	3.21	2.38	4.78
Blind and visually impaired	0.38	0.22	0.68
Deaf and hearing impaired	0 20	0.15	0.30
Digestive	0 35	0 15	0.73
Circulatory	2.10	0.42	5.29
Respiratory	0.76	0.38	1.49
Miscellaneous	1.46	0 89	2.52
Cancer	0 29	0.09	0.67
Mental	0 84	0 76	1.01
Male			
All causes	10.98	5.96	21 00
Percentage caused by			
Musculoskeletal	1 00	0 30	2.41
Orthopedic impairments	3.63	2.69	5.50
Blind and visually impaired	0.43	0.29	0 71
Deaf and hearing impaired	0.21	0.16	0.31
Digestive	0 29	0 15	0 57
Circulatory	2.19	0.33	5.91
Respiratory	0.83	0.33	1.81
Miscellaneous	1.25	0.80	2 14
Cancer	0.27	0 07	0.66
Mental	0 88	0.83	0.98
Female			
All causes	11.15	5.69	20.95
Percentage caused by:			
Musculoskeletal	1.90	0.47	4.46
Orthopedic impairments	2 81	2 07	4.14
Blind and visually impaired	0.33	0.15	0 66
Deaf and hearing impaired	0.19	0.14	0.28
Digestive	0 42	0.16	0.88
Circulatory	2.02	0.50	4.74
Respiratory	0.70	0.42	1.20
Miscellaneous	1.66	0 99	2 86
Cancer	0.32	0 11	0 69
Mental	0.81	0.68	1 04

SOURCE: Derived from data in LaPlante (1988, table 1A)
NOTE Percentages may not sum precisely to totals due to rounding

dexterity might be constrained by an injury to a muscle or by the development of arthritis. As Yelin (1991) points out, on a bad day, an arthritic individual may need more time in the morning to get started, but the person with the muscle injury may be permanently limited. The former may need a flextime work schedule for his or her accommodation, while the latter may require special equipment. Additionally, knowledge about both the impairment and functional proficiency conveys more information with respect to the length of the remaining work life.

Supplying Time to the Labor Market

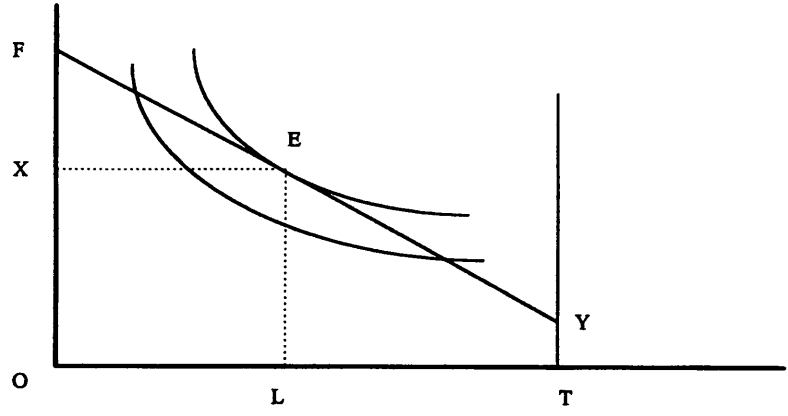
Over two-thirds of working-age adults with a disability are out of the labor force or unemployed. According to Bennefield and McNeil (1989), only 27.8 percent of disabled men were gainfully employed in March 1988, as compared to 74.4 percent of nondisabled men. Disabled men earned only $15,497 a year, 64 percent of the annual earnings of nondisabled men. A third of the disabled respondents to the 1983 HIS and 44 percent of disabled persons in the Louis Harris poll who were not employed indicated that they wanted to work. Brown (1989) analyzed the HIS data and found that persons with three or more functional limitations expressed a far stronger preference for work than persons with one or two limitations.

The familiar model of Sir Lionel Robbins (1930) serves as a useful point of departure. The utility maximizing supply of work hours H (the difference between a time endowment T and the demand for leisure hours L; $H = T\text{-}L$), is determined by tastes (for a consumption good and leisure) and a budget constraint describing the opportunity set. The equilibrium depicted in figure 1 satisfies two equations, a budget constraint and an equality of the marginal rate of substitution (MRS) to the wage rate:

$$X + wL = F = wT + Y \text{ and } \text{MRS} = U_L/U_X = w$$

where w is the hourly wage, Y is nonwage income, and F is full income. (X stands for consumption, U_L and U_X denote the marginal utilities of leisure and consumption.)

Figure 1



The onset of a disabling condition can displace the equilibrium in three ways. First, poor health is likely to affect tastes by raising the marginal value of leisure time, meaning a larger MRS. The adjustment involves an increase in the demand for leisure and reduces the supply of work hours, possibly to zero if the person is pushed to the corner at point Y in figure 1. Second, the disability might reduce the person's productivity, implying a decrease in the hourly wage w which he or she can command in the market. The disability pushes the individual to a lower indifference curve, but its impact on the supply of labor time H depends on the strengths of the opposing substitution and income effects. Third, *disability steals time*. We all get the same endowment of calendar time, $T^* = 168$ hours a week, but the time required for maintenance of the human agent varies. Stafford and Duncan (1980) discovered that individuals with lower wages devoted more time to sleep. A rigorous model of the demand for sleep was developed by Biddle and Hamermesh (1990). Time for medical and personal care ought also to be included in maintenance time T_m. The pertinent discretionary time endowment that can be allocated to work and leisure, $T = T^* - T_m$, is surely a function of the individual's stock of health capital.[2] A dis-

abling condition can be expected to shove T to the left, which unambiguously reduces work hours H (= T–L). Some disabled persons may choose to accept part-time employment, while others may opt to withdraw from the labor force. That disabled individuals supply less time to the labor market can be explained in the context of the Robbins model, where disability can affect tastes, wages, or discretionary time endowments.

Equal Employment Opportunities

The hearings before the House and Senate committees preceding the passage of the ADA supported the following findings:

- Historically, society has tended to isolate and segregate individuals with disabilities and such discrimination continues to be a serious and pervasive social problem.
- Discrimination persists in such areas as employment, housing, public accommodations, education, transportation.
- Unlike individuals who face discrimination on the basis of race, color, or sex, people with disabilities have often had no legal recourse to redress such discrimination.
- Census data have documented that people with disabilities as a group occupy an inferior status in our society and are severely disadvantaged.
- The nation's goals are to assure equality of opportunity, full participation, independent living, and economic self-sufficiency.

These findings were mainly supported by testimony involving cases in which individuals were denied access to places, housing, and, most importantly, to jobs because of their disabilities. In a 1972 survey, the average hourly wages of handicapped workers were some 44.5 percent below the average for nondisabled men. Johnson and Lambrinos (1985) estimated that 15.2 percentage points of this differential could be attributed to discrimination in the labor market.[3] The ADA was

enacted to guarantee equal employment opportunities, but to do so, it had to define what constituted labor market discrimination.

In section 1630.g of the Regulations, the ADA adopts a three-pronged approach. First, a person is said to have a *disability* if he or she has "an impairment that substantially limits one or more of the major life activities of such individuals." Whether the substantial activity limitation or limitations affect the capacity to do the work is to be determined by the concept of "a qualified person with a disability." This qualification is to be determined in two steps: (a) whether the individual has the requisite skills, experience, education, licenses, etc., and (b) whether the individual can perform the *essential functions* with or without accommodations, the two remaining prongs in the three-pronged approach. The EEOC has apparently embraced a fuzzy criterion, namely, a threshold hiring standard that will be determined by the *essential functions* of the job.[4] If a job is narrowly described (e.g., proofreading aloud, lifting, etc.), it will be easier to ascertain if a person is qualified. The "interpretative guidance" contained one example in which an applicant might be asked for a driver's license because, in some exceptional instances, the person might be asked to drive. If driving is a *marginal function* of the main job, and if there are enough other employees with licenses among whom to distribute any driving chores, the employer could not deny employment because the applicant had no driver's license. The set of *essential functions* associated with a job will be smaller, the larger the size of the employer's workforce. If a clerk at a garden store is occasionally required to lift 100-pound bags of fertilizer, *lifting* would be *essential* in that position for a store hiring only two clerks but not for a store with twelve clerks. If a requirement is defined by a work load (e.g., typing 75 words a minute or standing for eight hours), the employer must demonstrate that the standard was not set to exclude a disabled person.

The phrase "with or without *accommodations*" is crucial in the process of determining who is "a *qualified* person with a *disability*." An employer will voluntarily invest in training, superior equipment, and a more pleasant workplace if such investments raise labor productivity by more than the cost. The argument in Becker (1964) and Oi (1962) is that, if training increases productivity in all employment, its costs will be borne by the worker who receives a lower wage during the training period. If, however, the increased productivity is firm-specific, Hash-

imoto and Yu (1980) have shown that it is optimal to share the costs. According to the EEOC regulations,

> In general, an *accommodation* is any change in the work environment or the way things are customarily done that enables an individual with a disability to enjoy equal employment opportunities (a) . . . in the application process, (b) . . . that permit the person to perform the *essential functions* and (c) . . . to enjoy equal benefits and privileges of employment as are enjoyed by employees without disabilities (emphasis added).

An employer would have voluntarily made the accommodation if it raised the individual's productivity by more than the cost. With the passage of the ADA, the decision is no longer left to discretion but is instead imposed as an obligation: "[covered] Employers are required to make *reasonable accommodations* to the known physical or mental limitations of an otherwise *qualified* individual unless to do so would impose an undue hardship" (emphasis added).

The effect on demand will depend on what is construed to be a *reasonable accommodation* and on what penalties are placed on employers for noncompliance.[5] The undue hardship defense favors the smaller employer with a shallow pocket. The burden of providing jobs for the disabled is likely to be borne by the large employers, who both have the wherewithal to assume the accommodation costs and who have big enough workforces to reduce the number of *essential functions* that have to be performed by qualified persons with a disability.

If job restructuring and part-time and part-year work schedules are accepted as *reasonable accommodations*, the employer faces a difficult problem in the equitable treatment of all employees. In most firms, part-time employees are paid at a lower hourly rate than are full-time employees in the "same" job. The hourly wage discount for part-time work is larger in manufacturing industries, but it is still observed in sales, service, and clerical occupations because the part-time employee typically receives less "on-the-job" training, has less work experience, and is asked to perform fewer tasks than his/her full-time counterpart. The existing part-time wage discounts would thus seem to reflect a compensating difference reflecting the lower productivity of the part-time employee. If disabled persons need modified work schedules because of their physical/mental impairments, should they be entitled

to the same pay as full-time employees? The correct answer is no if we want to discourage nondisabled persons interested in part-time jobs from claiming that they are disabled to avoid the part-time wage discount. In short, accommodations that affect worker productivity should be accompanied by compensating wage differences.

There are at least two serious problems with this civil rights approach to disability policy. First, it forces employers to adopt a *satisficing* employment policy. A qualified person with a disability who needs only a *reasonable accommodation* has as much right to a job as any other applicant. The employer is discouraged from searching for the most highly qualified individual. The efficiency loss from such a satisficing strategy might be small if the variance in performance across job applicants is small. If, however, the variance is large, as it is perceived to be when recruiting for a highly skilled position, an obligation to accept an applicant who meets the minimal job requirements could result in a significant opportunity cost to the employer.

Second, *disability* is not an easy state to define or to determine; the *essential functions* that have to be performed can vary depending on the size of the workforce and on the nature of the job. The efficacy of *reasonable accommodations* is uncertain, and the legislation and the enforcement agencies cannot promulgate clear-cut guidelines. The ADA is intended to establish a *process*.

The intent of the Act is to promote employment by placing an obligation upon *covered employers* to make job offers to *qualified* persons with a disability and to provide them with *reasonable accommodations*. Failure to do so puts the employer in a position where he or she can be sued for discrimination. Enforcement of the law is likely to be left to civil litigation.[6]

Disability: Its Duration and Impact on the Length of Life

Disabling conditions are not all alike. Severity is surely an important dimension, which might be measured by the capacity to perform the various activities of daily living or by the disadvantage that accompanies such limitations. In addition to severity, a disability can be described by (1) the age at onset, (2) the anticipated duration of the

condition, and (3) the impact of the condition on the expected length of life. Disability is rarely congenital. It can sometimes be linked to a specific event, an accident, or illness, but it is usually a by-product of aging. The age at onset is rarely reported, but the nature of the disabling condition (the diagnostic group) serves as an imperfect proxy. For example, mental retardation and mental illness occur relatively early in life, while disabilities related to cancers and to circulatory and digestive impairments have a later onset.

The difficulty in identifying the target population derives from the fact that disability is usually a transitory state. Some 13 percent of 1,760 white male, married household heads in 1972 reported that they had a work disability, but only about 5 percent said that they had a disability in each of the five consecutive years, 1968-1972.[7] At onset, there is uncertainty about the anticipated duration. Functional limitations are unstable and fluctuate from week to week. Workers hope that their loss of sight or difficulty in walking is only temporary. They may wait to ascertain the extent of the limitation before taking the next step—return to work, retrain for a new job, or withdraw from the labor force. Time and money will be spent to see if the condition can be reversed. The individual's response clearly depends on whether the disabling condition is perceived to be temporary or permanent.

The impact of a disability on the length of life depends on the severity and nature of the impairment. Severely disabled individuals who qualify for benefits under the Social Security Administration's Disability Insurance (DI) program experience substantially higher mortality rates. In addition, unsuccessful applicants to the DI program (who were denied benefits) have exhibited death rates higher than those of nondisabled persons (Bound 1989). Bye and Riley (1989) followed the cohort of 18,782 persons who were awarded benefits and enrolled in the DI program in 1972.[8] The percentages of this cohort who died or recovered (and hence were dropped from the program) during the next two years were determined from SSA records. Table 2 reproduces their findings, classified by gender and race, age at entry into the program, years of education, occupation, and diagnostic group. These people were in poor health, as evidenced by the fact that over one-eighth, 12.8 percent, died within two years. Only 5.3 percent recovered and were dropped from the SSA rolls. The two-year mortality rates were higher for men and blacks, rising with age at entry.[9] Education and the two-

year mortality rate are positively correlated, but this is likely a result of the interaction between education and age at onset. The more-educated disabled persons probably became disabled after they were 50 or older.

Table 2. Two-Year Death and Recovery Rates for 1972 Entrants to the Social Security Administration's Disability Insurance Program

	1972 cohort		Percentage in the first two years who	
	Number	**Percent**	**Died**	**Recovered**
Total	18,782	100.0	12.8	5.3
Sex and race				
Men	13,150	70.0	13.9	6.0
Women	5,632	30.0	10.4	3.7
White and unknown	15,958	85.0	12.8	5.4
Black	2,617	13.9	13.2	4.7
Other	207	1.1	8.2	5.8
Age in 1972				
Under 40	2,961	15.8	6.7	15.2
40-49	3,602	19.2	13.4	7.9
50-59	9,407	50.1	14.0	2.6
60-61	2,812	14.9	14.8	0.6
Years of education				
None	215	1.1	10.7	1.4
1-8	6,540	34.8	12.2	3.2
9-12	8,180	43.6	14.4	6.7
13 or more	1,459	7.8	15.4	8.4
Unknown	2,388	12.7	8.1	4.7
Occupation				
Professional	1,878	10.0	17.2	9.9
Clerical and sales	2,266	12.1	14.5	9.1
Service	2,656	14.1	12.1	8.1
Farming	757	4.0	10.8	4.4

Table 2 (continued)

	1972 cohort		Percentage in the first two years who	
	Number	**Percent**	**Died**	**Recovered**
Processing	564	3.0	13.3	4.8
Machine	1,632	8.7	12.8	5.8
Benchwork	1,164	6.2	10.3	4.4
Structural	2,220	11.8	12.5	6.1
Miscellaneous	2,847	15.2	12.8	6.4
Unknown	2,798	14.9	11.2	5.6
Diagnostic group				
Infectious	319	1.7	7.2	23.2
Neoplasms	1,582	8.4	64.5	1.9
Endocrine	613	3.3	12.6	1.6
Mental	1,736	9.2	3.3	4.7
Nervous	681	3.6	6.3	2.8
Eye and ear	385	2.0	4.2	4.9
Circulatory	5,321	28.3	12.3	2.5
Respiratory	1,163	6.2	10.2	1.0
Digestive	542	2.9	22.5	4.2
Genitourinary	128	0.7	25.0	6.3
Musculoskeletal	2,883	15.3	2.7	6.8
Traumatic	1,260	6.7	2.5	22.1
Other	2,179	11.6	6.6	5.2

SOURCE: Bye and Riley (1989)

The surprising finding is the wide variance in death rates by diagnostic group. Nearly two-thirds, 64.5 percent, of those who were disabled by neoplasms (cancers) passed away within two years of admission to the DI program. High mortality rates were also observed for those with genitourinary and digestive conditions: 25 and 22.5 percent died within two years. People whose disabilities were caused by

traumatic injuries had the lowest mortality rate, 2.5 percent, followed by musculoskeletal impairments, at 2.7 percent. Disabled beneficiaries whose limitations were caused by infectious diseases and traumatic injuries reported the highest recovery rates, 23.2 percent and 22.1 percent, respectively.

Disabling conditions are not all alike and ought to be differentiated by severity, age at onset, duration, and longevity. Variations in mortality and recovery rates due to age and the approximate cause of the disability indicate not only the probable returns to policies promoting employment but also the budgetary costs of changing the standards to earn entitlement to DI benefits. We are sure to learn more from the New Beneficiary Survey about how age and diagnosis are related to mortality risks and to the odds of recovery.[10]

Work and Welfare

In designing policies to deal with poverty, we confront the insoluble problem of distinguishing between the deserving and nondeserving poor. Garraty (1978) noted that, in the Middle Ages, doubts arose about the need to supply food to beggars who looked as if they might be able to provide for themselves. The community was unwilling to assist big beggars, malingerers, and free riders. There is no bright line separating the disabled from the nondisabled. More importantly, the target population of people with disabilities is not a stable minority, such as one differentiated by race or gender, but changes from day to day. Additionally, policies have to be designed to recognize the wide diversity among people with disabilities.

Implicit and Explicit Wage Subsidies

Wage subsidies were introduced to reduce teenage unemployment. The Targeted Jobs Tax Credit program is an explicit wage subsidy which reduces the net labor costs for an employer who hires an individual eligible for tax credits. Vocational rehabilitation can be viewed as an implicit subsidy because the agency assumes the cost of counseling, training, and placing the client. The workers' compensation program

also offers an implicit wage subsidy for the largest employers. A covered employee who is classified as totally disabled, temporary or permanent, becomes eligible for weekly benefits. Most employers with 500 or more employees are self-insured (except in a few states), and the workers' compensation benefits become a direct cost.

Suppose that the person in question had been earning a weekly wage of $W = \$500$ before the onset of the disability and the mandated workers' compensation weekly benefit $B = \$200$. If the disabling condition reduces this person's productivity so that he or she is worth retaining only at a weekly wage of, for example, $W_1 = \$400$, a self-insured employer has an incentive to retain the worker, pay him or her a wage equal to the pre-injury wage of $W = \$500$, and save the outlay for workers' compensation benefits of $B = \$200$. Indeed, if the worker's net product after the onset of the disabling condition exceeds his or her net wage of $W_n = (W - B) = \$300$, it is in the firm's best interests to retain the disabled worker. This implicit wage subsidy is not available to a small employer who is not self-insured. Casual observations suggest that the implicit wage subsidy under workers' compensation is effective. The workforces of larger firms seem to contain a higher fraction of disabled employees.

Training

At the onset of disability, a worker may be uncertain about how the condition will affect his or her productivity and time endowment. If the condition is perceived to be temporary (a short anticipated duration), the individual is likely to exhibit a high intertemporal elasticity of substitution, sharply cutting back on his or her labor supply until the condition improves.[11] When workers are not recalled by their previous employers and are out of the labor force, they may be eligible for training and vocational rehabilitation. A theory of human capital predicts that the returns to an investment in training will be larger, the greater the increment to earnings due to more human capital and the longer the anticipated period of employment.[12] The odds that individuals will elect to enroll in a training program and to return to work are higher, the younger the age at disability onset. A shorter remaining work life reduces the return to training, but in addition, older workers are less adaptable and experience higher attrition rates in vocational rehabilita-

tion and formal training courses. We want to believe that an individual is unable to find suitable work because she or he lacks the requisite skills that can be taught in a training program, formal or on-the-job. By allocating more resources to training, the problem of underemployment can allegedly be solved, but only for a subset of people with disabilities.

Civil Rights and Accommodations Again

The ADA obligates an employer to offer equal opportunities to "a qualified person with a disability who can perform the essential functions of the job with or without reasonable accommodations." This civil rights approach ignores the *caveat* voiced by Jones, that disability is not like race and gender. Some accommodations, such as the provision of a reader or interpreter, are expensive. Under the ADA, "employers are required to make reasonable accommodations ... unless to do so would impose an undue hardship." Disputes are certain to arise about what are the *essential functions* of a job and what is a *reasonable accommodation*. The EEOC regulations explicitly state that these matters have to be settled on a case-by-case basis because the disabling condition and the requirements of the job can change from day to day or from place to place. Litigation could be reduced by replacing the "undue hardship" criterion with an explicit rule that specifies a cost cap defining what is reasonable.

It is not surprising that many disabled persons ask for flexible, part-time, or part-year schedules. A disability increases both the average maintenance time for sleep and care as well as its variance. The demand for short hours and more "time off" privileges will rise in response to a wider dispersion in the number of physician visits or in the days of restricted activity. The Civil Rights Act calls for "equal pay for equal work." But what is *equal work*? The hourly rate of pay for an employee on a part-time or flexible schedule is usually below that for a full-time worker. The size of the wage discount for an irregular work schedule varies across industries and occupations. If a job has to be restructured or a work schedule shortened to accommodate a disabled person, is the firm obliged to pay that person the same wage as that paid to a full-time nondisabled employee facing different working conditions? If a competitive labor market establishes compensating wage

differences for special working arrangements, these differences should also apply to a regulated labor market for disabled workers.

Program Participation

A disabling condition may be so severe and/or the circumstances may be such that work is an infeasible or inferior option. The preferred path could be one in which the individual withdraws from the labor force and applies to the SSA for DI benefits (if the person has the necessary work history) or for Supplemental Security Income (SSI). In deciding on which path to follow, the person has to assess the extent of the health loss, its duration, including the chances for recovery, and the application costs, which entail lengthy waiting periods and delays in the appeal process. The returns to becoming a DI or SSI beneficiary are greater, the older the age at onset and the higher the anticipated mortality rate.

The number of DI/SSI beneficiaries is growing (it is nearly 7 million today), and the median age of new awards is falling; these developments threaten the solvency of the trust funds. A trial work period (TWP) was introduced as an incentive for program participants to return to work; they could exceed the substantial gainful activity (SGA) level of earnings during the TWP and still retain their monthly benefits and Medicare. This incentive was enhanced in 1986 by an extended period of eligibility (EPE), which increased the grace period from 15 to 36 months. Muller (1992) analyzed the New Beneficiary Data System data. Only 10.2 percent of the cohort who were awarded DI benefits in 1981 reported doing "any work," and an even smaller fraction, 2.8 percent, actually left the rolls in the next ten years (see the SGA terminations in table 3). A younger age at entitlement and more years of education raise the odds that a DI beneficiary will recover and leave the rolls.[13] Only about 6 percent of SSI beneficiaries, who are, on average, younger and less educated than DI beneficiaries, reported doing "any work" in the decade of the 1980s. The DI and SSI program participants are older and have more serious life-threatening impairments. They are not representative of the 13-to-18 million working-age adults with an employment disability, and it is not surprising that a majority of them elect to remain out of the workforce.

Table 3. Work Experience of Disability Insurance Beneficiaries, 1982-1991

Characteristic	Number	Any work (percent)	SGA termination (percent)
Total	192,774	10.2	2.8
Education			
0-8 years	58,580	4.9	0.8
9-11 years	43,038	8.2	1.8
12 years	57,684	11.6	3.0
13 or more years	32,583	19.8	7.2
Age at entitlement			
Under 40	36,335	29.1	9.3
40-49	29,969	12.4	3.0
50-59	94,359	4.8	1.1
60 or older	32,111	2.5	0.2
Family income			
Under $5,000	30,434	15.7	3.6
$5,000-$9,999	56,281	10.1	2.2
$10,000-$19,999	66,495	7.3	2.1
$20,000-$39,999	35,504	11.0	4.2
$40,000 or more	4,060	11.7	4.6

SOURCE Muller (1992, table 3, pp 9-10)

A Wider Policy Portfolio

The employment record is dismal, as documented by the finding that only about 28 percent of persons with a work disability in 1988 held a job. In addition, research by Haveman and Wolfe (1990) shows that the well-being of disabled persons (judged by family income) has been declining. Further evidence of the problems of individuals with disabilities is provided by the Harris poll, which in 1984 reported that 44 percent of disabled persons who were out of work wanted a job. Title I of the ADA tries to raise the employment-to-population ratio in two ways. First, it adopts a broad definition of a person with a disability. Second, the Act widens the window of prospective jobs by requiring employers to provide equal employment opportunities to "a *qualified* person with

a *disability*." The essential functions of the job have to be identified to determine if the disabled person is qualified. If an accommodation is needed for the worker to perform the essential functions, the employer has to provide it unless an undue hardship is imposed. The ADA invites litigation, an outcome that I had predicted when the Act was being debated, and the caseload at the EEOC has exploded.

Employment prospects have, if anything, deteriorated since the passage of the ADA. Only 31 percent of disabled individuals held a job last year, down from 33 percent in 1986. The share of disabled SSI beneficiaries with a job has also dropped, from 6.5 to 5.8 percent (Holmes 1994, p. 26).[14] The passage of the ADA was intended to create jobs, thereby promoting a movement out of dependency and idleness. The burden of supplying work and paying for reasonable accommodations was legislatively shifted to employers, a policy labeled by Burkhauser (1990) as "Morality on the Cheap." We have witnessed a sharp increase in the number of lawsuits charging employers with violations of Title I but no significant rise in employment.

Although the diversity and instability of disabling conditions were emphasized in the hearings, the mandate in Title I assumes that gainful work is the way to improve well-being for a majority of people with disabilities. The presumption implies that the target population exhibits a substantial degree of homogeneity in tastes and productive traits, a presumption that is not supported by the data. Training for a new job is neither practical nor desirable for persons who become disabled at older ages, especially when life expectancy is also shortened by the onset of the condition. Some may be eligible for benefits under workers' compensation or private disability insurance, but SSA is the agency to which most turn for income support. Although monthly DI benefits vary depending on the recipient's work history, the dispersion is relatively small. Given the high application costs and the SGA limits on earnings, a person who applies for DI benefits seems to be making a commitment to a more or less permanent withdrawal from the legal labor market. A trial work period is available for up to 36 months to induce individuals to give up their disability benefits and to return to the world of work. The ones already on board are, however, different from other disabled individuals. We may be directing the work incentives to the wrong group.

It is instructive to review the policy of the Department of Veterans Affairs. An individual with a service-connected disability is evaluated and assigned a rating, which fixes the size of the monthly compensation. There is no earnings test; everyone who is entitled to a pension gets it irrespective of his or her earnings in the labor market. Cohany (1987) found that 95.8 percent of Vietnam-era veterans with no disabilities were gainfully employed. The employment rate was 79.9 percent for those with a service-connected disability and was closely related to the disability rating: 92.2 percent with a disability rating of 1-to-30 percent were working, as compared to 79.5 percent for disability ratings of 30-to-60 percent and 34.5 percent for disability ratings of over 60 percent. Although the supply of labor will be inversely related to the size of the pension, I suspect that the data largely reflect a response to the severity of the disabling condition.

The present DI program has the effect of locking in its clients, such that very few voluntarily terminate their monthly benefits to return to work, and should be replaced by a social insurance program that acknowledges the heterogeneity of people with disabilities. The following modifications should be made. First, admission to the program should be based on a medical assessment of the applicant's physical and mental impairments. The waiting period during which the applicant performs no work should be abandoned. Second, monthly benefits should be a function of the applicant's *disability class*, which could be based on the applicant's age and diagnostic group.[15] Third, the earnings test should be abolished, and DI benefits should be subject to income taxation. The youngest DI beneficiaries with the lower mortality risks receive the smallest monthly benefits; they can supplement their monthly disability benefits by working, and the sum of earnings and disability benefits should be subject to income taxation. Fourth, each beneficiary should be obliged to undergo a disability review to confirm that his or her disabling condition still persists and warrants keeping him or her on the DI rolls. The time interval before the scheduled disability review should be shorter for persons with lower disability class rankings. A disabled beneficiary in a low disability class is younger and stronger. The individual is entitled to a smaller monthly disability benefit, which raises the opportunity cost of remaining out of the workforce. Since there is no earnings test, and benefits will continue until

the next disability review, the opportunity cost of seeking and obtaining a job is small.

It is unclear if the costs of administering this modified DI program will be higher or lower than those of the present system. The placement of each client into a disability class and a periodic disability review will raise administrative costs, but the proportion requiring appeals is likely to be smaller. My proposal has been questioned by the Panel of the National Academy of Social Insurance on at least two grounds. First, the military relies on a draft to obtain personnel, who are not free to choose their assignments. This is simply not true; conscription was abolished over 20 years ago. Second, risks are allegedly higher in the military, and the recommended changes would lead to inordinately high costs or inadequate benefits. These are conjectures that cannot be resolved without a careful analysis of the proposal.[16]

The current policy portfolio is one in which SSA is mainly responsible for welfare (supplying income and medical care for seriously disabled individuals), workers' compensation provides support for the short-term disabled, and state rehabilitation agencies assist in training and job placement. The earnings and dignity from employment are certainly important. The ADA has adopted a civil rights model, which worked well in reducing the height of employment barriers for women and racial minorities. The burden of creating jobs and paying for accommodations for people with disabilities has been placed on employers. When an accommodation is person-specific (and can be transported from one employer to another), its cost ought to be financed out of general funds rather than placed on an employer.

The ADA has failed to raise the employment-to-population ratio. Individuals with disabilities are a diverse group; not all seek work in the market. As Jones has pointed out, "Disabilities make certain jobs and types of participation impossible." Retirement is a superior option for an older individual who experiences the onset of a condition that seriously limits performance and shortens longevity. The size and availability of disability benefits should be calibrated to the likelihood that the individual can be rehabilitated and returned to the world of work. One income maintenance policy will not be efficient for a population of people with widely different disabling conditions.

NOTES

1. The working-age adult population in the LaPlante study includes persons up to 69 years old. The impairments and chronic conditions identified by LaPlante were combined into 10 groups

2 The concept of health capital is well developed by Grossman (1972) in the context of a life cycle model.

3. The data came from the 1972 SSA Survey of Disabled and Nondisabled Adults Separate wage equations were estimated for handicapped workers (using the narrow definition from the World Health Organization classification) and nonhandicapped workers The validity of this estimate is questionable; a critical review of the methodology is contained in the appendix notes to Oi and Andrews (1992)

4 The language of Title I of the Act spells out what is meant by the *essential functions* of a job I have taken the liberty of summarizing the basic clauses, as follows 1. The term pertains to the fundamental duties and excludes the marginal functions of the position 2. A job function may be considered essential for several reasons it is the reason for the creation of the position, only a limited number of employees can perform this function, and/or it is highly specialized 3. The Act spells out what constitutes evidence.

5 To paraphrase the EEOC regulations, (1) the term *reasonable accommodations* means modification of the job application process, modification of the work environment, or modification that allows an employee with a disability to enjoy equal benefits and privileges; (2) reasonable accommodations may include, but are not limited to, equal access, job restructuring including part-time or flexible work schedules, reassignment, acquisition of equipment or devices, appropriate examinations and training materials, provision of readers or interpreters; and (3) it may be necessary to engage in an interactive process with a qualified person with a disability.

6. Chirikos (1991) has reviewed the studies that revealed modest accommodation costs for the comparatively small number of disabled persons who were gainfully employed. These accommodation costs mainly deal with such factors as the acquisition of special equipment, modifying the physical layout, or training procedures To the best of my knowledge, no attempt is made to estimate the cost of job restructuring, providing a flexible work schedule, or extra leave for physician visits. Chirikos argues that, if the Act is successful in expanding employment, workplace accommodation costs could sharply rise as employers hire individuals with more functional limitations and impairments The efficiency of placing the cost burden entirely upon employers is questioned by Rosen (1991). If the accommodation is *reasonable* and specific to the particular worker-firm attachment, a strong case can be made to share the costs

7 The panel data from the Michigan Survey of Income Dynamics, Panel Study of Income Dynamics, were screened to obtain samples of married male household heads. Records with data for five consecutive years were obtained for 1,760 whites and 771 nonwhites In 1972, 13 1 percent of the whites and 18.3 percent of the nonwhites were disabled However, only 4 9 and 5 8 percent of these two samples reported a work disability in each of the five years, 1968-1972. Details of these tabulations can be found in Oi (1978)

8 All of these persons were judged under the SSA disability determination process to be so severely disabled that they were unable to work The DI program imposes a two-year waiting period before a beneficiary is entitled to Medicare benefits The objective of the Bye and Riley study was to evaluate the merits of eliminating the two-year waiting period

9 The death rate was 6 7 percent for those under 40 years of age but jumped to 13 4 percent for the 40-49 age group It continued to climb, but the increment to the oldest age group was only 1 4 percentage points

10 The survey covered persons who entered the SSA rolls in 1980-1981 as new beneficiaries of the DI, Supplementary Security Income (SSI), or retired worker programs. Follow-up surveys were conducted in 1982 and 1991 Some 42 percent of the DI beneficiaries died in the decade following entitlement, the death rate was highest in the first six months on the DI rolls. The kinds of data included in the New Beneficiaries Data System (NBDS) are described by Ycas (1992). It is my understanding that Howard Iams and Barry Bye are preparing an analysis of the DI sample from the NBDS in a forthcoming article

11 Lucas and Rapping (1969) showed that the labor supply response to a temporary wage cut will be larger than the response to a permanent wage cut because the worker will substitute current for future leisure One should expect a similar difference in labor supply responses to disabling conditions that are temporary versus permanent

12. See Oi (1962), Becker (1964), and Ben-Porath (1967)

13. There are three ways to leave the DI rolls: death, attainment of age 65 (and automatically transferring to the Old Age and Survivors fund), and recovery (SGA termination). In the Muller study, 9.3 percent of those under the age of 40 at entitlement recovered, as compared to only 1.1 percent of those who were 50-59 years of age in 1981. Notice in table 3 that the percentage separated for SGA terminations is only weakly related to family income The surprising result reported by Muller is the small dispersion across diagnostic groups in the percentage doing "any work," varying from a low of 5.5 percent (respiratory) to a high of 12.8 percent (nervous disorders).

14. Holmes points out that the recession in 1993 may have depressed the employment-to-population ratio.

15 The Veterans Administration rating scheme assigns a score to each applicant that ranges from 0 to 100 percent. Several variables might be consulted to define disability classes for a new DI program: quarters of covered work experience, age, diagnostic group, medical rating of severity, and education I assume that eligibility will be restricted to persons with X or more quarters of covered employment A simple plan might identify only four disability classes: (1) under 50 years of age and in diagnostic group DG-A, (2) under 50 and in DG-B, (3) 50 or older and in DG-A, and (4) 50 or older and in DG-B. The classification DG-A includes those diagnostic groups exhibiting low two-year mortality rates, and DG-B includes diagnostic groups with high mortality rates.

16 An excerpt from a memo prepared for the Panel of the National Academy of Social Insurance noted that there were 2.2 million on the VA disability rolls, of which only 9 percent were unable to work Reference to the SSA's *Annual Statistical Supplement*, 1993 (p 329) reveals that, in 1992, there were 2,181,000 VA pensioners with service-connected disabilities and that 1,245,000 were under 65 years of age. Only 141,000 VA pensioners were under 65 years of age and had ratings of 70 to 100 percent In my proposal, the medical assessment would serve as a screen excluding anyone with a rating of under 50 percent This would have excluded an individual with one eye who would have received a VA disability pension.

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