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Mandated Medical Leave in the Workplace

Christine Jolls*

Many studies have addressed the effects of the Americans with Disabilities Act (ADA) on the employment levels of individuals with disabilities. However, no analysis has been undertaken of the effects of family and medical leave mandates – which exist at both federal and state levels in the United States and require employers to provide leave from work for employees with medical problems – on the employment levels of individuals with disabilities. These leave mandates generally require employers to provide up to twelve weeks of unpaid medical leave from work annually and, relative to the ADA, have much greater potential to produce employment gains for individuals with disabilities because many of the covered medical problems are less likely (by comparison with the disabilities covered by the ADA) to be observable to – and thus potential bases of discrimination by – employers at the time of hiring. The empirical evidence suggests that, indeed, mandated medical leave had positive effects on the employment levels of individuals with disabilities. More specifically, comparison of disabled employment levels in states that had mandated medical leave at the state level prior to the enactment of the federal Family and Medical Leave Act of 1993 (FMLA) to disabled employment levels in states that did not have pre-FMLA mandated medical leave at the state level shows, across a variety of specifications, rising disabled employment in the latter states, particularly for individuals over 40 (who are most likely to take leave). The frequency of medical leave-taking also increased in states without pre-FMLA state-level mandated medical leave relative to states with pre-FMLA state-level mandated medical leave. At a minimum, there is no evidence that mandated medical leave had the negative disabled employment consequences that some believe accompanied the enactment of the ADA.

The Americans with Disabilities Act of 1990 (ADA), while widely heralded as the fundamental capstone of the disability civil rights movement (Shapiro 1993), appears to have produced little to no aggregate gain in disabled employment and, by many accounts, has affirmatively reduced disabled employment.[1] Entirely overlooked in the voluminous debate over the ADA's employment effects, however, have been the employment effects of a different workplace mandate of evident relevance to the employment prospects of individuals with

* Yale Law School. Thanks to Andrew Kim, Daniel Klaff, Katerina Linos, Eric Sublett, and David Young for outstanding research assistance. [Seminar participants.]

[1] For a broad overview of the evidence and contemporary policy debate about the ADA, see Stapleton and Burkhauser (2003).

disabilities: mandated family and medical leave. Such mandates exist at both federal and state levels in the United States and require employers to provide up to twelve weeks of unpaid leave from work annually in connection with employees' medical problems, pregnancy, or caretaking obligations toward newborn or newly adopted children or ill family members.

Family and medical leave mandates have been extensively studied for their effects on female wages and employment levels (Klerman and Leibowitz 1997; Ruhm and Teague 1997; Ruhm 1997, 1998; Waldfogel 1998, 1999). This paper, by contrast, explores the effects of these mandates on the employment opportunities of individuals with disabilities. Mandated workplace leave for medical problems is currently utilized every year by over 20 million Americans – many of them with disabilities – and has increasingly been recognized by employment law scholars and practitioners as a crucial employment law right for individuals with disabilities (e.g., Barnes and Good 2005; Passamano 1997). In contrast to the ADA, mandated medical leave requires no demonstration of legal status as an "individual with a disability" – now a daunting hurdle under the ADA.

A potentially powerful argument suggests that the employment effects of mandated medical leave on individuals with disabilities may be as discouraging as the apparent employment effects of the ADA on these individuals. This is so because a major reason that the ADA may reduce disabled employment is that its "reasonable accommodations" mandate – which requires employers to take potentially costly steps such as purchasing special equipment and altering workplace structures – may discourage the hiring of individuals with disabilities (DeLeire 2000, 2003; Acemoglu and Angrist 2001; Jolls and Prescott 2006); so too mandated medical leave may discourage the hiring of individuals with disabilities and others with serious medical conditions because of the costs imposed by medical leave. To be sure, because

mandated medical leave under the federal Family and Medical Leave Act of 1993 (FMLA) and similar state-level mandates is unpaid, leave-taking does not impose the same tangible costs as some types of reasonable accommodation, but in terms of the disruption to an employer's operation, the costs of mandated leave may be significant, as discussed more fully in section II.A below.

Alternatively, the employment effects of mandated medical leave on individuals with disabilities may be less discouraging than the employment effects of the ADA on these individuals for the simple reason that many conditions for which leave is needed are not observable to employers at the time of hiring. This is true in significant part as a consequence of a separate provision of the ADA, which broadly restricts medical examinations and inquiries during the hiring process, as described more fully in section II.B below. While some conditions for which reasonable accommodations may be sought under the ADA are – like many conditions for which leave is needed – not observable to employers at the time of hiring, the fraction of unobservable conditions is likely to be substantially higher in the case of mandated medical leave. As a result, the negative dynamic in which employers respond to the costs of a legal mandate by reducing their hiring of individuals with disabilities may not recur in the case of mandated medical leave.

As noted above, mandated medical leave exists at both federal and state levels in the United States, providing potentially fertile ground for empirical study of the effects of such leave on the employment levels of individuals with disabilities. Empirical study of the effects of the enactment of the pre-FMLA state-level mandates is complicated, however, by the absence of the ADA's legal restrictions on preemployment medical examinations and inquiries during the relevant period. At the same time, empirical analysis of the effects of the enactment of mandated

medical leave under the FMLA is complicated by the fact that numerous other factors – most prominently the changes in federal disability benefit recipiency over the 1990s (Autor and Duggan 1993) and the enactment of the ADA in 1990 – significantly shaped the employment situation of individuals with disabilities over the period in which the FMLA went into effect. However, it is possible to examine employment trends in states without pre-FMLA mandated medical leave at the state level *relative to* employment trends in states that had mandated medical leave at the state level prior to the FMLA's enactment. Once the ADA went into effect in 1992, preemployment medical examinations and inquiries were prohibited across all states, so this approach avoids the difficulty with examining the effects of the enactment of the pre-FMLA state-level mandates.

As described below, across a variety of specifications, the employment of individuals with disabilities rose after mandated medical leave under the FMLA went into effect in states without versus with pre-FMLA mandated medical leave at the state level. Actual leave-taking for medical reasons among individuals with disabilities also rose in the former states relative to the latter. Overall, the empirical results point to positive labor supply effects of mandated medical leave for individuals with disabilities and – because of the unobservability of many conditions for which medical leave is needed – no negative labor demand effects for individuals with disabilities. At a minimum, the empirical results reported below provide no evidence that the enactment of mandated medical leave under the FMLA had negative effects of the sort some believe accompanied the ADA's enactment.

Section I below offers further factual background on the identity of workplace leave-takers. Section II elaborates the arguments for and against positive disabled employment effects of mandated medical leave under the FMLA. Section III describes the data used in the empirical

analysis, and section IV presents the basic approach and results. Section V describes a series of robustness checks. Section VI concludes.

I. Leave-Taking Under Workplace Leave Mandates

For many people the core image of leave-taking under family and medical leave laws is leave-taking in connection with pregnancy or caring for newborn or newly adopted children or ill family members. Indeed, the Department of Labor's opening statement in its major 2000 study of the FMLA repeatedly emphasizes the issue of family leave while making no mention whatsoever of the policy and other issues surrounding medical leave (Cantor et al. 2000).[2]

In sharp contrast to this picture, leave-taking for an employee's own serious medical condition is, at least by some measures, more common than all other types of leave-taking on FMLA-permitted grounds put together. Table 1, taken from the 2000 Department of Labor report just noted, shows the breakdown of reasons for taking leave across the types of leaves

[2] The opening three paragraphs of the report read as follows (p. viii, emphasis added):

> The sharp increases in the number of *women and single parents* in the labor force in the final quarter of the 20th century set the stage for a national debate on how to *balance the competing interests of work and family*. A labor force comprising large numbers of *family care givers* inevitably demanded greater flexibility in *balancing dual responsibilities*. At the same time, employers worried about the increasing costs of employee benefits. Public policy makers struggled to find a middle ground that accommodated the needs of workers and employers.
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> In 1993, President Clinton and the Congress took a significant step towards a balanced approach with the passage of the Family and Medical Leave Act (FMLA). The Act provides covered and eligible workers with up to 12 weeks of job-protected, unpaid leave so they can care for a seriously ill child, spouse or parent; stay home to care for their newborn, newly adopted or newly placed child; or take time off when they are seriously ill. The law's signature features of guaranteed job protection upon return from leave and maintenance of health benefits address the most urgent needs of *covered family care givers*. Additionally, the law includes a variety of provisions to minimize the potential burdens on employers.
>
> The law also established the bipartisan Commission on Family and Medical Leave to study legally required and voluntary family and medical leave policies and their impact on both workers and employers. The Commission, through its 1995 surveys of employers and employees, found that the Act was helping workers *balance work and family*, at least for those who were covered and eligible and could afford to take leave.

permitted by the FMLA.[3] In aggregate, more than 20 million Americans take medical leave every year (Cantor et al. 2000:2-2)

Of course, many conditions occasioning medical leave under the FMLA will not qualify as "disabilities."[4] However, at least within the reported case law under the FMLA, medical conditions that qualify as disabilities within the accepted policy vernacular are quite common. A few examples are helpful. In *Collins v. NTN-Bower Corp.*, 272 F.3d 1006 (7th Cir. 2001), Judge Frank Easterbrook considered the FMLA claim of an employee suffering from serious depression; and many other FMLA cases also involve serious depression or other serious mental conditions. Meanwhile, in the domain of physical impairments, *Uema v. Nippon Express Hawaii,* 26 F.Supp.2d 1241 (D.Hawaii 1998), and *Underhill v. Williamina Lumber Co.*, 1999 U.S. DIST. LEXIS 9722, involved employees seeking medical leave under the FMLA for chronic hepatitis C and a seizure disorder respectively, while in *Cousins v. Harold*, 238 F.Supp.2d 357 (D.Mass. 2003), the leave-taker had Arnold Chiari Malformation, a rare condition in which "the lower part of the cerebellum protrudes down into the spinal canal, causing tissue compression and hindering normal spinal fluid flow." Naturally, litigated cases under the FMLA do not provide an unbiased sample of the sorts of medical conditions for which employees take leave under the FMLA's medical leave provision – just as in general litigated cases are not a representative sample of the underlying set of disputes (Priest and Klein 1984). But the FMLA case law at least provides a broad suggestion of the way in which many conditions occasioning medical leave are also disabilities in the accepted policy vernacular.

[3] The results reported in Table 1 are based on telephone surveys with 2,558 interviewees with recent employment experience; interviewees were selected from randomly generated lists of phone numbers (Cantor et al. 2000:1-3 to 1-4). For further details about the surveys, see Appendix C to the Department of Labor report.

[4] Note that what matters for purposes of the analysis in this paper is whether a condition is a "disability" for purposes of policy analysis of disability issues, not whether a condition is a "disability" within the courts' interpretations of the ADA.

While Table 1 concerned the breakdown between medical and family reasons for taking leave on FMLA-permitted grounds, it is also valuable to know the *duration* of leaves taken for medical versus family reasons. One might hypothesize that medical leave, while more frequently utilized than family leave, might often be of short duration. As Table 2 shows, however, about a third of non-pregnancy medical leaves are more than 30 days in length, while another quarter of such leaves are between 11 and 30 days in length. In comparison to leaves for other reasons, non-pregnancy medical leaves, while typically shorter than pregnancy-related medical leaves, are longer on average than leaves taken to care for newborn or newly adopted children or ill family members. As Table 2 makes clear, most medical leaves are not short work interruptions of a few days or less but, instead, are longer absences, the potential costs of which to employers are described more fully in section II.A below.

II. Theoretical Analysis of the Effects of Mandated Medical Leave on the Employment of Individuals with Disabilities

Many employment law mandates are directed to employees as a whole. When, for instance, the Employee Retirement Income Security Act (ERISA) regulates pension benefits, the regulation is reasonably viewed as directed to employees as a whole. Other mandates, however, are disproportionately targeted to particular demographic subgroups. While it is rare for an employment law mandate to be targeted to a particular subgroup exclusively, many modern mandates are disproportionately directed to one subgroup. For instance, it is usually thought that, at present, mandated family leave is disproportionately, although of course not exclusively, targeted to female employees. Likewise, mandated medical leave is disproportionately, although of course not exclusively, targeted to individuals with disabilities.

With respect to mandates directed to employees as a whole, standard economic theory suggests that the employment effects of the mandate turn solely on its efficiency, or the degree to which the value of the mandated benefit to employees exceeds the cost of the benefit to employers. An efficient mandate will have positive employment effects (because the full cost of the mandated benefit will be shifted to employees' wages), while an inefficient mandate will have negative employment effects (because such cost-shifting will be impossible) (Summers 1989). But the situation is different with respect to mandates – such as mandated medical leave – targeted to a particular subgroup of employees: in some circumstances such mandates can reduce the employment of targeted individuals even if the mandate is efficient, while in other circumstances such mandates can increase the employment of targeted individuals even if the mandate is inefficient (Jolls 2000).

As noted in the introduction, the most frequently discussed mandate targeted to individuals with disabilities is the ADA's mandate of reasonable accommodations. Section II.A below briefly applies the standard analysis of the employment effects of the reasonable accommodations mandate to the case of mandated medical leave. Section II.B describes an opposing, and more optimistic, account of the likely disabled employment effects of mandated medical leave based on the nature of the conditions for which medical leave is often utilized.

A. Reasons for Negative Employment Effects from Mandated Medical Leave

As noted in the introduction, the ADA, by mandating reasonable accommodations for individuals with disabilities, may make these individuals more expensive to employ and, as a result, discourage employers from hiring such individuals. Because, for instance, an employer who hires a severely visually impaired employee may be required by the ADA to employ a

reader for that employee (29 U.S.C. section 1630.2(o)), the employer may be reluctant to hire this individual in the first place.

To be sure, the ADA prohibits the failure to hire individuals with disabilities on account of the costs of accommodations; but this prohibition is likely to be extremely difficult to enforce. The problem with enforcement is in part the general difficulty of enforcing any sort of prohibition on hiring discrimination; there are always many reasons that an employer may have chosen one candidate over another (e.g., Posner 1987:517-19). But the difficulties are particularly severe in the context of disability discrimination because the small number of individuals who have any given disability makes it extremely difficult to use any sort of statistical evidence to prove disability discrimination. While a law firm or accounting office with no women looks suspicious in relation to the qualified population, a law firm or accounting office with no severely visually impaired employees may have no such employees simply as a matter of chance, given the relatively small proportion of these individuals in the population. If an individual with a disability is more expensive to employ because of the costs imposed by the accommodations required as a result of the individual's disability, then many employers may respond, with legal impunity, by not hiring the individual.

It is straightforward to apply this sort of argument to the case of mandated medical leave. Like the ADA's reasonable accommodations requirement, mandated medical leave generally imposes at least some additional costs in connection with the employment of individuals with disabilities. Most obviously, any sort of mandated workplace leave requires employers to replace employees during the period of absence, and the replacement employees may require training, may not perform as well as the individuals they are replacing, and may impose higher wage costs on employers if a temporary agency or other third party is involved in the transaction

(Issacharoff and Rosenblum 1994:2191-92). In addition, workplace leave mandates often impose various recordkeeping and other administrative requirements on employers, requirements that at least some employers perceive to involve costs (Cantor et al. 2000:6-7 to 6-9).

Of course, as noted above, the costs of mandated medical leave are not exclusive to individuals with disabilities. However, it is hard to imagine that such individuals would not need medical leave more frequently than their nondisabled counterparts. Given that mandated medical leave is likely to impose at least some extra cost in connection with the employment of individuals with disabilities, both theoretical and empirical analysis of the effects of the ADA suggest in a rather straightforward fashion that the employment effects of mandated medical leave on individuals with disabilities may – like those of the ADA's reasonable accommodations requirement – be negative.

B. Reasons for Positive Employment Effects from Mandated Medical Leave

Section II.A's application of the analysis of the ADA's reasonable accommodations mandate to the case of mandated medical leave overlooks an important potential difference between the two types of mandates. In the case of mandated medical leave, employers in many circumstances will be unable to observe, at the time of hiring, the condition for which medical leave may ultimately be taken. Put differently, while an employer considering an employee whose visual disability ends up requiring a reader will typically know at the time of hiring (apart from the less common case of a serious visual disability that arises later) of the need for the reader, in the case of mandated medical leave employers will often be unable to treat different employees differently at the time of hiring because the employers do not know who is who. In the FMLA medical leave cases discussed in section I above, at the time of hiring the employer

would have no reason to view the plaintiff as more costly than the average employee; conditions such as depression and other serious mental conditions, hepatitis C, seizure disorder, and (at least in some cases) Arnold Chiari Malformation would not be visually or otherwise observable to the employer at the time of hiring (if they even existed at the time of hiring).

The ADA plays an important role in the unobservability of many leave-necessitating conditions to employers at the time a job offer is made. To be sure, such unobservability is in part a product of the nature of the underlying medical condition, but it is also in part a product of the legal regime governing employer inquiries into employees' medical conditions. The ADA imposes a set of restrictions on employers' ability to obtain information about medical conditions prior to making a conditional offer of employment to an applicant; only after making such an offer does the ADA permit employers to conduct medical examinations and inquiries with respect to the applicant (42 U.S.C. 12112(d)). The goal of this component of ADA dovetails precisely with the analysis offered in this section; the ADA approach, like the analysis here, stems from the conviction that the unobservability of many medical conditions will greatly reduce the risk of negative employment consequences for those affected by such conditions. Under the ADA's restrictions on preemployment medical examinations and inquiries, because the employer has already made a conditional offer of employment before it may learn of any unobservable medical conditions, a subsequent refusal to hire an applicant who turns out to have such a condition can much more readily be shown to be "because of" the condition than would be the case without the ADA provision. For conditions that are not immediately apparent, the legal regime governing employers' ability to obtain medical information is likely to have a significant effect on the degree to which conditions are effectively observable versus unobservable to employers.

This point is important to the empirical analysis in this paper because, while the ADA's restrictions on preemployment medical examinations and inquiries were in effect when mandated medical leave under the FMLA was enacted, these restrictions were not in effect when mandated medical leave under various pre-FMLA state laws was initially enacted. The discussion above thus suggests positive, or at least nonnegative, disabled employment effects of mandated medical leave in the case of the FMLA, but not necessarily in the case of the pre-FMLA state-level mandates. Of course, even after the ADA restrictions went into effect, the limited damages available in hiring discrimination cases may limit the frequency of lawsuits against employers that unlawfully retract conditional offers of employment based on information learned from medical examinations and inquiries; and, as well, prior to the ADA there were undoubtedly some employers that did not conduct preemployment medical examinations and inquiries, just as there were undoubtedly some employees who did not disclose their medical conditions in response to preemployment inquiries by their employers. The point here is not that positive or nonnegative disabled employment effects of mandated medical leave could not occur without the ADA's restrictions on preemployment medical examinations and inquiries – nor that positive or nonnegative effects will necessarily occur with the ADA's restrictions in place – but only that positive or nonnegative effects will be much more likely in the presence than in the absence of the ADA's restrictions.

If enough conditions for which mandated medical leave is ultimately taken are unobservable to employers at the time of hiring, then such leave may provide an example of the sort of targeted mandate that can increase rather than decrease targeted individuals' employment levels. Note that such mandates – in contrast to mandates directed to employees as a whole – may increase targeted individuals' employment *regardless of the efficiency of the mandate*. The

reason for this is that, with equality in the wages and employment levels of the targeted and untargeted employees (because of employers' inability to distinguish the two groups), the costs of the mandate will be spread across all employees, while the benefits will be concentrated on the targeted employees. In terms of labor supply and labor demand, the labor supply curve for targeted employees will shift by the value to them of the mandated benefit, while the labor demand curve for targeted employees will shift by the cost of the mandated benefit averaged over all employees.[5] To be sure, if the costs of a targeted mandate are very large in relation to its benefit to targeted employees, and if the fraction of targeted employees is reasonably high, then targeted employment may still fall with the mandate, but in many cases it can be expected to rise because of the cross-subsidization effect just noted.[6]

[5] For a more detailed discussion, see Jolls (2000).

[6] It is important not to overstate the distinction drawn in this section between mandated medical leave and the ADA's reasonable accommodations requirement. Indeed, one potential form of reasonable accommodation under the ADA is leave from work (Interpretive Guidance on Title I of the Americans with Disabilities Act, 29 C.F.R. Pt. 1630 App. secs. 1630.2(o), 1630.15(c)), and there is undoubtedly overlap – underlined most clearly by cases of employees' seeking leave under both the FMLA and the ADA – in the types of conditions for which leave will be sought under the two laws. (Moreover, as already noted, even outside the context of workplace leave as a reasonable accommodation, it is possible that a condition for which accommodation is sought under the ADA – for instance, a visual disability – may not yet have arisen at the time of hiring.) The suggestion here is simply that with respect to the overall set of obligations imposed on employers by mandated medical leave versus the ADA's reasonable accommodations requirement, the degree to which the ultimate targets of the mandates can be identified by employers at the time of hiring is far lower in the case of mandated medical leave than in the case of the ADA's reasonable accommodations requirement because of the much more varied set of mandates imposed by that requirement.

An obvious corollary of the point just made is that, whatever the potential negative employment effects of the ADA's reasonable accommodations requirement overall, particularized applications of this requirement to mandate workplace leave as a form of reasonable accommodation may have more positive effects on disabled employment. An empirical prediction – untestable with existing data sources to the best of my knowledge – is that the effects of the ADA's reasonable accommodations requirement on individuals with disabilities whose accommodation needs are limited to workplace leave would be more positive, or at least less negative, than the effects of this ADA provision on disabled employment overall; those individuals needing only workplace leave as an accommodation would, compared to the overall universe of those covered by the ADA's reasonable accommodations requirement, tend to have a higher fraction of unobservable conditions.

III. Data

For its empirical analysis of the effects of mandated medical leave under the FMLA, this paper draws primarily on the March Current Population Survey (CPS). The March CPS provides information on disability and employment status, medical leave-taking, and various demographic variables used in the analysis below. Throughout, data is referred to by its year of observation, and attention is restricted to individuals with the greatest level of labor force attachment, those aged 21 to 58, with particular focus on individuals aged 41 to 58, who are the primary users of medical leave from work. The measure of disability status in the CPS is discussed further at the end of this section. State unemployment rates are calculated from Bureau of Labor Statistics data.

Because this paper relies on state-law variation in the existence or nonexistence of mandated medical leave at the state level prior to the enactment of the FMLA to identify the FMLA's effects on employment levels and leave-taking behavior, the pre-FMLA legal landscape is central to the analysis. Five states[7] had mandated medical leave in the pre-FMLA period, as shown in Table 3.[8] In all of these states except Connecticut, the law required the prominent posting of notices advising employees of their right to mandated medical leave, thus presumably heightening awareness of the availability of such leave.[9] The District of Columbia law, for instance, required employers to "post and maintain in a conspicuous place, a notice that sets forth

[7] For expositional case this paper uses the term "state" to embrace the District of Columbia.

[8] In a sixth state, Vermont, state-level mandated medical leave was enacted in the latter half of 1992 with a start year (treating a year as one in which a law is in effect if the law was in effect for at least half the year) of 1993. Including Vermont in the group of states with pre-FMLA mandated medical leave does not alter the results reported below.

[9] In Maine, the notice requirement is contained not in the state's mandated medical leave law but in a separate provision requiring the posting of notices about several different employment laws. See Maine Revised Statutes Annotated, v. 36, sec. 710.

excerpts from or summaries of the pertinent provisions of this act," with a fine of $100 per day for employers who failed to post the required notice.[10]

A general virtue, for purposes of the empirical analysis below, of mandated medical leave is that there is no suggestion that such mandated leave was enacted – at either the federal or the state level – in response to any changes or trends in the employment opportunities of individuals with disabilities. This is an important virtue because if the existence or enactment of pre-FMLA mandated medical leave at the state level tended to stem from changes or trends in disabled employment opportunities in the five states with pre-FMLA laws, then examining shifts in disabled employment across states without versus with pre-FMLA state-level mandated medical leave might pick up the effects of these other changes or trends rather than (what is of interest here) the effects of imposing mandated medical leave. The predominant public focus on leave for family as opposed to medical reasons, as detailed in section I above, thus produces important benefits for the empirical approach adopted here.

An additional (and related) important virtue of the pre-FMLA state-level mandated medical leave laws is that the presence versus absence of such laws is not correlated with the nature of the state-level disability discrimination regime in the pre-FMLA and pre-ADA periods. If such a correlation existed, then an important concern with the approach taken below, given the close proximity of the ADA's and FMLA's effective dates, would that the states in which the FMLA was more of an innovation were *also* the states in which the ADA – with its potential negative employment effects, as described above – was less of an innovation. If so, then rising relative disabled employment in the states in which mandated medical leave under the FMLA was more of an innovation could simply reflect the negative effects of the ADA's enactment in

[10] District of Columbia Laws 8-181, sec. 12. Note that in Connecticut, the state without a notice requirement, employees may have learned about their right to mandated medical leave through newspaper coverage, as the Connecticut law received at least some coverage in the Hartford Courant (Oct. 27, 1992, p. C1).

the states in which (while the FMLA was less of an innovation) the ADA was more of an innovation. However, as noted, the states without versus with pre-FMLA state-level mandated medical leave were relatively evenly distributed with respect to the degree to which the ADA was an innovation.[11]

As noted above, the CPS measure of disability status warrants some further discussion. The disability status variable reflects the respondent's answer to the question, "Does [respondent] have a health problem or a disability which prevents him/her from working or which limits the kind or amount of work he/she can do?" Because of self-reporting, it is possible that this measure of disability status is in part influenced by – rather than merely influencing, as sought to be studied in this paper – the respondent's employment status; this is so because individuals who are unable to find work may be more likely to report health conditions or impairments that limit work, in part to justify their lack of success in obtaining work (Kreider and Pepper 2006). However, this issue is not likely to be a major concern in the analysis below because the approach here uses the CPS disability status measure to assess disabled employment trends in states without pre-FMLA state-level mandated medical leave *relative to* disabled employment trends in states with such mandated medical leave, and, thus, potential reporting issues with the disability status variable as a general matter are not likely to bias the empirical findings reported below. To be sure, these findings could be biased if *the degree of legal innovativeness* affected the reporting of disability; in the context of the ADA, for instance, it is possible that legal innovation in the form of the prohibition of disability discrimination could affect reporting behavior (Kruse and Schur 2003). It seems unlikely, however, that the degree to

[11] The ADA's reasonable accommodations requirement was an innovation in Connecticut and Maine, but not in Rhode Island and Wisconsin, while ADA's prohibition on disability discrimination in hiring, promotion and firing decisions was only an innovation in three states in all – Alabama, Arkansas, and Mississippi (Jolls and Prescott 2006). Jolls and Prescott's sample includes all 50 states but not the District of Columbia.

which mandated medical leave under the FMLA was a legal innovation in a given state would have any meaningful affect on disability status reporting – particularly given the observation made above about the lack of focus on disability issues when family and medical leave mandates were enacted. Nonetheless, section V below examines the time trend in the CPS disability status variable across states without versus with pre-FMLA state-level mandated medical leave and, consistent with work in the ADA context (e.g., Acemoglu and Angrist 2001), does not uncover any evidence that compositional changes in the group of individuals with disabilities are influencing the empirical findings.[12]

IV. Results

A. Basic Employment Measures

The simplest possible approach to examining the employment effects of mandated medical leave under the FMLA on individuals with disabilities would be to compare employment rates among these individuals before and after the FMLA went into effect in August of 1993 (without attending to any comparative effects across states without versus with pre-FMLA state-level mandated medical leave). As noted above, however, the difficulty with this approach is that other major factors were undoubtedly influencing disabled employment over the 1990s. As Figure 1 shows, the overall trend in disabled employment over the 1990s was unquestionably negative; this is true both before and after the enactment of the FMLA. While Figure 1 does show a temporary uptick or at least a plateau in 1994 (the first full year in which the FMLA was in effect) and, for women, the years immediately following 1994, Figure 2

[12] The CPS was redesigned between the 1993 and 1994 surveys, corresponding to observation years 1992 and 1993. Acemoglu and Angrist (2001:925, 951) offer analysis suggesting that the redesign does not materially affect an understanding of the disabled employment effects of disability-related legal innovation in these years. In any event, as suggested in section IV.E below, the effects of mandated medical leave under the FMLA would not be expected to be observed as early as 1993.

reveals that the same is true for individuals without disabilities – though, at least for women, the magnitude of the uptick appears considerably smaller.

Thus, as described above, this paper emphasizes the relative employment effects of the enactment of mandated medical leave under the FMLA for individuals with versus without disabilities and in states without versus with pre-FMLA state-level mandated medical leave. Figure 3 shows the ratio of the employment levels of individuals with versus without disabilities separately for individuals in each of the two states groups over the 1990s. As just noted, the employment of individuals with versus without disabilities declined generally in the 1990s, and, as shown in Figure 3, this pattern is apparent in the states with pre-FMLA state-level mandated medical leave even in the years immediately following the enactment of the FMLA. By contrast, in the states without pre-FMLA state-level mandated medical leave, the ratio of the employment levels of individuals with versus without disabilities is steady to rising in the years immediately following the enactment of the FMLA. The next section examines the experience of individuals with and without disabilities in the two state groups within a regression framework.

B. Regression Framework

The effects of the enactment of mandated medical leave under the FMLA in states without versus with pre-FMLA state-level mandated medical leave may be studied within a regression framework using a standard differences-in-differences-in-differences approach. Equation (1) represents a differences-in-differences-in-differences analogue to the differences-in-differences specification used by Acemoglu and Angrist (2001) in their study of the employment effects of the ADA:

$$y_{ijt} = x_{ij}' \cdot \pi_t + \delta DIS_i + \alpha_t DIS_i + \theta INNOV_j + \gamma_t INNOV_j + \eta\,(DIS_i \cdot INNOV_j)$$
$$+ \beta_t\,(DIS_i \cdot INNOV_j), \qquad (1)$$

where y is a labor market outcome of interest; i indexes individuals, j indexes states, and t indexes years; x includes a constant as well as a set of demographic and state-level economic characteristics, with potentially time-varying effects π_t; *DIS* is a dummy variable equal to 1 for individuals with disabilities, with main effect δ and potentially time-varying effects α_t; and *INNOV* is a dummy variable equal to 1 for states in which mandated medical leave under the FMLA was an innovation, with main effect θ and potentially time-varying effects γ_t. The final two terms in (1) are interactions of *DIS* and *INNOV*, with main effect η and potentially time-varying effects β_t. All of the time-varying effects in (1) are measured over the 1990s, with the effects for 1989 normalized to zero. (Because x includes a constant, all regressions include year effects.)

The central coefficients of interest in equation (1) are the β_t coefficients, which, for t > 1993 (the year of the FMLA's enactment), measure time-varying effects on disabled versus nondisabled outcomes in states without versus with pre-FMLA state-level mandated medical leave. For t < 1993, the β_t coefficients provide pretreatment specification checks; t = 1993 represents an ambiguous year because the FMLA was in effect for slightly under five months of the year and was not in effect for the remaining seven months.[13]

All of the regressions reported below contain controls for individual i's age, race, sex, educational attainment, marital status, and union membership, and for the interaction of disability status with the state unemployment rate. By the nature of the differences-in-

[13] Note that the FMLA's effective date is within a few months of its enactment date. This proximity of enactment and effective dates avoids the difficult question – central in existing empirical work on the ADA – whether to measure effects beginning with the enactment date or the effective date when the distance between them is significant (in the case of the ADA, two years).

differences-in-differences methodology, the approach used here controls for national time trends in employment, the general effect of disability on employment, state-group specific employment effects, and interactions of each of these factors with the others. Many of the regressions reported below also include state and state-year interaction effects, although in those specifications it is not possible to identify the effects of the *INNOV* variables from above (θ and γ_t in equation (1)). Importantly, because all of the regressions reported below include the interaction of disability status with the state unemployment rate, the estimation approach controls for the possibility that individuals with disabilities may face especially poor employment prospects when unemployment rates are high.

The empirical analysis below examines both employment outcomes and leave-taking behavior across states without versus with pre-FMLA state-level mandated medical leave. However, because of the relatively small numbers of individuals who report being on medical leave in the workweek preceding the survey (the question asked by the CPS), the year-by-year effects reflected in equation (1) above could not be estimated for medical leave-taking. Thus, the approach taken below is to use an analogue of equation (1) in which outcomes from the last two pre-1990 years are compared to outcomes in each subsequent two-year period, as described more fully in section IV.D below.

C. Basic Regression Results – Employment

Columns (1) and (2) of Table 4 report the results of the basic specification in equation (1) using weeks worked per year as the dependent variable and including state and state-year interaction effects. Column (1) presents results for individuals aged 41-58, who are far more likely than younger individuals to utilize medical leave, while column (2) presents results for all

individuals in the sample. Consistent with Figure 3, the estimated effect of imposing mandated medical leave under the FMLA is positive and statistically in all but one of the years following the FMLA's enactment (1994 to 1998) among individuals aged 41-58; an uptick in relative disabled employment is also apparent for the overall sample, but its size is modest and not statistically significant. The results also show clearly that there was no general pre-FMLA positive trend in relative disabled employment in the states without versus with pre-FMLA state-level mandated medical leave; effects prior to 1994 are mixed in sign and, where positive, are far smaller in magnitude than the post-1993 effects and generally not statistically significant. These results point to a discernible trend break in 1994, the first full year in which the FMLA was in effect.[14]

D. Basic Regression Results – Leave-Taking

As noted above, the cell sizes for individuals reporting that they were out on medical leave during the week in which the survey was administered are often sufficiently small that estimating year-by-year effects is not possible. An additional problem with studying effects on

[14] To be sure, a subtle line of argument conceivably could undermine the suggestion of a trend break in 1994 – but only if the enactment of state-level mandated medical leave a few years earlier itself had meaningful positive disabled employment effects. In other words, to the extent the case for a trend break in 1994 is weakened, the same evidence separately provides new, independent support for positive disabled employment effects from enacting mandated medical leave, this time at the state level. The case for a trend break in 1994 may be weakened to the extent that new state-level mandates going into effect in 1991 (using the timing definition described above) in three of the states with pre-FMLA state-level mandates – Connecticut, the District of Columbia, and Rhode Island – raised disabled employment in these states in the early 1990s relative to disabled employment in other states. If disabled employment in states without versus with pre-FMLA state-level mandates was depressed in the early 1990s by the positive effects of the enactment of mandated medical leave in the three states just noted, and if these positive effects were greatest in the early years after the state-level enactments, then the jump observed beginning in 1994 may reflect the tapering off of the positive effects just noted, rather than a new positive effect of the FMLA in the states without pre-FMLA state-level mandates. As stated above, though, if this account is correct, then, while it weakens the case for a role of the FMLA in increasing disabled employment, it points to a role of pre-FMLA mandated medical leave at the state level in increasing disabled employment. In the end, the trend break may well be what it appears – a trend break – but the alternative account under which it is not also points toward positive disabled employment effects of mandated medical leave. As suggested above, however, pre-FMLA mandated medical leave is less likely than mandated medical leave under the FMLA to increase disabled employment.

leave-taking is that data on leave-taking for medical reasons is missing entirely from the CPS for 1993. Attempting to surmount these difficulties, columns (3) and (4) of Table 4 present evidence that leave-taking for medical reasons increased among individuals with disabilities with the enactment of mandated medical leave under the FMLA in states without versus with pre-FMLA state-level mandated medical leave. In particular, the probability of being on leave for a medical reason during the week preceding the administration of the survey was significantly higher after the enactment of mandated medical leave under the FMLA in states without versus with pre-FMLA state-level mandated medical leave.

E. Discussion

Two distinct influences on the employment of individuals with disabilities may be driving the apparent positive employment effects of mandated medical leave suggested by Table 5. Under one mechanism, reflected in the discussion of labor supply and demand effects in section II.B above, mandated medical leave has positive effects on the labor supply of individuals with disabilities because work becomes relatively more attractive to members of this group once the targeted mandate (medical leave) is in place. To be sure, from employers' perspective these individuals are now relatively more costly to employ, but, as discussed in section II.B, to the extent employers cannot identify these individuals at the time of hiring, there is no way employers can disadvantage them in the hiring process. Under this first mechanism, positive employment effects should persist over time, although they may take a bit of time to show up as the labor supply of individuals with disabilities adjusts.

A second mechanism by which mandated medical leave could increase disabled employment stems from its effect on individuals' ability to retain their jobs after periods of

needed leave – an effect that could in theory produce either short-term or long-term increases in disabled employment. Short-term increases could occur if employers are typically able to identify, at the time of hiring, those likely to utilize medical leave and if employers tend to respond by reducing their hiring of such individuals; here disabled employment would tend to fall over the longer term in response to mandated medical leave but could rise in the short term as individuals who would otherwise have lost their current jobs are able to hold onto them (while the effect of reduced hiring of individuals with disabilities has not yet been felt). Parallel to this account, it is frequently suggested that various forms of job protection – which tend to increase employees' ability to retain jobs once hired into them – could produce short-term but not long-term increases in employment (e.g., Blau and Kahn 1999); in theory such an account could apply as well to the ADA – which most believe increases disabled employees' ability to retain jobs once hired into them – but, as noted above, the empirical evidence on the ADA is to the contrary. In the context of mandated medical leave, long-term increases in disabled employment could occur as a result of individuals' increased retention of their current jobs if employers are not typically able to identify targeted individuals at the time of hiring and, as a result, do not reduce their hiring of targeted individuals in response to the enactment of mandated medical leave. Obviously, this effect and the long-term effect discussed in the preceding paragraph could be mutually reinforcing.

The employment results in column (1) of Table 4 (for individuals aged 41-58, where a significant positive effect of mandated medical leave under the FMLA is observed) do not paint a clear picture on the question of short-term versus long-term positive disabled employment effects of mandated medical leave. There is some evidence that the effect is a short-term one, but it is unclear whether this pattern reflects the actual absence of positive consequences over the

longer term or, instead, the influence of other unobserved trends as we move further away in time from the legal change under study. If one views the results in columns (1) of Table 4 as most consistent with a short-term, but not a long-term, positive effect on disabled employment from the enactment of mandated medical leave, then naturally one would feel less optimistic about such leave as a valuable tool for improving the employment prospects of individuals with disabilities. But even such a person could be reassured by all of the results in Table 4 that mandated medical leave does not produce the negative employment consequences that many believe were associated with the imposition of the ADA's reasonable accommodations requirement.

Note that both of the mechanisms discussed in this section – increased labor supply by individuals with disabilities and increased retention of existing jobs after periods of needed leave by such individuals – may take some time to occur; thus it is not surprising that no positive effects on disabled employment in response to mandated medical leave under the FMLA are apparent in 1993, during which the FMLA was only in effect over the last few months of the year.

A natural question raised by the findings in column (1) of Table 4 is whether wages adjusted downward to reflect the cost of mandated medical leave. This question is difficult to investigate empirically, however. The analysis in section II above suggests that it is probably not possible for employers to pass a disproportionate fraction of the costs of mandated medical leave on to employees with disabilities; this feature, coupled with the difficulty employers have in identifying, at the time of hiring, individuals disproportionately likely to use mandated medical leave, is precisely what makes possible the positive effects of mandated medical leave for individuals with disabilities. Because the costs of mandated medical leave are likely to be passed

on to all employees rather than to a subgroup of employees, it is difficult to detect wage effects empirically. Consistent with the discussion here, neither disabled wages nor wages generally moved in a significantly different way with the FMLA's enactment across states with versus without pre-FMLA mandated medical leave.

V. Additional Robustness Checks

This section presents additional robustness checks on the basic employment and leave-taking results in Table 4.

A. Potential Outlier-State Effects

One question raised by the analysis above is whether, given that there are only five states with mandated medical leave at the state level in the pre-FMLA period, any one or two of these states' experiences could be driving the effects observed in Table 4. If the effects reflect primarily such experiences rather than broader trends across the five states, then the effects are unlikely to be causally linked to the enactment of mandated medical leave under the FMLA.

Tables 5 and 6 repeat the regressions in columns (1) and (3) (for individuals aged 41-58) in Table 4 for five different groups of observations, each time omitting observations from one of the five states with pre-FMLA mandated medical leave. As Table 5 shows, the estimated effect of the enactment of mandated medical leave under the FMLA continues to be positive in all regressions. The results in Table 5 suggest that no one state's experience is the central force behind the employment results in Table 4. [Discussion of medical leave-taking results here.]

B. Potential Composition Effects

The earlier discussion of the CPS disability measure observed that, at least a priori, the possibility of state-varying law-driven changes in the composition of the group answering the CPS disability survey question affirmatively, across states without versus with pre-FMLA state-level mandated medical leave, seems relatively remote. But it is possible to examine the composition bias issue more directly. Composition effects could be confounding the employment and leave-taking results in Table 4 if, in states in which the FMLA was versus was not an innovation, some individuals needing leave switched from saying that they did not face a work limitation to saying that they did face a work limitation, simply because they were now able to take a temporary leave from work. These individuals on the borderline would be likely to have better employment prospects than most individuals responding affirmatively to the CPS disability survey question.

To examine the possibility of such composition bias, Figure 4 below shows the time trend in the ratio of the proportion of the population aged 41 to 58 answering the CPS disability survey question affirmatively in states without versus with pre-FMLA state-level mandated medical leave; for comparison purposes the figure plots (against the left-hand axis) the employment regression coefficients for individuals aged 41 to 58 from column (1) of Table 4. (Recall that the regression coefficients for leave-taking in Table 4 follow a pattern similar to that of the regression coefficients for employment.) As Figure 4 shows, there is no evidence of a general post-FMLA increase in the proportion of the population answering the CPS disability survey question affirmatively in states without versus with pre-FMLA state-level mandated medical leave; while this relative proportion did increase in 1994 (the first full year in which the FMLA was in effect), it declined in both 1996 and 1997, the other years in which a substantial positive

employment effect is observed in states without versus with pre-FMLA state-level mandated medical leave.[15]

Conclusion

The evidence presented in this paper suggests that mandated medical leave – a mandate increasingly prominent in practice and targeted disproportionately although certainly not exclusively to individuals with disabilities – has positive or at least nonnegative effects on the employment of individuals with disabilities. The key to this outcome is that many conditions for which medical leave may ultimately be sought are (given the ADA's restrictions on preemployment medical examinations and inquiries) not observable to employers at the time of hiring. If, indeed, employers making hiring decisions are not able to observe many conditions for which medical leave may be sought down the road, then even the costs of more generous leave proposals – such as paid medical leave – may be shared equally across all employees. If this is the case, then such proposals, like mandated medical leave under the FMLA, may have positive or at least nonnegative employment effects for individuals with disabilities.

[15] While Figure 4 presents raw mean data on the proportion of the population responding affirmatively to the CPS disability survey question over time in states without versus with pre-FMLA state-level mandated medical leave, one could also examine regression coefficients from a regression of disability status on the non-disability variables in equation (1). The time-varying coefficients on the *INNOV* variable then provide a measure of the relative change in disability identification in states without versus with pre-FMLA state-level mandated medical leave. Examining these coefficients rather than the raw means does not alter the conclusion in the text. Moreover, none of the coefficients on the *INNOV* variables is even close to statistically significant, providing further evidence that changes in the composition of the disabled population across states without versus with pre-FMLA state-level mandated medical leave could not be significantly influencing the conclusion of significant positive disabled employment effects from the enactment of mandated medical leave.

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Table 1: Reasons for Taking Leave Across Categories of FMLA-Permitted Leave

Reason for Leave	Percent of Leave-Takers
Own health	52.4%
Maternity-disability	7.9%
Care for a newborn, newly adopted, or newly placed foster child	18.5%
Care for ill child	11.5%
Care for ill spouse	6.4%
Care for ill parent	13.0%

Notes: Data reflect all leaves taken for FMLA reasons by surveyed employees in the previous 18 months. Percentages sum to more than 100% due to some persons taking more than one leave.[*]
Source: Cantor (2000:2-5 (Table 2.3)).

[*] As noted, Table 1 reflects all leaves taken for reasons covered by the FMLA – even if the employee taking the leave was not covered by the FMLA. Employees, to be covered by the FMLA, cannot be employed by small firms and must have worked for their employer at least 1250 hours in the preceding year. See 29 U.S.C. sec. 2611(2). The Department of Labor report does not provide a table comparable to Table 1 with data limited to employees covered by the FMLA; however, from other information available in the report, on "longest leaves" as opposed to all leaves, it appears that leave taken for FMLA reasons by employees covered by the FMLA is somewhat less likely to be medical as distinguished from family leave than leave taken for FMLA reasons by employees not covered by the FMLA. Compare Cantor (2000: 2-6 (Table 2.5)) (47.2% of longest leaves taken by surveyed employees were for "own health," including both leaves taken by employees covered by the FMLA and leaves taken by other employees) with Cantor (2000:3-16 (Table 3.8)) (37.8% of longest leaves taken by surveyed employees were for "own health," restricting attention to leaves taken by employees covered by the FMLA). Even within the set of leaves taken for FMLA reasons by employees covered by the FMLA, however, these figures make clear that "own health" accounts for a very substantial fraction of the leave-taking by employees.

Table 2: Length of Leave by Reason for Leave

Length of Longest Leave (in work days)	Own Health	Maternity-Disability	Care for Newborn, Newly Adopted or Foster Child	Care for Ill Child	Care for Ill Spouse	Care for Ill Parent
1 – 3 days	8.2%	--	10.0%	26.0%	24.0%	17.4%
4 – 5 days	17.1%	--	27.5%	23.7%	38.3%	32.2%
6 – 10 days	18.7%	--	17.6%	31.9%	19.9%	30.9%
11 – 30 days	25.1%	18.1%	13.5%	14.0%	--	13.1%
31 – 60 days	19.4%	39.7%	21.7%	--	--	--
More than 60 days	11.4%	28.7%	9.8%	--	--	--

Notes: Data reflect longest leaves taken for FMLA reasons by surveyed employees in the previous 18 months. "—" indicates less than 10 unweighted cases. Column percentages may not sum to 100% because of rounding.[*]
Source: Cantor (2000:2-7 (Table 2.7)).

[*] Data comparable to that in Table 2 is not included in the Department of Labor report for all leaves – the data reflected in Table 1 – as distinguished from longest leaves.

Table 3: Pre-FMLA State Medical Leave Mandates

State	Effective date of law	Leave entitlement	Employer required to maintain benefits during leave?
Connecticut	July 1, 1990	16 weeks in any 2 year period*	No
District of Columbia	Oct. 3, 1990	16 weeks in any 2 year period	Yes
Maine	Aug. 4, 1988	8 weeks in any 2 year period	Yes
Rhode Island**	July 12, 1990	13 weeks in any 2 year period	Yes
Wisconsin	April 15, 1988	2 weeks in any 1 year period	Yes

* The initial leave period was 12 weeks, with an increase to 16 over the one to three years (depending on the size of the employer) following the law's enactment.

** The Rhode Island law covers leave for the employee's own health condition under its mandate of "family leave" to care for an ill "family member" because "family member" is defined by the law to include "the employee himself or herself."

Table 4: Basic Regression Results – Employment and Medical Leave-Taking

	(1) Employment	(2) Employment		(3) Medical Leave-Taking	(4) Medical Leave-Taking
	Individuals aged 41-58	Whole sample		Individuals aged 41-58	Whole sample
DIS x INNOV x 1990	-0.052	1.275	DIS x INNOV x 1990-1991	-0.004	0.005
	(1.459)	(1.035)		(0.019)	(0.016)
DIS x INNOV x 1991	2.386	1.417	DIS x INNOV x 1991-1992	-0.007	0.003
	(0.882)	(1.196)		(0.023)	(0.020)
DIS x INNOV x 1992	0.310	0.596	DIS x INNOV x 1992-1993		
	(1.048)	(2.070)			
DIS x INNOV x 1993	-1.078	-2.975	DIS x INNOV x 1993-1994		
	(2.017)	(1.028)			
DIS x INNOV x 1994	4.735	2.513	DIS x INNOV x 1994-1995	0.029	0.025
	(0.929)	(1.516)		(0.008)	(0.010)
DIS x INNOV x 1995	0.994	1.183	DIS x INNOV x 1995-1996	0.016	0.019
	(2.465)	(1.886)		(0.009)	(0.008)
DIS x INNOV x 1996	2.713	2.369	DIS x INNOV x 1996-1997	0.018	0.020
	(1.008)	(1.235)		(0.010)	(0.007)
DIS x INNOV x 1997	3.796	2.146	DIS x INNOV x 1997-1998	0.015	0.018
	(2.111)	(1.816)		(0.008)	(0.006)
DIS x INNOV x 1998	0.912	1.297	DIS x INNOV x 1998-1999	0.003	0.003
	(2.324)	(1.640)		(0.014)	(0.014)
DIS x INNOV x 1999	-1.903	-2.429			
	(2.541)	(1.474)			
N	589,163	1,306,046	N	See Notes	See Notes

Notes: The dependent variable is weeks worked per year in columns (1) and (2) and a binary variable indicating medical leave-taking (1=individual was on leave for a medical reason during the week prior to the survey week) in columns (3) and (4). Columns (1) and (3) present linear regression results for individuals aged 40-58, and columns (2) and (4) present linear regression results for individuals aged 21-58. Robust standard errors clustered on state-disability interactions are in parentheses below coefficient estimates. Observation numbers differ by year pair for medical leave-taking regressions and, thus, are not reported. All regressions employ CPS survey weights and include the individual control variables listed in the text plus state and state-year interaction terms and controls for the interaction of disability status and state unemployment rate. See equation (1) for further details.

Table 5: Robustness of Employment Results to Omitting Observations from Individual States with Pre-FMLA Mandates

	(1) Omitting Observations from CT	(2) Omitting Observations from DC	(3) Omitting Observations from ME	(4) Omitting Observations from RI	(5) Omitting Observations from WI
DIS x INNOV x 1990	0.566	-0.025	-0.507	-1.241	1.437
	(1.699)	(1.598)	(1.632)	(1.070)	(1.733)
DIS x INNOV x 1991	2.209	2.756	2.273	1.899	3.161
	(0.914)	(0.919)	(1.014)	(0.823)	(1.115)
DIS x INNOV x 1992	-0.366	0.563	0.277	0.076	1.460
	(0.808)	(1.134)	(1.231)	(1.118)	(1.156)
DIS x INNOV x 1993	-2.598	-0.741	-1.588	-1.351	1.744
	(1.637)	(2.197)	(2.353)	(2.176)	(1.387)
DIS x INNOV x 1994	4.041	5.266	4.917	4.468	4.906
	(0.862)	(0.888)	(0.978)	(0.985)	(1.379)
DIS x INNOV x 1995	-0.794	1.087	1.420	-0.010	4.708
	(1.757)	(2.698)	(2.970)	(2.387)	(2.524)
DIS x INNOV x 1996	3.013	3.158	3.245	1.968	2.089
	(1.218)	(1.030)	(0.988)	(0.944)	(1.540)
DIS x INNOV x 1997	1.709	3.975	5.127	3.466	5.031
	(1.362)	(2.266)	(2.235)	(2.318)	(3.359)
DIS x INNOV x 1998	-1.453	1.338	1.750	0.322	3.244
	(1.230)	(2.510)	(2.707)	(2.504)	(2.954)
DIS x INNOV x 1999	-4.299	-1.669	-1.617	-2.222	1.653
	(1.100)	(2.738)	(3.005)	(2.788)	(2.764)
N	581,440	583,774	581,536	582,066	579,617

Notes: The dependent variable is weeks worked per year. Each column reflects the results of omitting observations from one of the five states with pre-FMLA mandated medical leave. Robust standard errors clustered on state-disability interactions are in parentheses below coefficient estimates. All regressions are linear regressions, employ CPS survey weights, and include the individual control variables listed in the text plus state and state-year interaction terms and controls for the interaction of disability status and state unemployment rate. See equation (1) for further details.

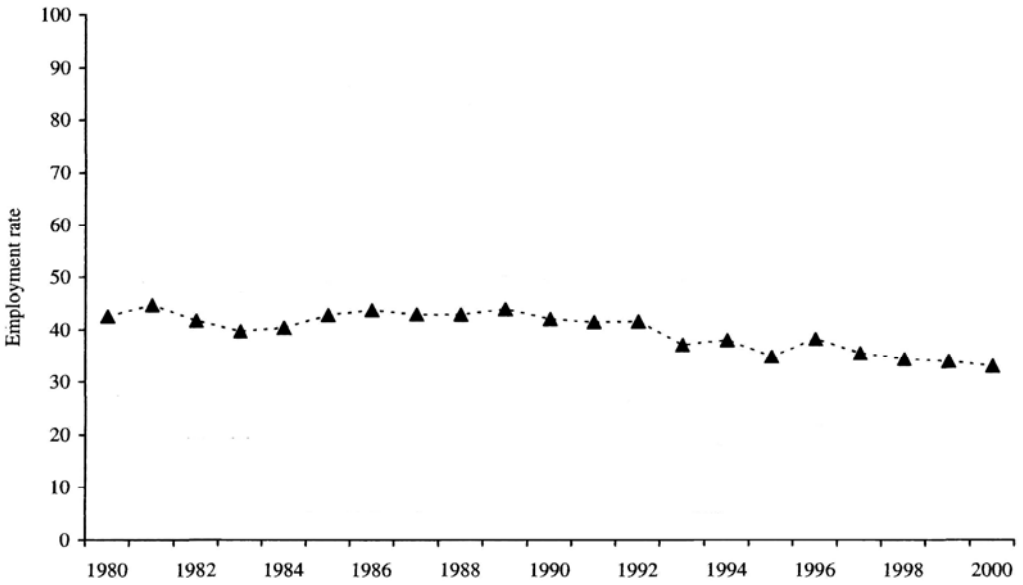
Table 6: Robustness of Leave-Taking Results to Omitting Observations from Individual States with Pre-FMLA Mandates

	(1) Omitting Observations from CT	(2) Omitting Observations from DC	(3) Omitting Observations from ME	(4) Omitting Observations from RI	(5) Omitting Observations from WI
DIS x INNOV x 1990-1991	0.015	-0.003	-0.001	-0.013	-0.022
	(0.011)	(0.020)	(0.022)	(0.021)	(0.023)
DIS x INNOV x 1991-1992	0.021	-0.007	-0.008	-0.016	-0.027
	(0.008)	(0.024)	(0.027)	(0.025)	(0.031)
DIS x INNOV x 1992-1993					
DIS x INNOV x 1993-1994					
DIS x INNOV x 1994-1995	0.025	0.030	0.034	0.026	0.029
	(0.008)	(0.007)	(0.006)	(0.008)	(0.012)
DIS x INNOV x 1995-1996	0.011	0.018	0.023	0.011	0.020
	(0.009)	(0.009)	(0.009)	(0.008)	(0.015)
DIS x INNOV x 1996-1997	0.017	0.019	0.028	0.011	0.012
	(0.013)	(0.010)	(0.007)	(0.010)	(0.017)
DIS x INNOV x 1997-1998	0.013	0.015	0.022	0.009	0.016
	(0.009)	(0.008)	(0.007)	(0.007)	(0.013)
DIS x INNOV x 1998-1999	-0.007	0.005	0.010	-0.005	0.021
	(0.012)	(0.015)	(0.017)	(0.013)	(0.018)

Notes: The dependent variable is a binary variable indicating medical leave-taking (1=individual was on leave for a medical reason during the week prior to the survey week). Each column reflects the results of omitting observations from one of the five states with pre-FMLA mandated medical leave. Robust standard errors clustered on state-disability interactions are in parentheses below coefficient estimates. All regressions are linear regressions, employ CPS survey weights, and include the individual control variables listed in the text plus state and state-year interaction terms and controls for the interaction of disability status and state unemployment rate. See equation (1) for further details.

Figure 1: Disabled Employment Rate 1980-2000

Men

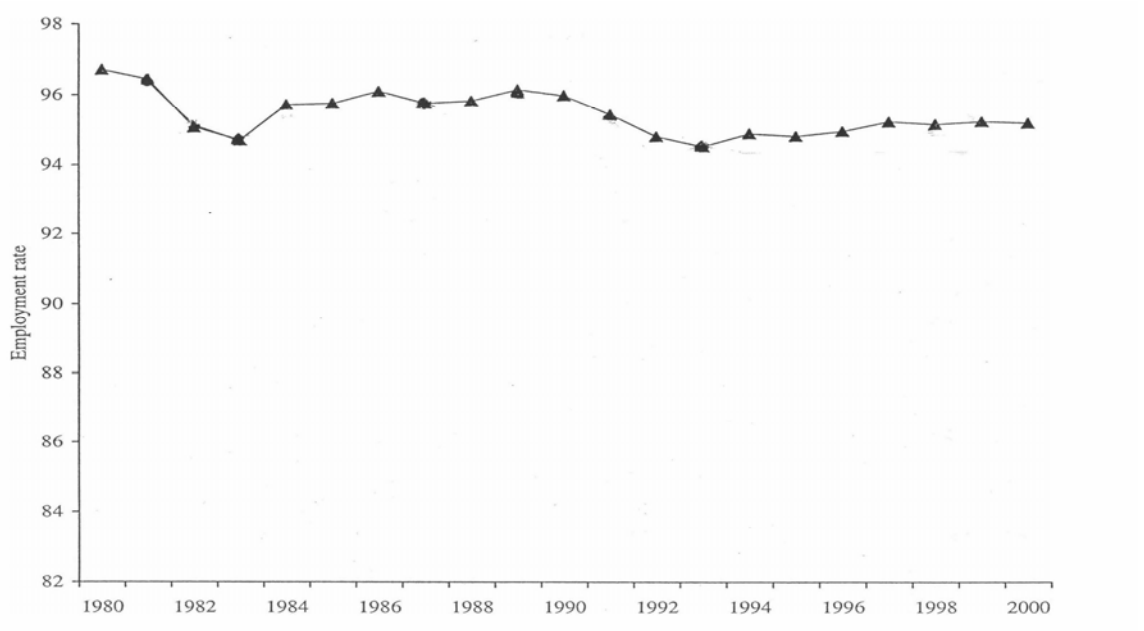


Women

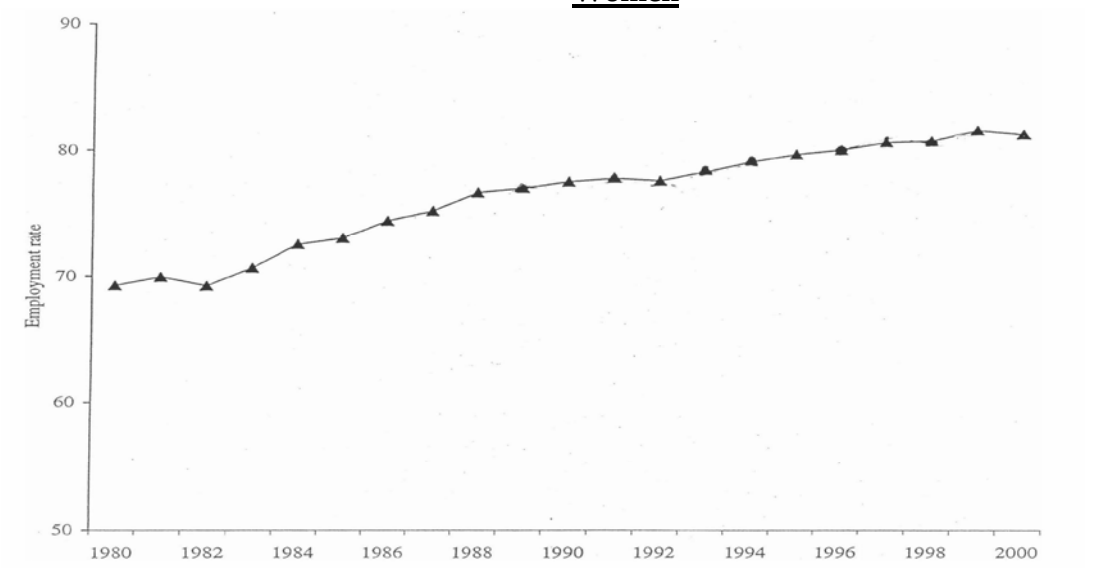
Source: Richard V. Burkhauser, Andrew J. Houtenville & David C. Wittenburg, A User's Guide to Current Statistics on the Employment of People with Disabilities, in The Decline in Employment of People with Disabilities 23 (David C. Stapleton & Richard V. Burkhauser, eds.).

Figure 2: Nondisabled Employment Rate 1980-2000

Men

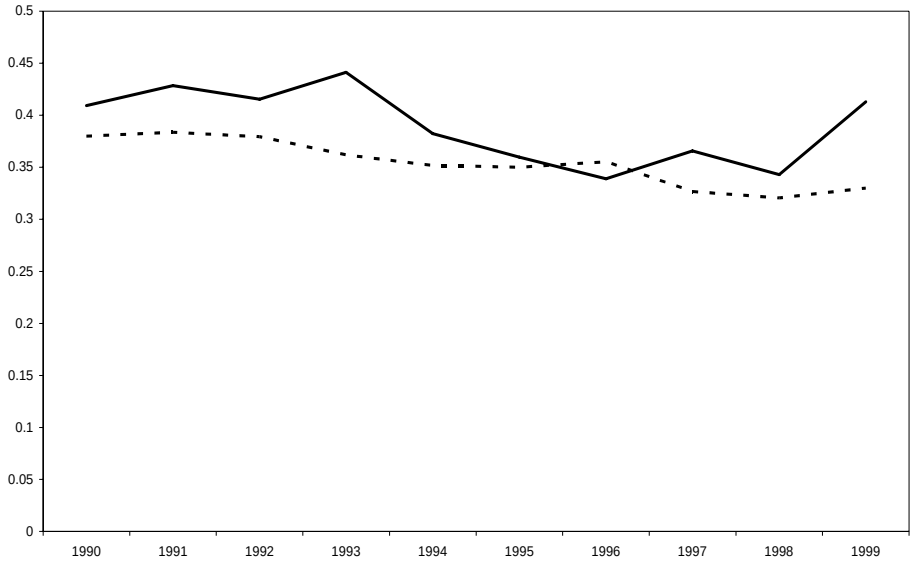


Women



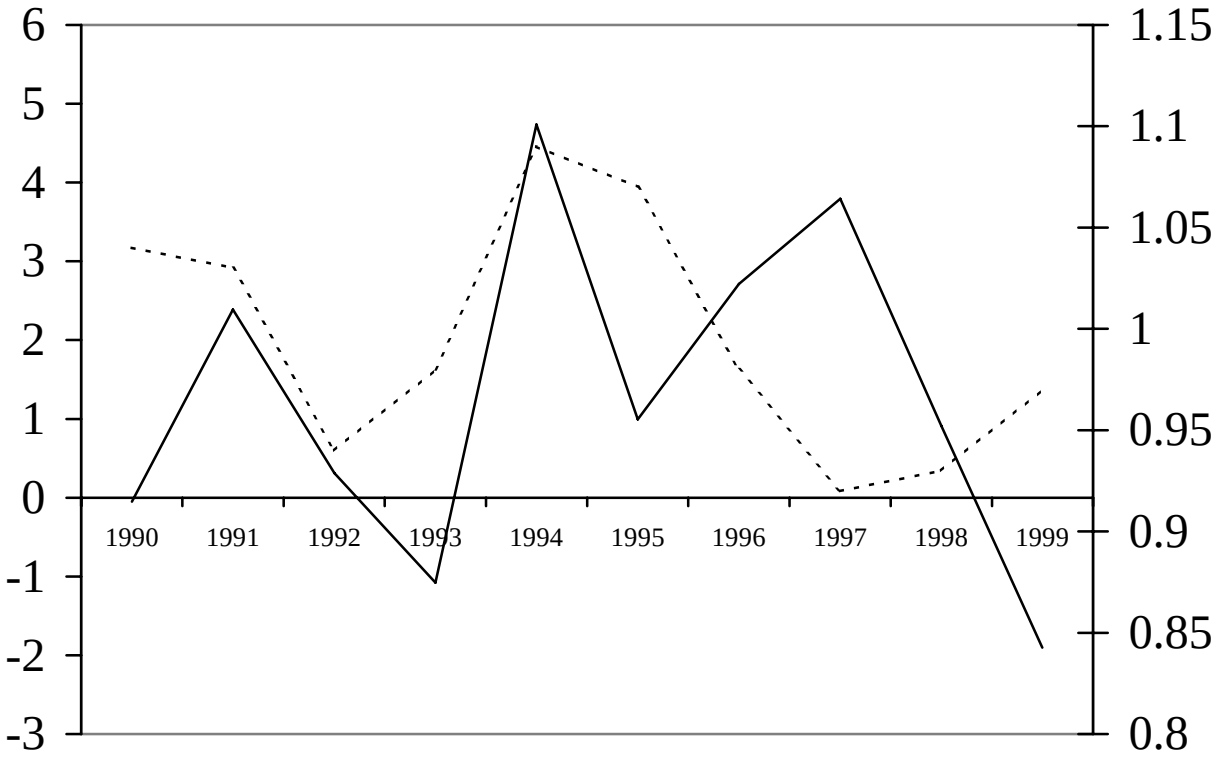
Source: Richard V. Burkhauser, Andrew J. Houtenville & David C. Wittenburg, A User's Guide to Current Statistics on the Employment of People with Disabilities, in The Decline in Employment of People with Disabilities 23 (David C. Stapleton & Richard V. Burkhauser, eds.).

Figure 3: Ratio of Weeks Worked Per Year of Individuals with versus without Disabilities in States without (Dotted Line) and with (Solid Line) Pre-FMLA Mandated Medical Leave



Source: Current Population Survey, March Supplement; Table 3 (state groups).

Figure 4: Ratio of Proportion of Individuals with Disabilities (Age 41-58) in States Without Versus With Pre-FMLA Mandated Medical Leave (Dotted Line and Right-Hand Axis) and Coefficients from Column 2 of Table 4 (Solid Line and Left-Hand Axis)



Source: Current Population Survey, March Supplement; table 3 (state groups); Table 4 (regression coefficients).