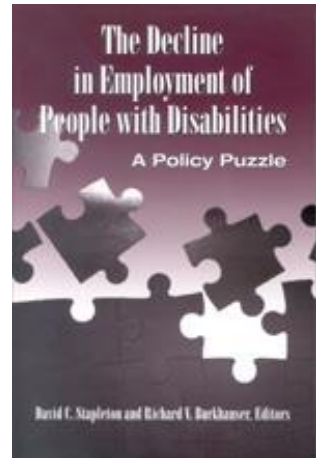

Upjohn Institute Press

Is It Time to Declare the ADA a Failed Law?

Peter David Blanck
University of Iowa

Susan Schwochau
Dickinson Wright PLLC

Chen Song
Resolution Economic LLC



Chapter 9 (pp. 301-338) in:

The Decline in Employment of People with Disabilities: A Policy Puzzle

David C. Stapleton, and Richard V. Burkhauser, eds.

Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 2003

DOI: 10.17848/9780585473666.ch9

9

Is It Time to Declare the ADA a Failed Law?

Peter Blanck

University of Iowa, College of Law

Susan Schwochau

Dickinson Wright PLLC

Chen Song

Resolution Economics LLC

By some accounts, the track record of the Americans with Disabilities Act (ADA) appears dismal for improving the employment opportunities of individuals with disabilities. Several empirical studies report that, compared with employment of persons without disabilities, the employment of individuals with work disabilities has declined since the early 1990s (see Burkhauser and coauthors, Chapter 2). The authors of some studies conclude that the ADA has failed to achieve its goals and is, in fact, the likely cause of the employment declines (see DeLeire, Chapter 7).

In contrast to these studies, other research finds improvements in employment since the ADA was passed (see, e.g., Kaye 2002; Kruse and Schur 2003). This research defines “disability” outside the context of a self-reported work limitation, focusing as well on individuals’ self-reported limitations in the activities of daily living. Some findings suggest those most likely to be considered disabled under the ADA—individuals with severe functional limitations who were not prevented from working—saw improvements in their relative employment between 1991 and 1993.

One clear difference between the research streams mentioned is how the authors define and measure disability. Of course, how researchers identify individuals with disabilities is fundamental to whether their findings on the ADA’s effects are informative. To be

sure, the ADA does not guarantee employment to individuals with disabilities. The law does not protect all individuals with disabilities from discrimination, nor does it provide all individuals with disabilities a right to reasonable workplace accommodations. Because it is possible that the ADA has had different effects on various subgroups within the population of individuals with disabilities, identifying and analyzing those subgroups becomes crucial to understanding the ADA's effects (Zwerling et al. 2003).

Obviously then, the answer to the question whether the ADA is causally related to the employment rates of individuals with disabilities requires close analysis of the *legally defined* group that the ADA is meant to protect—the “ADA qualified disabled.” This analysis has not yet been done. We conclude that because studies claiming to show support for predictions derived from economic theory both exclude in their measure of disability individuals protected by the ADA and include those not protected by that law, claims that the ADA is a failed law are unfounded and premature.

In the next section, we describe two of the predominant economic models of discrimination and how the ADA's employment provisions may be tied to those models' forms of discriminatory behavior. We follow with an overview of the predominant economic models from which predictions are derived that the ADA will result in declines in the employment of individuals with disabilities. We also offer a description of studies that purport to provide support for those predictions.

In the final section, we discuss reasons why existing research does not allow for the conclusion that the ADA is, in effect, a well intentioned, but bad law, focusing on definitions and measures of disability used in that research. We identify questions and issues that extant research leaves unaddressed, in part to encourage researchers to continue to develop models that will enable assessment of the ADA's influences, and in part to caution policymakers of the limitations of the research and theories on which that research may be based.

We make no claim to resolving debates regarding either the ADA's employment effects or who should bear the costs associated with removing barriers to employment faced by those with disabilities. Instead, we identify questions, the answers to which will inform policymakers about whether any further or different steps in regard to the

ADA (aside from other policy issues) should be taken to reduce unemployment or labor market withdrawal of those with disabilities.

ECONOMIC MODELS OF EMPLOYMENT DISCRIMINATION

A fundamental purpose of the ADA is to reduce discrimination against those with disabilities and those perceived to have disabilities, and thereby enhance their employment opportunities. Whether the ADA has been successful, therefore, can be seen as a question of whether discrimination has been reduced, or whether the employment opportunities and wages of those it covers have improved over time. To date, the focus has been on the latter question, although recent efforts have been directed also to the former (see, e.g., DeLeire 2001).

In discussing discrimination generally, it is useful to distinguish between discriminatory behavior that occurs prior to an individual's entry into the labor market and discrimination faced after entry. Individuals with disabilities (whether covered by the ADA or not) who face premarket discrimination in education, for example, may obtain less, or inferior, education compared with individuals without disabilities (for a review, see Schwochau and Blanck 2000). Information from the Current Population Survey (CPS) indicates that individuals with disabilities have far lower levels of education than individuals without disabilities.

Postmarket discrimination occurs after entry into the labor market. This phenomenon may cause individuals with disabilities (again covered by the ADA or not) to receive lower wages and face fewer occupational choices, despite having equivalent amounts of human capital as individuals without disabilities. Postmarket discrimination also may influence individuals' decisions prior to entry into the labor market. If discrimination by employers, customers, or coworkers significantly reduces the wage received or the probability of obtaining employment, those individuals may choose not to invest in substantial amounts of education given that the return on this investment will be minimal.

Becker's Model of Postmarket Discrimination

Gary Becker has shown that one form of postmarket discrimination originates when employers display a “taste for discrimination” (Becker 1971). If individuals in the “majority” and “minority” groups are perfect substitutes for one another (i.e., they are equally productive), tastes for discrimination reflect employer perceptions that the cost of hiring those in the minority group is greater than the cost of hiring those in the majority group. This is “irrational discrimination”; there is no productivity-related reason for treating individuals differently. To hire an individual from the minority group, an employer with tastes for discrimination must deduct from that individual’s wages the added cost associated with the “distaste” of including that person in the workforce. As a result, Becker argues, wages received by those in the minority group will be lower than the wages of the majority, despite productivity.

One prediction derived from Becker’s model is that in perfectly competitive markets, tastes for discrimination are minimized in the long run if the firm’s unit cost in production does not vary with output. So long as one firm exists with no discriminatory policy, market wages of the minority group should be equal to those of the majority group. This prediction relies on the profit-maximizing behavior of employers, which leads them to capitalize on the lower market wage of the minority group and hire only (qualified) individuals in that group. Because the nondiscriminating employer’s costs would be lower as it expands its production, discriminatory employers would eventually be driven out of the market and one uniform wage would result.

Statistical Discrimination

Another model of discrimination relies on notions of employer decision-making in the context of imperfect information (see, e.g., Baldwin 2000). For example, when an employer seeks to hire a worker, the employer does not have full information regarding that individual’s future productivity. Such information, moreover, is costly to obtain. Either the employer must spend resources on obtaining better information regarding the candidates prior to hiring, or hire from the pool of candidates (incurring the costs of doing so) and observe productivity

thereafter. As a result, it is in the employer's interest to identify relatively cheap "indicators" of productivity (e.g., the number of years of education). These indicators may be identified through perceptions of past experiences with employees (e.g., workers with a college degree tend to have higher productivity than those without such a degree) or through other sources of information. The indicators used, if accurate predictors of productivity, lead to efficient decisions, on average.

Statistical discrimination results when employers use an indicator such as a disability to make predictions about individuals; that is, perceptions of the average employee with disabilities are used to make predictions about one individual (i.e., a stereotype) (Aigner and Cain 1977). Even if accurate, on average, the indicator may be inaccurate when applied to a particular individual. Thus, although an employer's past experiences with individuals with a particular applicant's disability has led the employer to equate that disability with higher costs owing to missed days of work, the particular applicant may not have a history of missing work any more than a nondisabled employee. The employer's rejection of the applicant, based on its perception of individuals with similar disabilities, would be statistical discrimination.

If the indicators used are inaccurate predictors (on average or for a particular individual), costly mistakes can be made. Discrimination (i.e., the differential treatment of equally productive individuals) may persist over time under this model because employers who act consistently with their perceptions may trigger responses from applicants and employees that confirm those perceptions (Blanck 1993; Schwochau and Blanck 2000).

Theories of Discrimination and ADA Title I

Both of the theories of discrimination identify how employer perceptions cause some individuals to be treated differently from others. Under Becker's theory, the crucial perceptions are wholly inaccurate; under theories of statistical discrimination, perceptions based on a stereotype are uniformly applied to all individuals within the group, again with the result that equally productive individuals may be treated differently.

Leaving aside for the moment the ADA's requirement that a firm make reasonable accommodations for its qualified disabled workers

(42 U.S.C. § 12112(b)(5)(A)), the law tracks the standard definition of discrimination: the differential treatment of those who are equally productive. Under ADA Title I (the law's employment provisions), qualified individuals with disabilities are to be treated the same as nondisabled individuals with respect to pay and employment decisions.

People falling within the second and third prongs of the ADA's disability definition—those with a past history of disability and those who are regarded as having a disability—may be closest to Becker's requirement of perfect substitutes given that they have no actual impairment that would affect their productivity (although some of these individuals certainly have impairments that do not rise to the level of disability as defined under the law's first prong). These individuals also may be the victims of wholly inaccurate stereotypes. The ADA's emphasis on a case-by-case analysis of whether individuals with disabilities are qualified for the job they seek likewise is consistent with an attempt to restrict the use of stereotypes (29 C.F.R. p. 1630 App.).

The addition of language requiring that employers make reasonable accommodations for disabled workers is a departure from standard definitions of economic discrimination (Krenek 1994; Burgdorf 1997). "Economic discrimination" typically refers to individuals with equal productivity not being rewarded with equal compensation (Aigner and Cain 1977). The implicit assumption underlying this definition is that compensation should reflect the entire "marginal cost" of employing the individual. The standard definition of economic discrimination does not take explicit account of employer expenditures directed at making at least some workers more productive than they would be in the employer's "pre-accommodation" work environment. Indeed, the technology used to produce a product or provide a service generally is taken as given in those models, as is the capital necessary to operate a facility (Schartz, Schartz, and Blanck 2002). Becker's assumption of equal productivity implicitly holds technology constant; an individual hired randomly from either the majority or minority group would be equally productive within the firm.

The ADA's accommodation provisions (42 U.S.C. § 12112(b)(5)) mandate that an employer provide benefits to (or take steps in response to the peculiar needs of) particular individuals in order that they may perform the essential functions of the job (Jolls 2000; Kelman 2001).

As such, the ADA imposes on employers a potential additional cost of hiring (or retaining) an individual with disabilities.

The ADA's definition of discrimination, which identifies both a failure to pay the same wage (broadly defined to include all forms of pay) and to make reasonable accommodations, therefore departs significantly from the prior concept of economic discrimination. Not only are individuals with disabilities entitled to be treated the same as others, but they have, by virtue of the ADA, a claim to resources that others are *perceived* not to have. The requirement that employers incur expenses to allow individuals to be productive on the job represents a focal point of economists' criticisms of the ADA (see, e.g., Oi 1991), and stands as a central element of public policy debates about the proper confines of the ADA's protection.

EFFECT OF ADA TITLE I

Pre-ADA Operation of Labor Markets

Because the ADA focuses on decisions made by firms, most models developed to assess its effects deal primarily with predicting the law's effects on labor demand (Rosen 1991). Standard economic models predict that firms combine labor and capital in ways dependent on the relative prices of the inputs to production (i.e., the price of labor and the price of capital), the demand for the product or service, and the technology available (see Ehrenberg and Smith 1991 for a general description of standard models of labor markets). In theory, a change in any one of these factors triggers responses that move the firm toward a new equilibrium. Thus, an increase in the price of labor may lead to a reduction in the amount of labor demanded, and in the long run, a change in the amount of capital used by the firm. Similarly, a change in technology (e.g., the invention of a more efficient machine, or new use of the Internet) may yield changes in both the amounts of labor and capital demanded.

The simplest of economic models assumes that all labor and all capital is identical; that is, each and every unit of labor offered is the same, and each and every unit of available capital is the same. These

models also assume that all parties (individuals and firms) have perfect information and are perfectly mobile. They generally yield the expectation that a firm chooses the most profitable and efficient means of production, given the state of technology, demand for the product, and relative cost of capital and labor. If capital and customer buying behavior is fixed, the amount of labor demanded is a function of its costs, with the expectation that a firm will stop demanding additional labor at the point at which the marginal revenue product of the last unit of labor (the added revenue brought to the firm given what is produced) equals its marginal cost (the added cost associated with that unit). The demand for labor in a particular market is the number of workers (or units of labor) all the firms in the market would demand at given wage rates.

Thus, under the standard model, employers will hire an individual only if the marginal benefits of doing so at least equal the marginal costs. This is true for individuals with and without disabilities. Employers will incur additional employment costs (such as those associated with medical insurance, life insurance, and pensions) only if the benefits of doing so outweigh the costs of providing the added benefit. If, for instance, employers find that providing fringe benefits makes attracting and retaining employees cheaper and productivity greater, then they will supply fringe benefits (Weaver 1991).

In general, disabilities are expected (assumed) to reduce productivity on a particular job, or to restrict the individual's ability to be productive in a variety of jobs (Weaver 1991). Because profits only may be realized if pay given to employees is less than or equal to what the sale of their output yields, the pay of disabled workers will be less than nondisabled workers because individuals with disabilities are less productive.

In the absence of the ADA (or any other comparable legislation), the standard models suggest that an employer will provide a disabled individual with tools or a particular work setting if doing so is profitable (Rosen 1991; Weaver 1991). As in the case of fringe benefits, however, disabled individuals provided with such accommodations should expect their wages to be reduced accordingly. If no such reduction occurs, the net gain to the employer of hiring the disabled individual who needs accommodation will be less than the net gain of hiring an individual needing no such accommodation, and the employer will maximize profits by hiring the nondisabled individual (Donohue

1994). Under such a model of the employer's decision-making, the chronic unemployment of the disabled is owing, in part, to the fact that they cost more, causing employers to prefer nondisabled individuals (Weaver 1991).

Thus, disabled persons' wages are predicted to be less than the wages of nondisabled individuals for two primary reasons: lower productivity, and/or increased marginal costs owing to accommodation. Individuals with disabilities for whom the lower pay does not justify participation in the labor market (for instance, those for whom the expected wage is sufficiently low that the costs of labor market participation exceed its benefits) will drop out of that market or will never enter it.

Note that these principles yield the conclusion that the ADA is not necessary. Employers do, without the ADA, what is economically rational and efficient. Disabled individuals are hired, with or without accommodations, to the extent that doing so is profitable (Barnard 1992). They are matched to jobs throughout the economy in ways that maximize firm profits and individual utility.

Introduction of ADA Title I

With this picture of employer behavior as a starting point, predictions of the effects of the ADA focus on what the law forces employers to do differently (Barnard 1992). Viewing the pre-ADA environment as efficient overall, it should be no surprise that the ADA is predicted to lead to inefficiencies and to the imposition of costs on all, or virtually all, affected. Economists have tended to focus on the effects of two of the ADA's provisions: the "equal pay" requirement, and the reasonable accommodation requirement. Each is often predicted to have deleterious effects on individuals with and without disabilities, on firms, and on the economy (Weaver 1991).

The provision of the ADA that prohibits employers from discriminating against qualified individuals with disabilities with regard to compensation and other benefits of employment (42 U.S.C. § 12112(a) (1994)) is viewed as forcing employers to pay more for the labor of such individuals than they otherwise would. There are two components to the "otherwise would" aspect of this prediction. First, to the extent that two individuals, one disabled who needs no accommodation and

one not disabled, are in fact equally productive, requiring that the employer pay each the same wage for the same work when it would not otherwise do so is an attempt to reduce discrimination of the type described by Becker (1971).

Second, although such a requirement may hasten the exit of discriminating employers from the market,¹ one may predict that forcing an employer to pay more than it otherwise would for labor perceived to be less beneficial will lead to a reduction in the employment of those individuals in the short run, as fewer persons are demanded in the face of increasing wages (Donohue 1986). This effect of the “equal pay” provision is not, however, the focal point of most discussions.

Instead, modelers tend to assume that the ADA-qualified individual with a disability is less productive than a nondisabled person without accommodation.² Given the assumed difference in productivity, the equal pay provision is seen as forcing employers to pay individuals with disabilities more than they are “worth” to the firm. The increase in pay is predicted to cost the employment of at least some individuals with disabilities, as fewer such persons are demanded at the higher wage (Acemoglu and Angrist 2001). Higher wages also would attract more individuals with disabilities to the labor market (Jolls 2000). However, because fewer persons are demanded, these new entrants will be unemployed.

The ADA’s requirement that employers pay qualified disabled and nondisabled individuals the same compensation for the same work also has been said to harm all persons with disabilities in their attempts to compete in the labor market (see, e.g., Olson 1997). Epstein (1992), who advocates allowing labor markets to operate entirely free of governmental restraint, notes that laws such as the ADA, the Fair Labor Standards Act, and the Occupational Safety and Health Act, restrict a disabled person’s ability to underbid their nondisabled competition by forbidding negotiation between the individual and the firm as to the conditions of employment.

Instead, so the argument goes, individuals with disabilities should be free to, for example, “waiv[e] their right to health and life insurance” and thereby “improve their prospects of getting a job without having to call into play the coercive power of the state” (Epstein 1992, p. 493; see also Friedland and Evans 1996). A variant of this argument focuses on the inability of individuals with disabilities to negotiate a

reduction in their wage to compensate for the increase in the so-called “firing costs” realized by the employer when an individual with disabilities sues to challenge the employer’s decision to fire the worker (Acemoglu and Angrist 2001).

The ADA’s requirement that firms make “reasonable accommodations” for their employees and applicants with disabilities also is predicted to have negative effects on disabled individuals. By increasing productivity and removing the obligation to personally pay for accommodations, the ADA’s accommodation requirement, Rosen (1991) argues, should increase the number of individuals with disabilities who seek employment at any wage. However, the increase in the supply of labor could well reduce the wages of nondisabled individuals, who will drop out of the labor market as a result (Rosen 1991).

On the demand side, as noted, the ADA is predicted to force firms to pay more than an individual is “worth” to the firm, and to do so at every wage. In short, the ADA’s accommodation mandate is expected to force employers to provide accommodations they otherwise would not provide (i.e., those that are not profitable) and the ADA’s equal pay requirement prevents the added expense to be transferred to the employee through a lower wage (Rosen 1991).

Thus, if employers comply with the ADA, the added labor costs associated with accommodating qualified employees with disabilities will result in lower demand for workers with disabilities (Weaver 1991; DeLeire 1997). Overall, negative effects on the employment of individuals with disabilities are predicted to be greater as the costs of accommodation increase. To the extent that firms make accommodations that do not yield net gains in profitability, the dollars spent in accommodations could be spent in areas having greater returns. Therefore, the expenditures represent a cost to society in the form of mis-spent resources. If employers compensate for the increase in labor costs by raising product prices, customers bear the ultimate burden (Weaver 1991).

In summary, the dominant economic models predict that, all else equal, employment of otherwise qualified individuals with disabilities will decline as a result of the ADA’s implementation. This effect stems from the increased wages that must be paid to covered workers, and to the increased costs associated with mandated accommodations. This is not to suggest that employment of some subgroups within the disabled

population will not increase, only that the number of people without jobs will be greater than the number gaining (or retaining) them (Weaver 1991).

Enforcement and Accommodation Mandates

Jolls (2000) departs from the standard models above in examining the effects of accommodation mandates on individuals with and without disabilities under different enforcement scenarios. Using a model that builds on the work of Summers (1989), Jolls demonstrates that whether qualified disabled or nondisabled individuals realize employment losses as a result of the ADA's accommodation requirement depends on the degree to which binding legal restrictions exist on employers' ability to pay different wages to individuals with and without disabilities (to have "wage differentials"), and to provide different employment opportunities to individuals with and without disabilities ("employment differentials").

In Jolls's model, the supply of labor of individuals with disabilities will increase at every wage by the value of the accommodations, on average, to disabled individuals. Employers' demand will fall at every wage by the cost of the accommodations to employers. The effect of these changes depends on whether the value of accommodations to individuals with disabilities exceeds the cost to employers, and on the degree to which legal restrictions are binding. Thus, where neither the pay nor the employment restriction is binding, relative wages are predicted to fall as a result of the costs of accommodating individuals with disabilities, and relative employment will rise, fall, or remain unchanged if the value of the accommodations to individuals with disabilities exceeds, is less than, or is equal to their cost to employers, respectively.

Jolls concludes that where only the ADA's equal pay requirement is binding on employers, individuals with disabilities can be expected to suffer relative employment losses and either flat or increased relative wages, and those workers will shoulder most of the costs of the accommodations. Where both restrictions are binding, she predicts that the relative wage of qualified individuals with disabilities is likely to rise or stay the same and the relative employment of those individuals

will rise, in part because nondisabled individuals will shoulder some of the costs of the accommodation mandate.

Empirical Tests of the Predicted Effects of ADA Title I

Given the relative newness of the law, rigorous empirical tests of the ADA's effects on relative employment and wages are understandably few in number. The research streams of Acemoglu and Angrist (2001), and of DeLeire (1997, 2000, 2001) have received particular attention. Both streams are based on economic theory and attempt to assess the ADA's effects on the employment and wages of individuals with disabilities.

DeLeire (1997, 2000) employs seven panels of the Survey of Income and Program Participation (SIPP) data for men aged 18–64 to examine whether the ADA has affected the likelihood of employment and wages of individuals with disabilities. Acemoglu and Angrist (2001) use CPS data for men and women aged 21–58 for the 1988–1997 period to extend the standard economic model by incorporating concepts of hiring and firing costs. Within that model, hiring costs arise as firms reject applicants with disabilities, who with some probability challenge those decisions in court. Firing costs are incurred when employers terminate or lay off employees with disabilities, who with some probability challenge those decisions.

Because firms can avoid hiring costs by employing individuals with disabilities, Acemoglu and Angrist's model allows the prediction that the ADA may lead to increases in employment levels. The probability of detecting discrimination on the basis of disability, however, is much smaller for applicants than for current employees, and thus firing costs and the costs of accommodation together are likely to exceed hiring costs avoided. As a result, the law is predicted to reduce employment (hiring). The "equal pay" provision is expected to increase wages for disabled employees, creating involuntary unemployment.

Both sets of studies report findings that the authors contend support their models' general predictions (Acemoglu and Angrist 2001; DeLeire 1997). DeLeire (2000) summarizes his findings as indicating that the ADA has led to a 7.2 percent decrease in the probability of employment of individuals with disabilities, but to no change in relative wages. He attributes these findings to the costs to employers of

complying with the ADA's accommodation requirement. Acemoglu and Angrist conclude that the ADA has had substantial disemployment effects on men with disabilities aged 21–58, and on women with disabilities under age 40. They find no clear evidence of a post-ADA change in relative wages of individuals with disabilities. Acemoglu and Angrist attribute their employment findings, in part, to the accommodation costs of the ADA and, in part, to the firing costs the law imposes.

Both sets of studies include a consideration of the effects of federal disability receipts. DeLeire does so by assessing possible changes in the level of benefits available, in eligibility, and in denial rates (DeLeire 1997, 2000). Reviewing data on these variables, he concludes that federal benefits are not likely to explain his results. DeLeire (1997) also considers the possible effects of the 1990–1991 recession. Using Panel Study of Income Dynamics (PSID) data, he investigates whether pre-1990 recessions led to widening gaps between employment rates of individuals with and without disabilities. Because those rates did not significantly widen in prior recessions, DeLeire concludes that the widening rates he finds after January 1991 are not from the downturn in late 1990 and early 1991.

Acemoglu and Angrist (2001) test whether receipt of federal disability benefits explain their findings. Because overall results allow for the same conclusions regarding fewer weeks worked by individuals with disabilities, the authors conclude that receipt of federal benefits does not account for most of the decline in employment found (Bound and Waidmann 2000). Having eliminated this alternative explanation, Acemoglu and Angrist, like DeLeire, conclude that the ADA has negatively affected individuals' with disabilities relative employment.

DOES THE ADA EXACERBATE THE EMPLOYMENT PROBLEM?

With authors using large national samples attributing to the ADA their findings of lower employment among disabled individuals, are we to conclude that the law has failed in achieving its goals? We believe the answer to this question is no for a number of reasons, the primary

one of which is related to the definition and measure of disability employed in these studies.

Definition and Measurement of Disability

The definition of disability and the identification of those in that protected category obviously are critical to research addressing the labor market behavior of individuals with disabilities. If the purpose of the research is to examine labor demand and supply of those with disabilities relative to those without disabilities, using a measure that asks individuals whether they are “disabled,” whether they have an impairment, or whether they have a disability that prevents or limits the work they can perform may be sufficient (but see Hale 2001; Kaye 2002).³ The emphasis of this line of research could be on the general labor market experiences of individuals with disabilities, with an eye toward providing policymakers with an assessment of labor market barriers faced by those individuals.

However, such an approach, taken without regard to the ADA’s language, is unlikely to yield valid conclusions if the goal is to assess the effects of that law (Hale 2001; Schwochau and Blanck 2000, 2003). Even if the relative employment of people with work disabilities fell during the 1990s (Burkhauser and coauthors, Chapter 2), the findings of DeLeire and Acemoglu and Angrist do not answer the question of whether the ADA has been effective since it was enacted because little to no consideration is given to whether the individuals captured by the selected measure of disability are, in fact, those covered by the ADA’s provisions.

Those covered by the ADA’s protections are people who have a substantial limitation on a major daily life activity who are “qualified”—that is, those who with or without reasonable accommodation can perform essential job functions (Blanck 1998). Thus, the ADA does not provide coverage to all persons with physical or mental limitations, or even to all persons with “disabilities” as the ADA defines that term. The law divides individuals with impairments into three groups: individuals with impairments that do not substantially limit a major life activity; individuals with substantial limitations who are qualified; and individuals with substantial limitations who are not qual-

ified. The law provides protection to those in the second group, but not to those in the first or third group (Lee 1997).

Neither DeLeire nor Acemoglu and Angrist distinguish between these three groups. Instead, DeLeire divides his sample into disabled and nondisabled categories based on a question that asks respondents whether they have a physical, mental, or other health condition that limits the kind or amount of work that they can do (DeLeire 1997, 2000). This is the standard SIPP-based item used in tabulating broad indicators of labor force participation of individuals with self-reported, work-limiting impairments (McNeil 1993).

The item Acemoglu and Angrist use to categorize the disabled comes from the CPS March Income Supplement and asks whether individuals “have a health problem or disability which prevents [them] from working or which limits the kind and the amount of work [they] can do.” Both definitions are narrower than the ADA’s definition of disability in that they focus on impairments that limit working activity (rather than any major life activity). Interestingly, the U.S. Supreme Court has raised questions whether working is even a major life activity for purposes of the law (see *Toyota Motor Manufacturing, Inc. v. Williams* 2002).

The potential difference between the ADA’s “major life activity” definition and the SIPP’s work-disability definition is reflected in items in the SIPP survey that focus on functional and other limitations. From 1991 to 1992, 52.0 percent of individuals aged 21–64 with a disability were reported as employed, whereas only 42.5 percent of those with a work disability were employed (McNeil 1993). Although individuals with work disabilities were included in the overall disability category, the difference in figures suggests that at least some of those answering that they did not have a work activity limitation also indicated that they were limited in other areas (see also Kruse and Schur 2003).

Comparable figures for 1994–1995 were 52.4 percent (disabled) and 43.3 percent (work disability) (U.S. Census Bureau 2000) (see Burkhauser and coauthors, Chapter 2, for additional information regarding the employment rates of individuals with disabilities using alternative definitions of disability and alternative data sets). Unless individuals reporting themselves as disabled, but not as having a work disability, are those who would be considered without a substantial

limitation under the ADA, the difference in the figures raises the possibility that some individuals who have substantial limitations on major life activities other than working were miscategorized as not disabled (Baldwin, Zeager, and Flacco 1994).

Within the category of individuals with disabilities, a problem arises when individuals who clearly are not qualified under the ADA are included (42 U.S.C. § 12111(8) (1994)). For example, DeLeire and Acemoglu and Angrist's disabled category includes those persons whose impairments prevent them from working at all (presumably, even with attempted accommodation). Individuals whose disabilities prevent them from working are considered not qualified, and therefore do not receive the protection of the ADA (see *Duckett v. Dunlop Tire Corp.* 1997). Information from the SIPP data for 1991–1992 suggests that 42.1 percent of individuals aged 16–64 with work disabilities were prevented from working (McNeil 1993). Because the studies rely on comparisons of the disabled and the nondisabled, including in the “disabled” category individuals who cannot work at all would depress coefficients associated with disability and make differences more likely to be found (Mashaw and Reno 1996).

Further, changes over time in the proportion of individuals within the disabled category who were unable to work would have implications for empirical results. For instance, increases in relative size over the period of interest of the “prevented from working” subgroup would over time increase the likelihood of finding significant differences between the disabled and those not disabled. Acemoglu and Angrist (2001) and DeLeire (1997) recognize that, as a percentage of the population, the number of disabled individuals increased during the time periods under investigation.

What those researchers do not consider, however, is evidence suggesting that the percentage of those with work disabilities who are unable to work also increased during the period of interest (Kaye 1998, 2002; Kaye et al. 1996; McNeil 1997; Burkhauser and coauthors, Chapter 2). The increase in the percentage of those unable to work has been greatest for individuals between the ages of 18 and 44, although a general trend upward is discernible for older workers (Kaye 1998, 2002).⁴

What a Difference a Definition Makes

Research conducted by Kruse and Schur (2003) demonstrates the potential usefulness of not only focusing on individuals with work disabilities, but also examining indicators of functional limitations on other life activities. Using SIPP data, Kruse and Schur tested variables measuring work disability (the same measure used by DeLeire), functional limitations or limitations on activities of daily living, and severe functional limitations or severe limitations on activities of daily living. In combination with other information, Kruse and Schur examined relative employment of individuals in those categories, and assessed relative employment of individuals who did not receive Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI) payments; indicated that their health condition did not prevent them from working; and indicated that they had functional limitations but did not have a work disability.

Kruse and Schur's findings with respect to those reporting a work disability were in line with DeLeire and Acemoglu and Angrist—the employment prospects of those individuals worsened after the ADA was passed. However, other results suggested that, by 1993 and 1994, the relative employment of individuals who had functional limitations or limitations on activities of daily living, but no work disability, improved. Some findings suggested that those most likely to be considered disabled under the ADA—individuals with severe functional limitations who were not prevented from working—saw improvements in their relative employment between 1991 and 1993. The findings reported by Kruse and Schur demonstrate, generally, that conclusions about the relative employment of individuals with disabilities depend very much on the how the disabled are identified (Kaye 2002; Stern 1989; Stoddard et al. 1998).

Policy Implications and Suggestions for Future Research

If unacceptably large numbers of individuals with disabilities are without jobs, will a law such as the ADA (or even an amended ADA) bring about enhanced employment? Or, will such a law only make employment more difficult for all individuals with disabilities to find and to keep? Do we need a law like the ADA, or should we, as some

have urged (e.g., Epstein 1992), rely on market forces to sort those with disabilities into jobs?

Criticism of the ADA, at least as interpreted by the U.S. Supreme Court, is not restricted to those who see the law as unnecessary. Some fault the ADA's definition of disability as unduly restrictive and advocate that those with any limitation on a major life activity should be covered rather than merely those with a substantial limitation (see, e.g., Lee 2003). Amendment of the ADA is possible (but perhaps not politically feasible) to bring into the scope of the ADA a larger (but unknown) percentage of individuals with disabilities. Will such amendment worsen the existing employment problem?

The standard economic model would suggest "yes," and thus amendment or case law interpretation to broaden the ADA's coverage will only add to the problem. Broadening the coverage of the ADA will increase the number of possible legal challenges and may increase the success rate of ADA litigants (particularly those who will be able to pass the "disabled" threshold hurdle). This would be predicted to increase the employer's hiring costs and firing costs associated with ADA litigation (Acemoglu and Angrist 2001).

Expanding the scope of the definition of disability also will increase the number of individuals to whom employers will have accommodation obligations. To the extent that firing costs and the costs of accommodation are greater than the hiring subsidies, economic theory would predict that the net effect will be to increase the costs of employing workers with disabilities, and to reduce the wages and employment of individuals with disabilities (Acemoglu and Angrist 2001). Thus, applying the standard competitive model would predict that the employment of individuals with disabilities will decline further if the ADA's definition of disability is broadened.

Yet, determining whether a broader definition of disability will, in fact, have the deleterious effects predicted by economic theory will require that we learn more than we currently know about who reports they have a disability and why those individuals are, or are not, employed. We are far from knowing enough about the labor market experiences of individuals with disabilities to determine that the ADA should be amended, repealed, or more strictly enforced.

We simply cannot say why it is that individuals with work disabilities continue to face barriers to employment. Is it because of the

ADA's accommodation mandate, as DeLeire and Acemoglu and Angrist suggest? Is it because of premarket decisions of individuals? Or, is it because of other forces operating separately from the ADA, such as barriers to adequate and affordable health insurance or to economic disincentives in federal benefit programs (Blanck and Schartz 2001). Without the why, informed decisions regarding appropriate policy cannot be made.

Measurement issues

Getting to the why requires that researchers grapple with myriad issues surrounding the who—that is, how is “disability” to be measured and what are the characteristics of individuals captured by the measure selected. The study of individuals with disabilities brings numerous complications that do not exist in a study of individuals of different gender or races. Individuals' limitations differ in nature, severity, and age at onset. An individual's ability to work may vary over time because of the episodic nature of particular impairments (Silverstein 2002). Certain conditions may worsen with time, or fluctuate between severe and manageable (see generally Brief for Petitioner, *US Airways v. Barnett* 2001; Blanck et al. 2002).⁵

In addition, many work-related impairments, for example, carpal tunnel or back injury, require an individualized assessment. Because symptoms vary widely from person to person (*Toyota Motor Manufacturing, Inc. v. Williams* 2002), assumptions regarding disability status cannot be made from impairments individuals may state they have. Even creating a measure that is based on what may be called “objective” accommodation criteria—for example, the need for particular devices or products (a TTY telecomm device; voice-recognition software) or the need for assistance of another person to accomplish a particular task—may not yield what appear to be consistent answers over time (Berven and Blanck 1998).

Further complicating matters is that the ADA's definition of disability—“a physical or mental condition that substantially limits a major life activity”—is subject to varied interpretations by courts, policymakers, employers, and persons with disabilities. Critics of the ADA have noted the ambiguities within the law's provisions, identifying myriad difficulties associated with determining who falls into the ADA's definition of disabled (Weaver 1991; Barnard 1992). What is

“a major life activity” under the ADA? What constitutes a “substantial limitation” on a major life activity?

The answer to these questions is not obvious, and an answer today may be in need of revision tomorrow. In 1999, contrary to prior interpretations of the ADA, the U.S. Supreme Court decided that factors that mitigate an individual’s impairment—such as prosthetic devices or blood pressure medication—are to be considered in defining whether that person’s impairment is substantially limiting for purposes of the ADA (*Sutton v. United Airlines, Inc.* 1999). In 2002, the Supreme Court concluded further that an individual is substantially limited in performing manual tasks for purposes of the ADA only if the impairment prevents or severely limits that individual from activities that are central to daily life (*Toyota Motor Manufacturing, Inc. v. Williams* 2002).

From Kruse and Hale’s (2002) description of the efforts to find a reliable and accurate measure of disability, it may be concluded that merely asking individuals whether they have a physical or mental condition that substantially limits a major life activity likely will not reliably identify those covered by the ADA. Difficult measurement issues stem also from the ADA’s basic focus on a physical or mental condition that limits one’s activities; if an individual perceives him- or herself not to be limited, he or she will not respond affirmatively to questions focusing on “limitations” or “difficulties.” This is undoubtedly a good thing from a policy and social perspective; it is not such a good thing if one is interested in measuring the effects of the ADA.

As Kruse and Schur (2003) point out, if the ADA is effective in eliminating barriers that historically have thwarted attempts of individuals with disabilities to work, over time fewer and fewer individuals will identify themselves as being limited in their ability to work. Technological innovations and the movement to achieve independence also will decrease the number of individuals identifying limitations in major life activities (Blanck and Sandler 2000).

In short, even if the law were responsible for changes in individuals’ views regarding whether they are limited in the activities of daily life, and for the increased employment rates of those individuals, they would be treated as not disabled under our current measurement approaches using cross-sectional or longitudinal data. This would tend to increase the likelihood of obtaining empirical results that suggest the

ADA has had a negative, or no, effect on the employment of individuals with disabilities (Blanck 1997).

The task facing those attempting to identify an accurate and reliable measure of disability is, for these and other reasons, extremely difficult (Burkhauser and coauthors, Chapter 2). Kruse and Schur's (2003) work testing a functional limitation definition of disability should be viewed as encouragement to those faced with that task, as well as others who seek to devise or choose a disability measure to examine the effects of the ADA, because it demonstrates the potential benefits from using multiple measures of disability.

The use of measures of functional limitations in addition to measures that capture limitations on an individual's ability to work will enable further investigation into the reasons why results appear to differ depending on which measure is employed. Incorporating both would allow analysis of the large numbers of individuals reporting work disabilities but no other functional limitations. These individuals have had, arguably, the worst success rate in ADA litigation, as they are most likely to be forced to simultaneously argue that they are substantially limited in their ability to work in a range of jobs (or in daily life tasks), but are nonetheless qualified to do the job in question. Indeed, this issue was at the crux of the Court's *Toyota* decision.

In future analyses of either the labor force participation or employment status of individuals with disabilities, it is also crucial to examine measures of disability that go beyond the use of "yes/no" indicators of group membership (Collignon 1997). Such indicator variables treat those with disabilities as a relatively homogenous group, particularly given that a number of other individual characteristics often are left unmeasured. Research examining measures of severity and employment suggests that severity is, as may be expected, inversely related to the probability of working (Loprest, Rupp, and Sandell 1995). We have seen in prior research that measures of disability, limitations, and health each appear to explain variation in the phenomena being addressed (Blanck 2001; Stein 2000a).

Although all of the information desired is not likely to be contained in existing data sets, researchers must acknowledge the unique challenges that accompany the study of individuals with disabilities, and, until new measures are devised and expanded data sets are assembled, marshal the information that is available. The SIPP and CPS contain

information that may allow those prevented from working to be identified (Schwochau and Blanck 2000, 2003; Kruse and Schur 2003). Surveys have asked individuals questions that provide the basis for a measure of severity (McNeil 1993). Only by examining many aspects of individuals' disabilities can we assess the extent to which the ADA has helped or hindered the efforts of those with disabilities to move into, and to stay in, the workplace, and ultimately understand the why underlying the results we obtain.

Effects of other individual and job characteristics

In addition to examining other measures of disability, it is important to incorporate into models of labor market behavior measures of individuals' productivity, such as education, job training, and work experience (Blanck and Scharzt 2001). The lack of work experience has been described as among the principal reasons individuals with disabilities have difficulty finding employment (Collignon 1986). Some research reports that individuals with disabilities in the samples employed had more working experience, on average, but also more years of missed experience (Baldwin and Johnson 1995).

Results reported by DeLeire (2000) suggest that the probability of employment in some sectors and types of jobs declined by a greater degree than others. The effects of changes in the nature of jobs available in the economy may, in part, explain declining employment of individuals with disabilities (Yelin and Cisternas 1996). Stapleton, Goodman, and Houtenville (Chapter 4) have empirically assessed the possibility that jobs' requirements have changed over time in ways that make it less likely that those with disabilities will be able to compete for positions. Investigation into these sorts of questions will assist in identifying why individuals with disabilities face barriers to employment despite the ADA (Blanck and Sandler 2000).

Labor supply and productivity issues

Models of discrimination build on models of the functioning of labor markets. Within those models, individuals are matched with jobs as a result of their decisions and those of employers. Although researchers have theorized that the ADA will have the effect of increasing labor supply (see, e.g., Jolls 2000), empirical work to date has focused on the demand side of the market. To understand why indi-

viduals with disabilities still appear to face significant employment hurdles, we need to learn more about the labor force participation decisions of those with ADA covered disabilities⁶ (Blanck 2000, 2001; O'Day, Schartz, and Blanck 2002; Zwerling et al. 2002), and human capital decisions of those individuals.

Under standard economic models, an individual's decision to look for employment reflects consideration of the value of time spent in work and in nonwork activities. How much available time the individual devotes to either activity depends on factors such as the value of an hour spent at work (usually taken as the wage rate), the value to the individual of that same hour in nonwork activities (e.g., household maintenance, child care, personal care, leisure, and so on), and sources of wealth that are not dependent on working for pay (Ehrenberg and Smith 1991). An individual will devote a positive number of hours to working for pay when the benefits of doing so (in terms of the wage rate, and the value of work as an activity) outweigh the costs (e.g., what is given up by spending time at work rather than in other activities, and the direct costs associated with going to work, such as transportation costs, clothing, and child care).

Kaye (1998) estimates that between 1990 and 1994, only 52 percent of 18–64-year-olds with “chronic health conditions or impairments” were working or seeking work. The factors noted above highlight some of the reasons why disabled individuals (covered by the ADA and not) may decide not to participate in the labor force. First, low wages may cause an individual to determine that the costs of working outweigh the benefits of doing so (Burke 1997). Second, with a fixed number of hours in a day, a disabled individual may find that there are fewer hours than can be dedicated to work, given the number of hours that must be devoted to personal care and other basic tasks (Oi 1991).

Oi (1991) describes how four aspects of disability are important in individuals' labor supply decisions: severity, age at onset of disability, anticipated duration of disability, and the disability's effect on expected length of life (see also Burkhauser and Daly 1996).⁷ The ADA's equal pay and accommodation provisions have been predicted to affect the perceived benefits of working. Empirical examination of the probability that an individual was in the labor market (employed or

actively seeking work for pay) would assist in isolating reasons why only some individuals with disabilities may be benefited by the ADA.

Research also has not yet examined empirically the effects of the ADA on decisions of individuals with disabilities to invest in human capital. Differences between persons with and without disabilities in areas such as life expectancies (length of one's working life), expected market wage, length of time needed to complete an educational or training program, and difficulties associated with acquiring skills and abilities lead to different decisions regarding the degree to which each group will invest in its own human capital. When an individual becomes disabled also will influence his or her decisions regarding human capital investment (Baldwin and Johnson 1995; Oi 1991). Less investment in human capital also may be the result of negative stigma toward individuals with disability. As Becker (1996, p. 147) states:

A novel theoretical development in recent years is the analysis of the consequences of stereotyped reasoning or statistical discrimination. This analysis suggests that the *beliefs* of employers, teachers, and other influential groups that minority members are less productive *can* be self-fulfilling, for these beliefs may cause minorities to underinvest in education, training, and work skills, such as punctuality. The underinvestment does make them less productive.

The ADA, through its accommodation and equal pay requirement, has the potential to break this vicious cycle, thus narrowing the productivity gap between the disabled and the nondisabled. Younger individuals with disabilities may be less likely stay out of the labor force because of investments in education, if those investments are perceived to be associated with greater future benefits and have been made less difficult because of the ADA's provisions (Jolls 2000, 2001). Whether the ADA has triggered greater investment in education could be assessed by comparing years of schooling or training before and after the law's enactment. It may take a longer horizon than a decade, however, to capture the effects of changes in human capital decisions on employment.

Truly Difficult Policy Issues

The only way to assess whether the ADA is, overall, a beneficial or harmful piece of legislation is by assessing information regarding its influences (Blanck and Millender 2000; Blanck and Song 2001; National Council on Disability 1996). To be useful to policymakers, that information must be derived from rigorous study of the behaviors of primary actors affected by the legislation (Blanck et al. 2003). In the case of ADA Title I, these actors are qualified employees with and without disabilities and the firms that employ them. Researchers in different fields of study will approach questions regarding the ADA from distinct perspectives, and policymakers will gain a more complete picture of the ADA's influences if contributions to the pool of information represent a variety of approaches.

Undoubtedly, within that pool, some studies will conclude that the ADA has had harmful effects; others will conclude that the law has had beneficial influences; and still others will present a mix. Our concern here has been with studies based on economic theories of labor market behavior. It is crucial for policymakers and researchers to understand the limitations of these empirical studies (O'Day, Schartz, and Blanck 2002). In light of the flaws identified, we submit that existing empirical research provides little basis on which policymakers can make informed decisions regarding whether the ADA is the cause of employment declines and should be thus be amended, repealed, or left untouched.

Policymakers must concern themselves, however, not only with the validity of existing and future studies, but also with the limitations of the theoretical models on which those studies are based. Economic theory, because it allows us to focus on incentives and disincentives in the labor market, will undoubtedly assist in assessing what policy, if any, should replace the ADA. The assumptions and viewpoints embedded in that theory, however, may be argued to go beyond an emphasis on efficiency to perceptions of what efficiency means (Schwochau and Blanck 2000; Stein 2000a).

Under simple economic models, all nondisabled labor is identical, all disabled labor is identical, markets are perfectly competitive, and actors in those markets have perfect information.⁸ Of course, in the real world, all labor and all capital is not identical, people do not have per-

fect information, and all markets do not operate efficiently in the absence of a law such as the ADA (Collignon 1986). However, even if variation and imperfect information are allowed within the labor and capital markets, it still may be argued that firms will do what is most efficient and most profitable, on average. Decisions will be based on information regarding the qualities of the average unit of labor or capital, the degree of variability in each respective market, and the expected costs and benefits of acquiring more information (Stein 2000b, 2000c).

For example, firms spend hundreds of thousands of dollars selecting a CEO, and this expenditure far exceeds the costs associated with selecting clerical workers. This difference, in part, reflects variation in the respective labor markets and the costs and benefits associated with gaining additional information about candidates for each type of position. The goal in each case, however, is to select the most productive individual, given the costs. Whether this goal is met is, of course, a matter of speculation at the time of hire. Over time, however, employers will make changes in their hiring practices (if the benefit of the change exceeds its costs) so that, on average, incorrect decisions will be reduced to tolerable levels.

Economic theory also generally would predict that an employer structures the firm's work environment to enable workers, on average, to attain the desired level of productivity (again given the costs and benefits associated with alternative orderings and available technologies). If the majority of workers are viewed as unimpaired, the work environment can be expected to build on assumptions that workers have no limitations on their abilities to see, hear, walk, climb stairs, lift, carry, grasp door knobs, write, speak, and so on (Burgdorf 1997). Because of employers' incentives to maximize profits, this environment becomes the baseline—the appropriate, efficient manner in which to order work and the work environment given the perceived characteristics of the average individual in the relevant labor markets (Rosen 1991). Accommodations, therefore, represent deviations from presumptively efficient status quo necessitated by the appearance in the candidate pool, or in the current workforce, of individuals with disabilities—individuals whose characteristics differ from those of the “model (able-bodied) worker” around whom the work environment was built (Krenek 1994).

The questions that the ADA's reasonable accommodation requirement poses are to which accommodations should individuals with disabilities be entitled, and who should bear the costs of those accommodations (Kelman 2001; *US Airways, Inc. v. Barnett* 2002). On its face, the ADA imposes on the employer the burden of paying for accommodations, a result that some have noted is justified on the basis of past decisions to structure working environments as they are (Kelman 2001).

Economic theory's predictions regarding the effects of the ADA on employment and wage of qualified individuals with disabilities can be seen as the market operating to transfer at least some of the employer's costs to individuals with disabilities (either through lower employment or lower wages). However, the labor supply and demand models deliver only a local equilibrium, not a global equilibrium from the social planner's point of view. Those models fail to realize that a person with a disability who chooses not to enter the labor market receives some form of transfer payment and the transfer payment comes from the taxpayers' pockets.

The question, therefore, is whether from a social perspective, it is more efficient for employers to incur the accommodation cost so that the individual with a disability works for pay instead of drawing on the transfer payment, or for taxpayers to support this individual. The answer depends on the wage rate, accommodation cost, the size of transfer payment, and value of output produced by the individual. A social planner will see to the enforcement of employer accommodation if the total social benefit (reduction in transfer payment plus increase in output) exceeds the total social cost (wage rate plus accommodation cost) (Wax 2003).

CONCLUSION

A benefit to assembling research from a number of fields is that differing perspectives, assumptions, priorities, and viewpoints are brought to the fore as results are compared and attempts are made to reconcile apparently conflicting conclusions. It is unlikely that one factor or phenomenon will explain the pattern of results that ultimately

emerges. It may be that a combination of economic, social, and political incentives and disincentives and changes in the economy explains why employment of persons with disabilities seems to be declining (Blanck 2001).

We have identified some of the possible forces explaining the *why* question. Undoubtedly, more factors may be gleaned from the work of other researchers. We are beginning to investigate empirically questions regarding whether individuals who report a work disability or functional limitation continue to experience lower relative employment rates since the ADA was passed. We need to assess who those individuals are, and why they are or are not employed, before informed decisions about the effects of ADA's provisions and assessments regarding possible changes to the law's provisions can be made. If future research builds on the studies presented to date, we have the chance of obtaining at least some answers to these questions.

Notes

The views in this chapter reflect only those of the authors and not of any funding agency. This research was funded in part by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research, for grants to the first author for: (1) the Rehabilitation Research and Training Center (RRTC) on Workforce Investment and Employment Policy for Persons with Disabilities, Grant No. H133B980042-99, (2) "IT Works," Grant No. H133A011803, and (3) "Technology for Independence: A Community-Based Resource Center," Grant No. H133A021801; and from the Great Plains ADA and IT Center, and the University of Iowa Law School Foundation. For most helpful comments, we thank Doug Kruse, Lisa Schur, Stephen Kaye, Nanette Goodman, David Stapleton, Rich Burkhauser, Bobby Silverstein, James Schmeling, Lisa Clay, and many of the participants at the Employment and Disability Policy Institute, sponsored by Cornell University, October 20, 2001, Washington, DC. For related projects see The Law, Health Policy and Disability Center Web site at <<http://www.its.uiowa.edu/law>>.

1. There is, of course, some debate on this issue (compare, e.g., Posner (1987) and Donahue (1986, 1987)).
2. The ADA's language may support this assumed difference in productivity. Because a qualified individual with a disability is defined as a person who is able to do the "essential functions" of the job (with or without accommodation), one may argue that individuals with disabilities who are able to perform only the "essential functions" are by definition less productive than persons able to perform all job functions (Weaver 1991).

3. Hale (2001) describes the problems associated with the CPS and SIPP data sets in examining the employment of individuals with disabilities. He suggests that the CPS, in particular, cannot be relied on to distinguish those with disabilities from those without disabilities. Kaye (2002) discusses these problems and proposes using alternative measures of employment rate, labor force participation, and unemployment. In addition, Kaye notes that the reported decline in the employment rates of persons with disabilities after passage of the ADA is mitigated when using these alternative definitions, and when considering the effect of the early 1990s economic recession and the coinciding rise in working-aged adults applying for and receiving federal disability benefits such as Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI). Burkhauser, Houtenville, and Wittenburg (Chapter 2) make note of “substantial increases” in SSDI and SSI program participation, particularly for men during the 1990s. Bound and Waidmann (2000) find that movement of men and women with disabilities out of the labor force and onto the SSDI rolls during the 1990s accounts for much of their decline in workforce participation, rather than the implementation of the ADA.
4. Although there may be a number of reasons for the increase over time in the number of individuals with disabilities who report themselves as unable to work, the ADA’s provisions, by themselves, are not likely to be a direct cause (see Blanck, Clay, Schmeling, Morris, and Ritchie 2002). The more likely cause is the availability of SSDI and SSI benefits to those who are classified as unable to work under those programs’ definitions. Until the U.S. Supreme Court’s decision in *Cleveland v. Policy Management Systems Corp.*, 526 U.S. 795 (1999), a number of courts had held that receipt of SSDI or SSI benefits prevented an individual from asserting that he or she was a qualified individual with a disability under the ADA. Thus, it could be argued that those courts’ interpretation of the ADA’s provisions had the effect of forcing individuals with disabilities to choose between attempting to find work and obtaining SSDI or SSI benefits. If the latter was chosen, they ran the risk of being found not covered by the ADA.
5. By way of background, Robert Barnett worked at US Airways for 10 years. After suffering an on-the-job injury, he transferred into a mailroom position that effectively accommodated his disability. After serving in that position for two years, Barnett was informed that a more senior employee intended to bump him from the position, pursuant to US Airways seniority policy. Barnett requested accommodations that would allow him to perform other jobs, but US Airways rejected those suggestions. Barnett sued, alleging that US Airways had an obligation to engage in Title I’s consultative interactive process. The Supreme Court held that because Barnett’s requested workplace accommodation conflicted with US Air’s seniority system, the accommodation was not “reasonable” and thereby not required (Blanck 1996; Issacharoff and Nelson 2001).

Similarly, Mario Echazabal worked at a Chevron oil refinery for 20 years as a laborer, plant helper, and pipefitter for various maintenance contractors. Twice during this period he applied for permanent employment with Chevron as a pipe-

fitter/mechanic and plant helper. Although Chevron determined on both occasions that Echazabal was qualified for the positions, Chevron physicians refused to authorize an offer of employment, claiming that exposure to certain chemicals in the refinery might exacerbate Echazabal's Hepatitis C. After Chevron asked Echazabal's contracting employer to remove him from the facility entirely, Echazabal sued Chevron, alleging a violation of the ADA. The Supreme Court ruled that Chevron could limit the hiring opportunity of an ADA-qualified individual with a disability who the company believed might be harmed by exposure to their workplace environment. Chevron accomplished this goal by relying on a "direct threat to self" defense to discrimination charges, language set out in regulatory guidance by the Equal Employment Opportunity Commission (EEOC).

6. An additional factor regarding the definition of a qualified ADA individual has been introduced into the mix. In 2002, the U.S. Supreme Court upheld the validity of the EEOC interpretative regulations of the ADA to include an employer defense to the hiring of qualified individuals who pose a direct safety threat to themselves in the workplace (*Chevron U.S.A., Inc. v. Echazabal*, 2002, case facts described in endnote 5). The legal, and ultimately policy, question in *Chevron* is to what extent should employers or qualified individuals with ADA covered disabilities decide the degree of risk an individual with a disability can and should accept in performing a job. *Chevron* will have further implications for the definition of ADA qualified persons (see, e.g., *Chevron U.S.A., Inc. v. Echazabal*, Brief of the National Council on Disability 2002) and the employment of persons with disabilities as lower courts endorse the rule that employer qualification standards include the ability of an individual covered by the law to perform the job in question safely.
7. Silverstein (2002) adds four more aspects to the list of factors likely to affect individuals' labor supply decisions: 1) the macro-economic status during the reporting period (e.g., whether the country is in a deep or mild recession, in the beginning stages of recovery or full employment); 2) how other protected classes, e.g., minority groups, are fairing for the same period; 3) the race and ethnicity of the population and differences for subgroups, e.g., disabled African-Americans; and 4) an inventory of persons with hidden disabilities, e.g., epilepsy and mental illness, who may not self-report.
8. Thus, although applicants and employees may themselves be uncertain about whether they fall within the group of disabled individuals protected by the ADA, and employers may be similarly uncertain about whether a particular applicant or employee is an ADA-qualified individual with a disability, economic models of the effects of the ADA have not yet incorporated this uncertainty.

References

- Acemoglu, D., and J.D. Angrist. 2001. "Consequences of Employment Protection? The Case of the Americans with Disabilities Act." *Journal of Political Economy* 109: 915–957.
- Aigner, D.J., and G.G. Cain. 1977. "Statistical Theories of Discrimination in Labor Markets." *Industrial & Labor Relations Review* 30: 175–187.
- Americans with Disabilities Act. 1990. 42 U.S.C. § 12101 et. seq.
- Baldwin, M.L. 2000. "Estimating the Potential Benefits of the ADA on the Wages and Employment of Persons with Disabilities." In *Employment, Disability, and the Americans with Disabilities Act*, P.D. Blanck, ed. Evanston, IL: Northwestern University Press, pp. 258–281.
- Baldwin, M.L., and W.G. Johnson. 1995. "Labor Market Discrimination against Women with Disabilities." *Industrial Relations* 34: 555–577.
- Baldwin, M.L., L.A. Zeager, and P.R. Flacco. 1994. "Gender Differences in Wage Losses from Impairments." *Human Resources* 29: 865–887.
- Barnard, T.H. 1992. "Disabling America: Costing Out the Americans with Disabilities Act." *Cornell Journal of Law & Public Policy* 2: 41–62.
- Becker, G.S. 1971. *The Economics of Discrimination*. Chicago: University of Chicago Press.
- . 1996. *Accounting for Tastes*. Cambridge, MA: Harvard University Press.
- Berven, H. M., and P. Blanck. 1998. "The Economics of the Americans with Disabilities Act: Part 2: Patents, Innovations and Assistive Technology." *Notre Dame Journal of Law, Ethics and Public Policy* 12: 9–120.
- Blanck, P., ed. 1993. *Interpersonal Expectations: Theory, Research, and Applications*. New York: Cambridge University Press.
- . 1996. "Communicating the Americans with Disabilities Act: Transcending Compliance —1996 Follow-up report on Sears Roebuck and Co." Washington, DC: The Annenberg Washington Program.
- . 1997. "The Economics of the Employment Provisions of the Americans with Disabilities Act: Part I—Workplace Accommodations." *DePaul Law Review* 46: 877–914.
- . 1998. *The Americans with Disabilities Act and the Emerging Workforce: Employment of People with Mental Retardation*. Washington, DC: American Association on Mental Retardation.
- , ed. 2000. *Employment, Disability, and the Americans with Disabilities Act: Issues in Law, Public Policy, and Research*. Evanston, IL: Northwestern University Press.

- . 2001. "Civil War Pensions and Disability." *Ohio State Law Journal* 62: 109–249.
- Blanck, P., L. Clay, J. Schmeling, M. Morris, and H. Ritchie. 2002. "Applicability of the ADA to Ticket to Work Employment Networks." *Behavioral Sciences and the Law* 20(6): 621–636.
- Blanck, P., and M. Millender. 2000. "Before Civil Rights: Civil War Pensions and the Politics of Disability in America." *Alabama Law Review* 52: 1–50.
- Blanck, P., H. Ritchie, J.A. Schmeling, and D. Klein. 2003. "Technology for Independence: A Community-Based Resource Center." *Behavioral Sciences and the Law* 21(1): 51–62.
- Blanck, P. and L.A. Sandler. 2000. "ADA Title III and the Internet: Technology and Civil Rights." *Mental and Physical Disability Law Reporter* 24: 855–859.
- Blanck, P., and H.A. Schartz. 2001. "Towards Researching a National Employment Policy for Persons with Disabilities." In *Emerging Workforce Issues: W.I.A., Ticket to Work, and Partnerships*, R. McConnell, ed. Alexandria, VA: National Rehabilitation Association, pp. 1–10.
- Blanck, P., and C. Song. 2001. "With Malice toward None; With Charity toward All: Civil War Pensions for Native and Foreign-Born Union Army Veterans." *Transnational Law and Contemporary Problems* 11: 1–75.
- Blanck, P., L.A. Sandler, D. Kutzko, M.L. Zaiger, D.R. Oelschlaeger, and S.J. Gayer. 2002. "Brief of the National Council on Disability as *Amicus Curiae* in Support of Respondent, *Chevron U.S.A., Inc. v. Echazabal*." Submitted to the U.S. Supreme Court.
- Bound, J., and T. Waidmann. 2000. "Accounting for Recent Declines in Employment Rates among the Working-Aged Disabled." NBER working paper no. 7975. Washington, DC: National Bureau of Economic Research. Available at: <<http://papers.nber.org/papers/w7975>>.
- Burgdorf, R.L., Jr. 1997. "'Substantially Limited' Protection from Disability Discrimination: The Special Treatment Model and Misconstructions of the Definition of Disability." *Villanova Law Review* 42: 409–509.
- Burke, T.F. 1997. "On the Rights Track: The Americans with Disabilities Act." In *Comparative Disadvantages? Social Regulations and the Global Economy*, S. Nivola, ed. Washington, DC: Brookings Institution, pp. 203–231.
- Burkhauser, R.V, and M.C. Daly. 1996. "Employment and Economic Well-Being Following the Onset of a Disability." In *Disability, Work and Cash Benefits*, J.L. Mashaw, V.P. Reno, R.V. Burkhauser, and M. Berkowitz, eds. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 59–102.
- Chevron U.S.A., Inc. v. Echazabal*. 2002. 122 S. Ct. 2045.

- Cleveland v. Policy Management Systems Corp.* 1999. 526 U.S. 795.
- Collignon, F.C. 1986. "The Role of Reasonable Accommodation in Employing Disabled Persons in Private Industry." In *Disability and the Labor Market: Economic Problems, Policies, and Programs*, M. Berkowitz and M.A. Hill, eds. Ithaca, NY: Cornell University Press, pp. 196–241.
- . 1997. "Is the ADA Successful? Indicators for Tracking Gains." *The Annals of the American Academy of Political and Social Science* 549: 129–147.
- DeLeire, T. 1997. "The Wage and Employment Effects of the Americans with Disabilities Act." Unpublished Ph.D. dissertation. Santa Monica, CA: Stanford University.
- . 2000. "The Wage and Employment Effects of the Americans with Disabilities Act." *Journal of Human Resources* 35: 693–715.
- . 2001. "Changes in Wage Discrimination against People with Disabilities: 1984–1993." *Journal of Human Resources* 36: 144–158.
- Donahue, J.J. III. 1986. "Is Title VII Efficient?" *University of Pennsylvania Law Review* 134: 1411–1427.
- . 1987. "Further Thoughts on Employment Discrimination Legislation: A Reply to Judge Posner." *University of Pennsylvania Law Review* 136: 523–545.
- . 1994. "Employment Discrimination Law in Perspective: Three Concepts of Equality." *Michigan Law Review* 92: 2583–2612.
- Duckett v. Dunlop Tire Corp.* 1997. 120 F.3d 1222 (11th Cir.).
- Ehrenberg, R.G., and R.S. Smith. 1991. *Modern Labor Economics: Theory and Public Policy* (4th ed.). Boston, MA: Addison Wesley.
- Epstein, R.A. 1992. *Forbidden Grounds: The Case against Employment Discrimination Laws*. Cambridge, MA: Harvard University Press.
- Friedland, R.B., and A. Evans. 1996. "People with Disabilities: Access to Health Care and Related Benefits." In *Disability, Work and Cash Benefits*, J.L. Mashaw, V.P. Reno, R.V. Burkhauser, and M. Berkowitz, eds. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 357–388.
- Hale, T.W. 2001. "The Lack of a Disability Measure in Today's Current Population Survey." *Monthly Labor Review* 124: 38–40.
- Issacharoff, S., and J. Nelson. 2001. "Discrimination with a Difference: Can Employment Discrimination Law Accommodate the Americans with Disabilities Act?" *North Carolina Law Review* 79: 307–358.
- Jolls, C. 2000. "Accommodation Mandates." *Stanford Law Review* 53: 223–306.
- . 2001. "Antidiscrimination and Accommodation." *Harvard Law Review* 115: 642–699.

- Kaye, H.S. 1998. "Is the Status of People with Disabilities Improving?" *Disability Statistics Abstract* 21: 1–4.
- . 2002. "Improved Employment Opportunities for People with Disabilities." *Disability Statistics Report* 17. Washington DC: U.S. Department of Education, National Institute on Disability and Rehabilitation Research.
- Kaye, H.S., M.P. LaPlante, D. Carlson, and B.L. Wenger. 1996. Trends in Disability Rates in the United States, 1970-1994. Disability Stat. Center, Disability Statistics. Abstract No. 17.
- Kelman, M. 2001. "Market Discrimination and Groups." *Stanford Law Review* 53: 833–896.
- Krenek, S.A. (note). 1994. "Beyond Reasonable Accommodation." *Texas Law Review* 72: 1969–2011.
- Kruse, D., and T. Hale. 2003. "Disability and Employment: Symposium Introduction." *Industrial Relations* 42(1): 1–10.
- Kruse, D., and L. Schur. 2003. "Employment of People with Disabilities Following the ADA." *Industrial Relations* 42(1): 31–66.
- Lee, B.A. 2003. "A Decade of the Americans with Disabilities Act: Judicial Outcomes and Unresolved Problems." *Industrial Relations* 42(1): 11–30.
- Lee, M. 1997. "Searching for Patterns and Anomalies in the ADA Employment Constellation: Who Is a Qualified Individual with a Disability and What Accommodations Are Courts Really Demanding?" *Labor Lawyer* 13: 149–196.
- Loprest, P., K. Rupp, and S.H. Sandell. 1995. "Gender, Disabilities, and Employment in the Health and Retirement Survey." *Journal of Human Resources* 30(5): S293–S318.
- Mashaw, J.L., and V.P. Reno. 1996. "Overview." In *Disability, Work and Cash Benefits*, J.L. Mashaw, V.P. Reno, R.V. Burkhauser, and M. Berkowitz, eds. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 1–27.
- McNeil, J.M. 1993. Americans with Disabilities: 1991–92. Current population rep. no. P70-33. Washington, DC: U.S. Department of Commerce.
- . 1997. Americans with Disabilities: 1994–95. Current population rep. no. P70-61. Washington, DC: U.S. Department of Commerce. Available at: <<http://www.census.gov/hhes/www/disable/sipp/disab9495/ds94tl.html>>.
- National Council on Disability. 1996. *Achieving Independence: The Challenge for the 21st Century—A Decade of Progress in Disability Policy Setting an Agenda for the Future*. Washington, DC: National Council on Disability.
- O'Day, B., H. Schartz, and P. Blanck. 2002. "Introduction: Disability Law, Research and Policy." *Behavioral Sciences and the Law*, 20(6): 537–539.

- Oi, W.Y. 1991. Disability and a Workfare-Welfare Dilemma. In *Disability and Work: Incentives, Rights, and Opportunities*, C.L. Weaver, ed. Washington, DC: AEI Press, pp. 31–45.
- Olson, W. 1997. “Comment on Burke.” In *Comparative Disadvantages: Social Regulations and the Global Economy*, P.N. Nivola, ed. Washington, DC: Brookings Institute, pp. 146–181.
- Posner, R.A. 1987. “The Efficiency and the Efficacy of Title VII.” *University of Pennsylvania Law Review* 136: 513–521.
- Rosen, S. 1991. “Disability Accommodation and the Labor Market.” In *Disability and Work: Incentives, Rights, and Opportunities*, C.L. Weaver, ed. Washington, DC: AEI Press, pp. 18–30.
- Schartz, K., H. Schartz, and P. Blanck. 2002. “Employment of Persons with Disabilities in Information Technology Jobs: A Literature Review for ‘IT Works.’” *Behavioral Sciences and the Law* 20(6): 637–657.
- Schwochau, S., and P. Blanck. 2000. “The Economics of the Americans with Disabilities Act, Part III: Does the ADA Disable the Disabled?” *Berkeley Journal of Employment and Labor Law* 21: 271–313.
- . 2003. “Does the ADA Disable the Disabled?—More Comments.” *Industrial Relations* 42(1): 67–77.
- Silverstein, R. 2002. “Issues Raised on Statistics on the Employment of People with Disabilities.” Personal correspondence with Peter Blanck.
- Stein, M.A. 2000a. “Labor Markets, Rationality, and Workers with Disabilities.” *Berkeley Journal of Employment and Labor Law* 21: 314–334.
- . 2000b. “Empirical Implications of Title I.” *Iowa Law Review* 85: 1671–1690.
- . 2000c. “Employing People with Disabilities: Some Cautionary Thoughts for a Second Generation Civil Rights Statute.” In *Employment Disability, and the Americans with Disabilities Act: Issues in Law and Public Policy*, P.D. Blanck, ed. Evanston, IL: Northwestern University Press, pp. 51–68.
- Stern, S. 1989. “Measuring the Effect of Disability on Labor Force Participation.” *Journal of Human Resources* 24: 361–395.
- Stoddard, S., L. Jans, J.M. Ripple, and L. Kraus. 1998. *Chartbook on Work and Disability in the United States*. Washington, DC: National Institute on Disability and Rehabilitation Research. Available at <<http://www.infouse.com/disabilitydata/workdisability.html>>. (Posted: March 29, 2001. Accessed: December 18, 2002.)
- Summers, L.H. 1989. “Some Simple Economics of Mandated Benefits.” *American Economic Review* 79: 177–189.
- Sutton v. United Airlines, Inc.* 1999. 527 U.S. 471.
- Toyota Motor Manufacturing, Inc. v. Williams.* 2002. 122 S. Ct. 681.

- US Airways, Inc. v. Barnett*. 2002. 122 S. Ct. 1516.
- US Airways, Inc. v. Barnett*. 2001. 228 F.3d 1105 (9th Cir. 2000), *cert. granted in part sub nom.* 121 S. Ct. 1600.
- US Airways, Inc. v. Barnett*, Brief for Petitioner, available at 2001 WL 747864. U.S. Supreme Court. 2001.
- U.S. Census Bureau. 2000. *Americans with Disabilities, 1994–1995*. Washington, DC: U.S. Census Bureau. Available at: <<http://www.census.gov/80/hhes/www/disable/sipp/disable9495.html>>. (Posted: August 22, 2002. Accessed: December 18, 2002.)
- Wax, A. 2003. “Disability, Reciprocity, and ‘Real Efficiency’: A Unified Approach.” *William and Mary Law Review* 44(3): 1421–1452.
- Weaver, C.L. 1991. “Incentives versus Controls in Federal Disability Policy.” In *Disability and Work: Incentives, Rights, and Opportunities*, C.L. Weaver, ed. Washington, DC: AEI Press, pp. 3–17.
- Yelin, E., and M. Cisternas. 1996. “The Contemporary Labor Market and the Employment Prospects of Persons with Disabilities.” In *Disability, Work and Cash Benefits*, J.L. Mashaw, V.P. Reno, R.V. Burkhauser, and M. Berkowitz, eds. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 33–57.
- Zwerling, C., P. Whitten, N.L. Sprince, C.S. Davis, R.B. Wallace, P. Blanck, and S.G. Heeringa. 2002. “Workforce Participation by Persons with Disabilities: The National Health Interview Survey Disability Supplement, 1994 to 1995.” *Journal of Occupational and Environmental Medicine* 44(4): 358–364.
- . 2003. “Workplace Accommodations for People with Disabilities: National Health Interview Survey Disability Supplement, 1994–95.” *Journal of Occupational and Environmental Medicine* 45(5): 517–525.

The Decline in Employment of People with Disabilities

A Policy Puzzle

David C. Stapleton
Richard V. Burkhauser
Editors

2003

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

Library of Congress Cataloging-in-Publication Data

The decline in employment of people with disabilities : a policy puzzle
/ David C. Stapleton and Richard V. Burkhauser, editors.

p. cm.

Includes bibliographical references and index.

ISBN 0-88099-259-X (pbk. : alk. paper) — ISBN 0-88099-260-3
(hardcover : alk. paper)

1. People with disabilities—Employment—United States. 2. People
with disabilities—Employment—United States—Statistics. 3. People
with disabilities—Employment—Government policy—United States. I.
Stapleton, David C. II. Burkhauser, Richard V.

HD7256.U5D413 2003

331.5'9'0973—dc22

2003015636

© 2003

W.E. Upjohn Institute for Employment Research
300 S. Westnedge Avenue
Kalamazoo, Michigan 49007-4686

The facts presented in this study and the observations and viewpoints expressed are
the sole responsibility of the authors. They do not necessarily represent positions of
the W.E. Upjohn Institute for Employment Research.

Cover design by Alcorn Publication Design

Index prepared by Nancy Humphreys.

Printed in the United States of America.

Printed on recycled paper.