

The Labor Market Experience of Workers with Disabilities

The ADA and Beyond

Julie L. Hotchkiss

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W.E. Upjohn Institute for Employment Research
Kalamazoo, Michigan

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Introduction

DISABILITY LEGISLATION IN THE UNITED STATES

The excitement, fear, and general controversy surrounding the passage of the Americans with Disabilities Act (ADA) in 1990 might lead some to believe that this was the first time the United States had ever confronted the issue of potential discrimination against or differential treatment of people with disabilities. To the contrary, the nation has demonstrated some concern through legislation for individuals with disabilities since the 1920s. Not until the ADA, however, was there as sweeping a mandate, theoretically touching multiple dimensions of a disabled person's life.

The National Civilian Vocational Rehabilitation Act became law in 1920, was amended several times, then became the Vocational Rehabilitation Act in 1954. Public Law 93-112 transformed it into the Rehabilitation Act of 1973 (sections 503–504), which prohibits discrimination against the disabled by any program receiving federal assistance and requires federal agencies to take affirmative action to employ handicapped individuals. In addition, the act dictates that companies having contracts of a certain size with the federal government (\$10,000 or more, as of 1998) publicly state that the organization takes affirmative action to employ and accommodate workers with disabilities. Executive Order 12086 in 1978 reassigned enforcement of the act to the U.S. Department of Labor. This strengthened the position of disabled and veteran workers by placing the regulation enforcement in line with protection from discrimination based on race, color, religion, sex, or national origin.¹ So, while nondiscrimination against and employment of disabled workers have been of concern for firms doing business with the federal government for some time, it was not until the passage of the ADA that all firms in the United States (employing 15 or more people) would be held to the same standard regarding employment and accommodation of individuals with disabilities.

In many ways individual states have taken the lead in providing workplace opportunities for the disabled. By 1990, all states had

passed antidiscrimination legislation covering employment by state agencies and often employment by any firm doing business with the state.² In addition, nearly all states by that time covered private employers in some form or another, and many states covered all employment, including that by very small firms (fewer than 15 workers). Common exclusions from the discrimination legislation included religious organizations, social clubs, family members, American Indian tribes, and farm or domestic workers. Details of when each state passed legislation related to treatment of the disabled in the workplace and the exclusions of those laws are in Appendix D.

The Rehabilitation Act of 1973, and the concern already expressed at the state level about the employment opportunities of disabled workers, culminated in the passage of the ADA in 1990. This act was unlike others before it, in that it provided for the civil rights of people with disabilities in the same way that all citizens are protected against discrimination based on race, color, sex, national origin, age, and religion. The ADA requires that employers treat workers, and potential workers, with disabilities identically to those without disabilities, with regard to hiring, compensation, and other aspects of employment. In addition, employers must make reasonable efforts to accommodate the nature of the worker's disability in connection with the performance of the worker's job. Owners of places of public accommodation are required to provide facilities (e.g., entrances, elevators, bathrooms) fit for the disabled, and to provide services in such a way that people with disabilities are not restricted from receiving those services (e.g., requiring a driver's license as the only way to provide proof of identification discriminates against the vision impaired). Public accommodation also includes equal access through telecommunication, such as access to the Internet. While admittedly only a small part of the entire legislation, the implications and impact of the labor market provisions (Title I) of the ADA provide the focus of this book.

Any interpretation of the effect of the ADA or recommendations for enhancements must take into account policies already in place that may or may not influence a disabled worker's labor market experience. The Social Security Administration manages two cash payment programs for Americans with disabilities. Such programs are of great concern regarding labor market analyses for two main reasons. First, cash payment programs might crowd out labor market activity, and

second, they may be structured in such a way that labor market participation is discouraged. The Social Security Disability Insurance Program (SSDI) provides benefits to workers who have been able to make enough contributions through the social security Federal Insurance Contributions Act (FICA) tax paid on their previous earnings. The Supplemental Security Income Program (SSI) is available to disabled Americans who have limited income and resources. The eligibility rules for payments from these two programs differ, but they both require the applicant to be either not working or earning less than some specified amount. Both programs include incentives to get recipients back into the labor force. These incentives include a trial work period where some or all of the payments are retained for a certain period of time; continuation of Medicaid or Medicare even if cash payments have ended because of high earnings; reimbursement of impairment-related work expenses; exclusion of certain income from the earnings test if set aside for future self-sufficiency, such as education or starting a business; and referral and payment for vocational rehabilitation. Many of these incentives were only adopted recently as part of the Ticket to Work and Work Incentives Improvement Act of 1999 (Public Law 106-170).

The goals of the Ticket to Work initiative complement the goals of the ADA. Whereas these work incentive programs are designed to encourage the disabled to seek jobs and become self-sufficient, the ADA is intended to provide an environment in which these efforts are met with support and reasonable assistance.

POLICY ISSUES

The United States has a history of enacting legislation with strong social content, expressing society's ethics and morals. Child labor laws and other civil rights legislation fall into this category. One could argue that such laws are grounded in economic concerns. For example, discrimination against workers with disabilities or against African Americans robs our economy of the efficient allocation and use of valuable resources. Also, with the prohibition of child labor, children really have no other option but to attend school, raising the human capital of our economy overall. While these arguments have merit in

fact, it is also true that as a society we support these laws from an emotional and moral level. For example, the 1991 Harris poll on Public Attitudes toward People with Disabilities demonstrated that while most people were not even aware that the ADA had been passed (62 percent), they felt overwhelmingly (95 percent) that “Given how many difficulties disabled people face in their daily lives, the least society can do is make an extra effort to improve things for them.”³ In addition, 81 percent of those surveyed thought that there should be an affirmative action program for people with disabilities. These are responses not entirely driven by economic concerns.

When legislation is propelled by an evolution of ethical and moral concerns, we must face the question of whether it serves as a statement of where we (as a society) are rather than as a prediction of where we are going.⁴ For example, the establishment of a minimum age for employment (child labor laws) has been shown to have had little impact on the decline of child labor in the early part of the 20th century (Moehling 1999). The implication is that legislation of strong social content, rather than precipitating social change, is often actually a *response to* social change. In other words, the ADA might merely serve as a reflection of our moral and ethical beliefs rather than as a tool with which to improve the condition of a segment of society. Some argue that the ADA is “feel-good legislation that promises more than it delivers” (Jay 1990, p. 23). A major criticism is that the ADA is absent of specifics necessary for effective compliance, particularly on the subject of what constitutes “undue hardship,” which serves as the measure of whether a firm must make the physical environment, service, or employment “accessible.” Some interpret the refusal of Congress to tackle the difficult issues that were sure to arise as indication that the ADA’s primary function was merely to be a statement of our morals. In addition, an amendment to the ADA that would have disallowed jury trials and punitive damages for disabled victims of discrimination (an amendment that would have been a clear sign that the ADA was not meant to have any teeth), was only narrowly defeated (Jay 1990).

The implication, if the ADA serves merely as a statement of where we are, is that no impact of the law will be detected because, for the most part, we have already adopted the principles and practices laid out by the legislation. This outcome, then, begs the question of whether the ADA or child labor laws are necessary, or whether such

legislation is simply an expensive declaration of our morals. Even though one could argue that these laws might merely be statements of something we already knew, an even stronger argument might be made that public acknowledgment of a collective moral foundation serves an important purpose, one beyond quantification in economic terms.⁵ These laws strongly proclaim our social values and provide a legal mechanism with which to arrest the activities of those who have not yet adopted those ethics.

In order to address whether the ADA merely serves as a statement of where we are rather than as a prediction of where we are headed, the analyses in this book will focus on two basic questions. First, how are disabled workers faring (relative to nondisabled workers) at any given point in time, and is their relative experience in the labor market improving? Second, did the ADA have any discernible impact on the relative experience of disabled workers? These questions will be asked in relation to as many dimensions of the labor market experience as possible.

The questioning does not stop with the analyses, however. If it is discovered that the ADA has had or is having a positive impact on the labor market experience of disabled workers, then the ADA is accomplishing what it was designed to do. If the ADA has not had a measurable effect on the relative labor market experience of disabled workers, and if their experience still falls short of that of nondisabled workers, then we may need to look toward additional or different legislation, specifically targeted at improving those dimensions identified as the most lacking.

FOCUS AND STRATEGY OF ANALYSES

This book is concerned with the labor market implications and impact of the ADA. In addition to the multiple dimensions of the potential effect of the ADA on disabled workers, there are at least as many more ways in which the ADA influences the lives of *all* disabled Americans; these other outcomes are not the subject of the present discussion, but may in fact amount to a much greater overall impact than that felt by the disabled in the labor market. The strategy of analysis followed here for documenting the impact of the ADA on the

labor market experience of disabled workers has been to assemble as much information on as many dimensions of that experience as possible. The major contribution of the analyses that follow is the wide-ranging coverage and synthesis of a massive amount of information in such a way as to make recommendations for policy. The emphasis has not been on developing *new* ways to examine the labor market experience of the disabled, but to *broaden* that examination.

The focus is on labor demand issues, defining the environment that the disabled might face. As a result, the analyses of employment and wages, for example, will correspond to what a disabled person might encounter upon entering the labor market. The conclusions will not be conditional on the labor supply decisions of the disabled, but will take those decisions into account in presenting unconditional results that apply to the population of the disabled, instead of merely to the sample (of workers) on which the estimates are obtained. Other analyses, such as the incidence of voluntary part-time employment, job separation, or job search experience, will be generalizable only to that population for which the issues are relevant: the part-time employed, the employed only, or the unemployed only. These sample limitations are legitimate and logical given the population for which such questions are relevant.

It is important to remember that the purpose of the labor market provisions of the ADA was to break down barriers to the disabled and to improve their experiences in the labor market. Although perhaps expected, the alteration of various voluntary behaviors (such as labor force participation) was not the goal of these provisions. A fair analysis of the ADA should only involve an evaluation of what it was designed to do. Regardless of its intent, however, any policy can have unintended consequences that should also be addressed.

Outline of the Book

Chapter 2 explores employment outcomes among the disabled. Both joint labor force and employment and unconditional employment probabilities are examined for the entire sample of disabled individuals, controlling for selection into the labor force. The availability of firm size and the phased-in nature of the ADA are exploited in a differences-in-differences analysis. Results by type of disability are also presented. The joint labor force participation and employment proba-

bility for disabled persons declined relative to this joint outcome among nondisabled individuals after the ADA was implemented. However, the unconditional (i.e., controlling for selection into the labor market) employment probability did not change post-ADA, relative to the experience of the nondisabled. The source of the deteriorating joint outcome is explored in some depth. In addition, employment among the disabled was found to shift more toward larger firms than did employment among nondisabled workers, suggesting that implementation of the ADA and the financial ability (of larger firms) to accommodate workers' disabilities mattered in the employment experience of disabled workers.

Chapter 3 looks at the wages earned by disabled and nondisabled workers. A pooled, cross-sectional analysis suggests that wages among disabled workers fell post-ADA, relative to wages among the nondisabled. In addition, a standard decomposition of the wage differential observed between disabled and nondisabled workers is performed. The availability of benefits is also explored through a simple probit analysis. While the overall compensation experience of disabled workers is found to be deteriorating relative to nondisabled workers (in both wages and availability of employer-sponsored fringe benefits), the degree to which discrimination might be used to explain this differential is also declining. It is found, however, that wages of disabled workers explicitly covered by the ADA (based on the size of their employers) have not changed post-ADA, relative to their noncovered counterparts, suggesting the overall lower wages among the disabled are being driven by more than accommodation costs.

A number of job quality issues are addressed in Chapter 4. First, hours of work and the incidence of part-time employment and type of part-time employment among disabled and nondisabled workers are explored. Second, the distribution of workers across occupations and industries is compared using a popular distributional index. Third, the representation of disabled workers in high-growth and high-wage jobs is evaluated. This chapter presents evidence that while the incidence of part-time employment is increasing for disabled workers, relative to nondisabled workers, the incidence of *voluntary* part-time employment is driving that increase, particularly among workers with mental disorders. The degree of dissimilarity and the growth in dissimilarity in

occupation and industry distributions of disabled and nondisabled workers over the 1981–2000 period are striking. While showing some improvement since 1992, this is of concern since disabled workers also appear to be concentrated in low-growth, low-wage occupations.

Job separation and unemployment experiences of the disabled are explored in Chapter 5. Results from a multinomial logit find that, among individuals who have separated from their job, disabled workers are more likely to have separated voluntarily and less likely to have separated involuntarily than nondisabled workers. A similar analysis then finds that, among the unemployed, disabled workers are more likely to be reentrants and new entrants into the labor market than nondisabled workers. A duration analysis shows that disabled job seekers are searching on average three weeks longer before finding a job than similar nondisabled persons, and that most of the difference in observed search length is explained by differences in individual characteristics. Taken together, these results suggest that while the endowments or characteristics of disabled and nondisabled workers appear to be valued equally, employers may be going to greater lengths to discern the fit of a disabled worker's skill set with a particular job, thus leading to longer searches, a better match, and less chance that a separation is for involuntary reasons.

Chapter 6 explores the impact of state-level legislation on wages, employment, and hours of disabled workers in different states. The analyses in this chapter exploit the differential timing of protective legislation across a number of states. The results are consistent and support the findings from Chapters 2, 3, and 4 on these same issues. Namely, wages decline and overall employment probabilities are unchanged among disabled workers, post-legislation, relative to nondisabled workers. In addition, part-time employment among disabled workers increases post-legislation. These results suggest that the wage and part-time employment effect of the ADA may have been much greater if the state legislation had not already absorbed some of its potential impact.

Chapter 7 synthesizes the results of the previous chapters around policy implications and recommendations. It is suggested that three directions be followed to further enhance the labor market experience of disabled workers: 1) provide incentives to the disabled to enter the labor force and relief to employers for the cost of accommodating these

individuals; 2) expand the support of resources available for disabled workers to increase their general human capital and ability to move into high-paying occupations; and 3) provide mechanisms by which employers and disabled workers can find each other and determine the appropriateness of the employment match.

Data Details and Estimation Issues

The combined Current Population Survey (CPS) Annual Earnings files for the months of March, April, May, and June, for the years 1981 through 2000, were used to obtain demographic data, employment status, earnings, details related to the respondent's job, and location information to control for local labor market conditions. These CPS Annual Earnings files were matched with the March CPS survey for each year to obtain data on disability status, other sources of income, and labor market information available for the previous year. This strategy resulted in a sample four times larger than any single month of current labor market statistics, yielding greater confidence in the precision of the results.

Some have questioned whether self-reported disability status (as in the CPS) suffers from endogeneity (e.g., Parsons 1980; Haveman and Wolfe 1984). For example, it may be the case that someone less likely to enter the labor market or to be employed is also more likely to report the presence of a disability (i.e., the disability indicator and error term of the regression are not independent). Stern (1989) finds that "any bias due to potential endogeneity is small" (p. 363). Of course, endogeneity may be more of a concern since the passage of the ADA. As will be addressed in Chapter 2, endogeneity among the population as a whole may be a greater problem than among only labor force participants (also see Kreider 1999). Additional criticism has been lobbed at the use of the traditional "work disability" measure contained in the CPS for drawing conclusions about the overall experience of the disabled or the effectiveness of the ADA. Some argue that requiring a disability to be "work limiting" can be too narrow (Kruse and Schur 2002; McNeil 2000). Others contend that not appropriately defining what a work-limiting disability is results in too broad of an inclusion of respondents (Hale 2001 and Kirchner 1996). Yet, others provide evidence supporting the representative nature of the CPS for monitor-

ing outcomes among the disabled (Burkhauser, Daly, and Houtenville 2001). It is because of this controversy that confirmatory evidence of the CPS results is sought from an additional data source. Regardless, the reader should be aware that this book makes use of “work-limiting disability” as the identifier of a disabled person. In addition, it is expected that when focusing on labor market outcomes, those who report a work-limiting disability are the most likely to feel the greatest impacts of the ADA, should they exist.

Table 1.1 reports the potential sample sizes for each year obtained from the CPS. Actual sample sizes for each analysis may differ because of missing data or the use of specific subsamples (e.g., the unemployed only).⁶ While the sample sizes vary somewhat from year to year, the proportion of disabled to nondisabled remains fairly constant, and most analyses benefit from roughly 1,500 disabled workers and 50,000 nondisabled workers.

Table 1.1 Sample Sizes for Merged CPS Data Files

Year	Total	Disabled			Nondisabled		
		All	Labor force participants	Employed	All	Labor force participants	Employed
1981	100,291	9,818	2,022	1,744	90,473	60,873	56,656
1982	94,351	9,617	1,962	1,661	84,734	57,006	52,015
1983	93,720	9,119	1,788	1,490	84,601	56,606	51,114
1984	94,683	9,654	1,922	1,661	85,029	57,591	53,507
1985	95,075	9,832	1,931	1,648	85,243	58,111	54,192
1986	90,341	8,931	1,848	1,581	81,410	55,604	51,935
1987	88,507	8,513	1,805	1,560	79,994	54,829	51,591
1988	85,371	7,811	1,697	1,493	77,560	52,258	49,625
1989	85,224	7,913	1,713	1,533	77,311	53,364	50,789
1990	93,625	8,745	1,919	1,692	84,880	58,896	56,005
1991	92,958	8,681	1,833	1,598	84,277	58,172	54,558
1992	90,520	8,547	1,913	1,614	81,973	56,617	52,779
1993	90,056	8,842	1,950	1,684	81,214	55,926	52,316
1994	88,674	9,709	1,810	1,602	78,965	55,341	52,246
1995	77,674	8,654	1,507	1,336	69,020	48,217	45,775
1996	77,188	8,396	1,535	1,379	68,792	48,356	45,892
1997	78,322	8,418	1,609	1,456	69,904	49,437	47,112
1998	77,583	7,796	1,468	1,332	69,787	49,403	47,370
1999	77,487	7,625	1,392	1,266	69,862	49,406	47,542
2000	79,242	7,917	1,488	1,358	71,325	50,825	48,999

Since the ADA (and similar legislation) was designed to improve the labor market conditions of a group of workers, the analyses presented here will be almost purely cross-sectional. The result is a comprehensive comparison of the labor market experiences of one group of workers (the disabled) with that of another group of workers (the nondisabled). When making comparisons across groups of people, there will surely always be exceptions to the norm. It is important to recognize, however, that policy is rarely designed around exceptions. The use of individual data in the analyses does allow for control of identifiable individual characteristics (other than the group-defining characteristic of being disabled) in the determination of workers' experiences. The premise, of course, is that identical disabled and nondisabled workers should have the same labor market experience. This presupposition, which holds in making any comparisons across groups of workers (i.e., men versus women, or blacks versus whites), is more problematic in making comparisons across disability status; there are likely more unobservable characteristics across disability status than, for example, across gender. In addition, since most of the analyses consider the experience of those in the labor market, or at least control for selection into the labor market, no restriction is imposed on age.⁷

For each of the analyses, it is important to distinguish any changes in outcomes that might have resulted from the enactment of the ADA from any long-term trend. In other words, changes in the labor market experiences of workers with disabilities may reflect an evolving social awareness that culminated in the passage of the ADA, rather than the other way around. Consequently, this book documents labor market outcomes from 1981 through 2000.⁸ In addition, since a major overhaul of the CPS questionnaire was undertaken in 1994, care is taken to differentiate any ADA impact from a potential statistical artifact (see Polivka 1996).

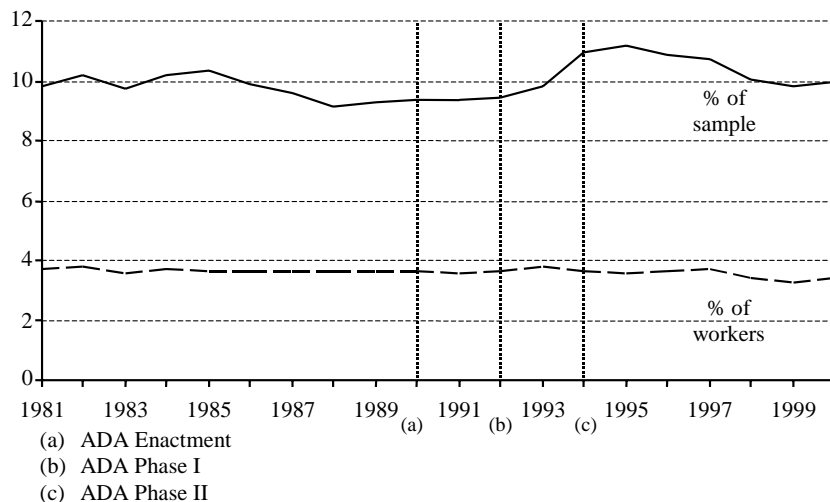
Also, due to the complicated matching across one to four months of the CPS, all analyses have been performed unweighted. According to Wooldridge (1999), "stratification based on exogenous variables does not cause any problems: estimators that ignore the stratification are consistent and asymptotically normal, and the usual variance matrix estimators are consistent" (p. 1386). Since stratification in the CPS sampling design is based on exogenous variables (geographic and demographic), and the attrition that results from the matching procedure

is likely unsystematic, weights should be unnecessary (for further evidence on this point, see DuMouchel and Duncan 1983; Manski and McFadden 1981). In addition, any effect of stratification on the estimation can be accounted for by including indicator variables that correspond to the strata (Ginther and Hayes 2001), so demographic variables (such as disability status) should control for any observable effect sampling based on those characteristics might have (either initially or through attrition of matching). Any systematic attrition or sample loss due to unobservables will not be accounted for, but also cannot be corrected using weights.

DISABLED AMERICANS

As a first look at the data used for the analyses in the following chapters, Figure 1.1 depicts the percentage of the sample in each year and the percentage of workers in each year indicating a work-limiting disability.⁹ The vertical lines correspond to the phase-in years of the ADA. It is of interest to know whether there is any noticeable change

Figure 1.1 Percentage of Sample and of Workers in the CPS Data Set Indicating a Work-Limiting Disability, 1981–2000



in the reporting of having a work-limiting disability, particularly on the part of workers.

Over the time period from 1981 to 2000, an average of 10 percent of the entire sample indicated having a work-limiting disability.¹⁰ There is a significant 1 percentage point difference between the averages prior to and including 1991, and 1994 and later.¹¹ Kreider (1999) finds evidence of substantial overreporting of limitations by nonworkers, a behavior which may be enhanced in the presence of protective legislation. It has also been found that the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996, which essentially put a time limit on welfare payments, resulted in a movement of qualified recipients from the welfare rolls to SSI (Lewin Group 1999). The Lewin Group found “a very substantial flow of program participants from AFDC to SSI during the pre-reform period” (p. ES-3). The “pre-reform” period would coincide with the rise in the percentage reporting being disabled between 1993 and 1995 in Figure 1.1. However, the percentage has been declining fairly steadily since 1995. This issue of increased reporting of a work-limiting disability among the entire population is taken up in greater detail in Chapter 2, and again points to the potential endogeneity problems inherent in using a self-reported disability classification.

The proportion of *workers* indicating a work-limiting disability has remained fairly constant at about 3 percent across the entire time span; there is no significant difference in the 1981–1991 and 1994–2000 periods. So, while heightened awareness of the ADA and other program changes may have increased the reporting of work-limiting disabilities among the population, the primary individuals of focus for this study, i.e., workers, do not seem to have changed their reporting behavior in a way that might be expected to bias the analysis. In addition, given that the reporting percentage of the population has begun to decline again, and that the share of workers seems unaffected, it is safe to say that CPS survey design changes that occurred in 1994 do not seem to have impacted the reporting of those with work-limiting disabilities.

Comparing raw averages of disabled and nondisabled workers across the time period, one can see that there are some significant demographic differences among these categories of workers. Table 1.2 reports averages across time for a variety of demographics for disabled

Table 1.2 Means of Select Demographic Variables for Disabled and Nondisabled Workers over Entire Time Period, CPS, 1981–2000

Variable	Disabled workers	Nondisabled workers
Hours of work	33.97	38.01
Female = 1	0.47	0.48
Single = 1	0.48	0.40
Nonwhite = 1	0.13	0.13
College degree = 1 ^a	0.10	0.18
Midwest = 1	0.26	0.25
South = 1	0.29	0.30
West = 1	0.24	0.22
Northeast = 1	0.21	0.23
Age	43.43	37.49

^a Coding of education changed substantially in 1992; these averages reflect the average across years 1992–2000.

and nondisabled workers. The distribution of workers across occupations and industries is of interest, as well, but that will be explored in great detail in Chapter 4. While females and nonwhites seem to be equally represented among disabled and nondisabled workers, and each group of workers appears to be equally distributed geographically, there are some notable differences in demographics. Disabled workers, on average, work fewer hours, are less likely to have a college degree, are older, and are more likely to be single. While means across time give us some idea of the relative differences between worker categories, they tell us nothing about trends.

One trend of particular interest is the change in average hours per week over time among workers. Figure 1.2 depicts the average hours of disabled and nondisabled workers for each year between 1981 and 2000. While the average weekly hours of nondisabled workers rise fairly steadily over this time period from 37.5 in 1981 to 38.7 in 2000, the hours of disabled workers fall from an average of 34.7 in 1981 to 33.8 in 2000. Since a dramatic part of this decline occurred after 1992, one might suggest that the ADA was a factor. Full-time jobs may be less available to disabled workers; the ADA may have induced employers to be more flexible regarding hours of work in accommodating a worker's disability; or workers with more serious disabilities, unable to work full-time, may have begun to enter the labor market (Kaye

Table 1.3 Sample Sizes for SIPP Data Files

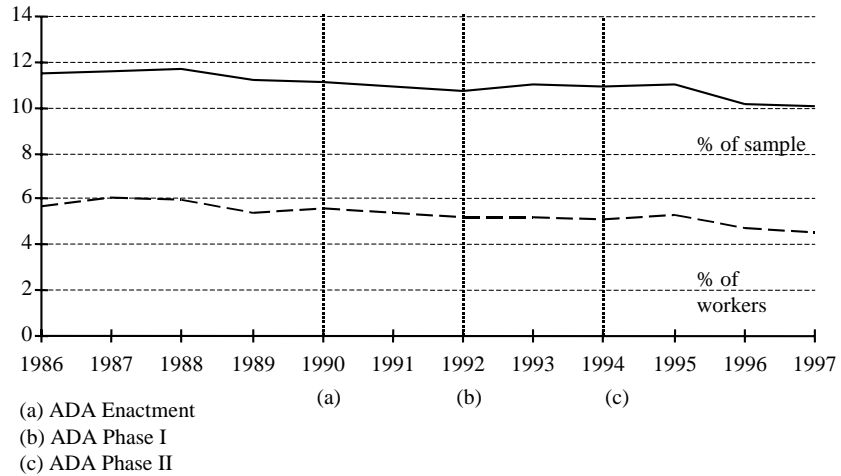
Year	Total	Disabled			Nondisabled		
		All	Labor force participants	Employed	All	Labor force participants	Employed
1986	18,290	2,102	759	650	16,188	12,036	11,191
1987	33,884	3,939	1,470	1,297	29,945	22,278	20,932
1988	34,284	3,995	1,476	1,324	30,289	22,623	21,579
1989	16,274	1,826	651	579	14,448	10,949	10,505
1990	34,010	3,788	1,404	1,233	30,222	22,771	21,629
1991	51,140	5,596	1,998	1,755	45,544	34,392	32,328
1992	76,496	8,231	2,936	2,570	68,265	52,105	48,582
1993	73,831	8,112	2,839	2,442	65,719	49,861	46,694
1994	50,384	5,495	1,881	1,680	44,889	34,338	32,529
1995	23,753	2,610	918	829	21,143	16,313	15,550
1996	57,625	5,865	2,049	1,871	51,760	41,158	39,357
1997	46,914	4,706	1,584	1,470	42,208	33,718	32,558

for each year. Due to the sampling structure of the SIPP, the sample sizes varied from just over 16,000 to over 76,000. However, as Figure 1.3 illustrates, the representation of the disabled within the whole sample and within the working subsample has remained consistent, although slightly declining over the period.¹³ In addition, there does not seem to be any shift in the trends during the ADA phase-in period.

The percentages of the sample and of workers indicating a work-limiting disability are slightly higher in the SIPP than in the CPS. This occurs for two reasons. SIPP respondents are given two opportunities to answer a disability question positively. In addition, since the sample came from Wave 2 (the second survey within a panel), the respondent is reminded if he or she indicated a disability in Wave 1 (the first survey), increasing the chances for a positive response (also see Kruse and Schur 2002). The percentages reflected in Figure 1.3 are consistent with those found by other researchers using the SIPP (e.g., DeLeire 2000; Kruse and Schur 2002).

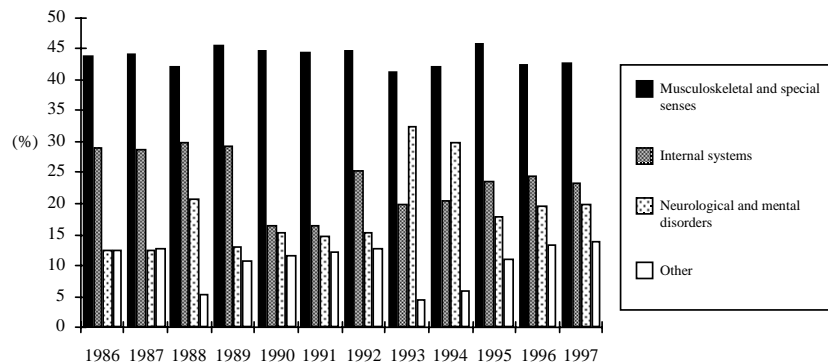
The nature of a person's disability is placed into one of 30 different categories (including "other"). In order to be able to include controls for type of disability, these categories were combined to correspond to the groupings used by the Social Security Administration.¹⁴ Aggregation was necessary due to category size limitations; the four groups included as controls were: 1) musculoskeletal systems and special

Figure 1.3 Percentage of Sample and of Workers in the SIPP Data Set Indicating a Work-Limiting Disability, 1986–1997



senses; 2) internal systems; 3) neurological systems and mental disorders; and 4) other. Figure 1.4 presents the distribution of all disabled individuals and disabled workers across these categorizations. The largest group by type of disability contains those with musculoskeletal and special senses disabilities; the internal systems category is generally the next largest, followed by neurological and mental disorders (typically), and other. One can observe a slight upward trend in the

Figure 1.4 Distribution of Disabled Individuals across Disability Type, SIPP, 1986–1997



neurological and mental disorders classification, while the proportion for internal systems has declined slightly, and that for musculoskeletal and special senses has remained fairly consistent over the time period. These four classifications will be used to determine whether the labor market experience varies across type of disability, an important consideration when trying to mold policy to impact those most affected.

Notes

1. Further details of the history and provision of the Rehabilitation Act of 1973 can be found in Ellner and Bender (1980).
2. See Advisory Commission on Intergovernmental Relations (1989).
3. Data provided by the Roper Center for Public Opinion Research, University of Connecticut, Storrs, Connecticut. By 1999, 67 percent of those surveyed by the same polling group *had* heard of the ADA.
4. This issue has often been raised by historians. For example, see Landes and Solmon (1972). Donohue and Heckman (1991) also empirically address the subject with regard to civil rights legislation. They conclude that federal civil rights legislation did play a major role in the progress of blacks beginning in 1965.
5. Some have even suggested that our analyses of the labor market impact of the ADA are misguided, and that attempts to quantify an impact in the labor market are merely arrogant efforts to justify our assumptions about how the labor market should operate (see Schwochau and Blanck 2000).
6. Appendix A contains additional information pertaining to the matching and merging of the CPS files across months and concerning other details learned in the process.
7. The exceptions are analyses of employment where age is restricted to 15–65 years.
8. Prior to 1981, identification of a disability in the CPS was made only in the context of why a respondent was not working.
9. See Table C.1, in Appendix C, for percentages used to generate Figure 1.1.
10. The percentages of the entire sample that are disabled are slightly higher than those reported by Burkhauser, Daly, and Houtenville (2000, 2001). This is likely the result of the matching technique employed here, allowing for a much larger sample, and thus greater opportunity to be classified as disabled.
11. The Z statistic corresponding to the hypothesis of equal means over these time periods is 3.18, leading to a rejection of the null hypothesis of equality at the 99 percent confidence level.
12. Details of the construction of the SIPP samples are contained in Appendix B.
13. There are two check variables in the topical module used to identify a work-limiting disability for the 1986–1993 panels. The 1996 panel has only one check variable, which may explain the slightly lower incidence of a work-limiting disability in the 1996 and 1997 SIPP samples. Kruse and Schur (2002) make use of

the functional limitations module (rather than the work disability module used here) and note a similar decline in disability percentages in later years due to question placement in that module. These nuances in the survey design among panels are clearly important and raise, once again, the concerns associated with using a self-reported disability indicator.

14. The Social Security Administration's listing of impairments for disability status purposes can be found on the Internet at http://www.ssa.gov/OP_Home/cfr20/404/404-ap09.htm. The mental disorder category does include those classified as mentally retarded. The mentally retarded group is not broken out into a separate category in order to be consistent with the classification used by the Social Security Administration, to correspond with the groupings used by others (e.g., DeLeire 2000; Kruse and Schur 2002), and to preserve reasonable sample sizes within the categories. The employment and wage analyses were reestimated with mental retardation as a separate category, and none of the results or conclusions changed.