

ARTICLES

Accommodation Mandates

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The history of employment law has witnessed a move from mandates directed to workers as a whole, such as workers' compensation, to mandates directed to particular, identifiable groups of workers, such as the reasonable accommodation mandate of the Americans with Disabilities Act. These newer "accommodation mandates" are ordinarily analyzed using an economic framework developed for mandates directed to workers as a whole. However, this framework yields misleading and incorrect conclusions when applied to accommodation mandates. This Article offers a new framework for analyzing accommodation mandates. The framework generates testable predictions about the effects of these mandates—predictions that are largely confirmed by the existing empirical evidence.

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INTRODUCTION

Legal requirements that employers provide specified benefits to their workers, such as workers' compensation and family leave, are virtually omnipresent in modern employment law. Some mandates are directed to workers as a whole, and many of these date back to the early part of the twentieth century (workers' compensation, for instance¹). But other, newer mandates are directed to discrete, identifiable groups of workers, such as the disabled. These mandates are intended to accommodate the unique needs of those workers. These "accommodation mandates," and their consequences for the accommodated workers, are the central topics explored below.

Since accommodation mandates regulate a market relationship—that of employer and employee—an important set of questions about them involves how they affect the wages and employment levels of the accommodated group. There is an accepted economic framework for analyzing the effects of mandates directed to workers as a whole (such as workers' compensation),² but accommodation mandates raise many distinct issues that have not been adequately addressed in the existing literature. Central among these issues is the way in which *antidiscrimination law* interacts with accommodation mandates; this interaction is simply not relevant when analyzing mandates directed to workers as a whole. Antidiscrimination law attempts to restrict differences in wages and employment levels between accommodated and nonaccommodated groups, and these restrictions will fundamentally alter how an accommodation mandate affects the wages and employment levels of accommodated workers.

Part I below develops a general framework for analyzing the effects of accommodation mandates. These mandates, perhaps most familiar from the Americans with Disabilities Act of 1990 (ADA),³ dot the landscape of modern employment law. Examples include:

a) The requirement under the ADA that employers provide "reasonable accommodation" to disabled workers.⁴ This requirement accommodates the special needs of disabled employees.

b) The requirement under some state laws that insurance companies—and, as a result, employers who offer health insurance provided by these companies—cover maternity-related hospital and medical expenses in their in-

1. See Price V. Fishback & Shawn Everett Kantor, *The Adoption of Workers' Compensation in the United States, 1900-1930*, 41 J.L. & ECON. 305, 305 (1998).

2. Lawrence H. Summers, *Some Simple Economics of Mandated Benefits*, 79 AM. ECON. REV., May 1989, Papers & Proceedings, at 177.

3. 42 U.S.C. §§ 12101-12213 (1994 & Supp. IV 1998).

4. 42 U.S.C. § 12112(a), (b)(5) (1994).

surance plans that provide general hospital and medical coverage.⁵ This requirement accommodates the special needs of female employees of child-bearing age, although it may also accommodate the needs of certain other employees, as discussed more fully in Part II.B.1.a below.

c) The requirement under the Family and Medical Leave Act of 1993 (FMLA) that employers permit their employees to take unpaid leave in the event that they have a “serious health condition.”⁶ This requirement accommodates the special needs of disabled employees—who are more likely than other employees to need to take time off because of such a condition—although certain employees who are not disabled will also be accommodated by the requirement.

d) The FMLA’s requirement that employers permit their employees to take unpaid leave in the event that they have a newborn or newly adopted child or an immediate family member who is seriously ill.⁷ This requirement accommodates the special needs of female employees of childbearing age, although again it may also accommodate other needs and circumstances, as discussed more fully in Part II.C.1.a below.

All of these accommodation mandates are targeted to groups that are protected under general antidiscrimination law. As a result, the mandates cannot be analyzed in isolation from antidiscrimination law. Therefore, Part I’s framework, in contrast to much of the existing literature, emphasizes the importance of antidiscrimination law’s restrictions on relative wages and relative employment levels of accommodated and nonaccommodated workers to the analysis of accommodation mandates. This focus helps to clear up some of the confusion that presently exists regarding the effects of accommodation mandates.

More specifically, Part I reaches the following conclusions:

(I) At the most basic level, the existing literature tends to assume that desirable distributive effects of accommodation mandates for accommodated workers are either extremely unlikely or (the polar opposite) virtually assured. In the first camp are many economically oriented commentators (both lawyers and nonlawyers), who uncritically apply the economic model of mandates directed to workers as a whole (the Summers model)⁸ to the distinct context of accommodation mandates.⁹ On this basis they conclude that

5. *E.g.*, COLO. REV. STAT. ANN. § 10-16-104(3) (West 1999); MINN. STAT. ANN. § 62A.041(2) (West 1996).

6. 29 U.S.C. § 2612(a)(1) (1994).

7. *Id.*

8. *See* note 2 *supra*.

9. *See, e.g.*, Christopher J. Ruhm, *The Economic Consequences of Parental Leave Mandates: Lessons from Europe*, 113 Q.J. ECON. 285, 288 & n.5 (1998) [hereinafter Ruhm, *Parental Leave Mandates*]; Christopher J. Ruhm, *Policy Watch: The Family and Medical Leave Act*, J. ECON.

the costs of an accommodation mandate will typically be shifted to the accommodated group in the form of reduced wages or reduced employment levels—the natural implication of the Summers model, as described more fully in Part I.A.2.a below. The second camp consists of the many commentators who hail the passage of laws with accommodation mandates, such as the ADA and the FMLA, without any discussion whatsoever of the potentially adverse effects of these laws on the wages and employment levels of the accommodated group.¹⁰ The truth about accommodation mandates, I suggest, lies somewhere in between and, not surprisingly, is more complex, as elaborated in points (II) and (III) below.

(II) Of central importance to the distributive effects of accommodation mandates for accommodated workers is the degree to which the restrictions on relative wages and relative employment levels imposed by antidiscrimination law are “binding,” in the sense of constraining employers’ behavior in an effective manner. If such restrictions are binding, then an accommodation mandate will make the accommodated group better off (in a sense that will be made more precise below) unless the cost of the mandated accommodation exceeds its value to the accommodated group and the group bears most or all of that cost. This scenario is described more fully in Part I.B.1.b below. This conclusion marks a striking contrast with the case of mandates directed to workers as a whole, for in that case, as described in Part I.A.2.a, the conditions under which a mandate can make workers better off are much narrower, and the extent of the potential gain is far smaller. The conclusion about distributive gains to accommodated workers is similar in spirit to Richard Craswell’s conclusions about the effects of consumer (as distinguished from employment) mandates on markets populated by heterogeneous consumers; however, as detailed below, there are a number of basic differences between his analysis and the analysis offered here.¹¹

(III) The analysis of mandates directed to workers as a whole also yields incorrect conclusions if only restrictions on wage differentials across groups, and not restrictions on their differential employment levels, are binding. Because enforcing rules against discrimination in the hiring of workers is rela-

PERSP., Summer 1997, at 175, 178-79, 180 fig.2 [hereinafter Ruhm, *Policy Watch*]; Jane Waldfogel, *The Impact of the Family and Medical Leave Act*, 18 J. POL’Y ANALYSIS & MGMT. 281, 283 (1999).

10. See, e.g., Peggy R. Mastroianni & David K. Fram, *The Family and Medical Leave Act and the Americans with Disabilities Act: Areas of Contrast and Overlap*, 9 LAB. LAW. 553, 553 (1993) (“The [FMLA] and the [ADA] are two of the most important employee protection laws of the last quarter century.”).

11. See Richard Craswell, *Passing On the Costs of Legal Rules: Efficiency and Distribution in Buyer-Seller Relationships*, 43 STAN. L. REV. 361, 398 (1991) (summarizing conclusions about mandates in the case of heterogeneous consumers); notes 69-74 *infra* and accompanying text (detailing differences between Craswell’s analysis and mine).

tively difficult, it is often reasonable to assume that only restrictions on wage differentials are binding, as numerous commentators have emphasized.¹² If the analysis of mandates directed to workers as a whole is applied in this setting, the conclusion is that whether the value of the mandated benefit exceeds or falls short of its cost is precisely revealed by whether the employment level of workers rises or falls with the mandate.¹³ But, as Part I.B.2.a emphasizes, with binding restrictions on wage but not employment differentials, the employment level of the accommodated group will fall with an accommodation mandate no matter what the value-cost relationship for the mandated accommodation is. Thus, and critically for policy evaluation purposes, negative employment effects can no longer serve as a proxy for failure to meet the value-cost condition.

(IV) Since the effects of an accommodation mandate vary significantly with the degree to which restrictions on wage and employment differentials are binding in the sense described above, it is important to be able to predict, at least roughly, when such restrictions are likely to be binding. At its best, the existing literature on accommodation mandates simply acknowledges the various possibilities with regard to whether restrictions on wage and employment differentials may bind.¹⁴ (As already mentioned, most of the existing literature does not even go this far.) The framework developed in Part I identifies the factors that bear on which of the possible scenarios with regard to wage and employment restrictions is likely to obtain. The framework thus allows one to generate predictions about the effects of specific accommodation mandates—predictions that can be (and are, in Part II below) tested against the existing empirical evidence on the effects of these mandates. The factors I identify also allow one to generate predictions about new laws and their likely policy consequences.

A final contribution of Part I is to resolve a recurring puzzle about accommodation mandates: to the extent that these mandates produce negative

12. See, e.g., John J. Donohue III, *Is Title VII Efficient?*, 134 U. PA. L. REV. 1411, 1426 n.36 (1986); Richard A. Posner, *An Economic Analysis of Sex Discrimination Laws*, 56 U. CHI. L. REV. 1311, 1326 (1989); Richard A. Posner, *The Efficiency and the Efficacy of Title VII*, 136 U. PA. L. REV. 513, 517-19 (1987); Susan Schwochau & Peter David Blanck, *The Economics of the Americans with Disabilities Act, Part III: Does the ADA Disable the Disabled?*, 21 BERKELEY J. EMP. & LAB. L. 271, 290 n.105 (2000).

13. See, e.g., Dwight R. Lee, *Why Workers Should Want Mandated Benefits To Lower Their Wages*, 34 ECON. INQUIRY 401, 403-05 (1996) (analyzing the two cases).

14. See JONATHAN GRUBER, *THE EFFICIENCY OF A GROUP-SPECIFIC MANDATED BENEFIT: EVIDENCE FROM HEALTH INSURANCE BENEFITS FOR MATERNITY 12-13* (National Bureau of Econ. Research Working Paper No. 4157, 1992); Carolyn L. Weaver, *Incentives Versus Controls in Federal Disability Policy*, in *DISABILITY AND WORK: INCENTIVES, RIGHTS, AND OPPORTUNITIES* 3, 11-13 (Carolyn L. Weaver ed., 1991) [hereinafter *DISABILITY AND WORK*]; Daron Acemoglu & Joshua Angrist, *Consequences of Employment Protection? The Case of the Americans with Disabilities Act 9* (Jan. 1999) (working paper, on file with the *Stanford Law Review*).

consequences for the wages or employment levels of accommodated workers, will the negative effects be felt in wages, employment levels, or both? Negative effects on wages and employment levels are often treated in an undifferentiated fashion; for instance, Samuel Issacharoff and Elyse Rosenblum describe the concern of some commentators that “requiring pregnancy leave will make female employees more expensive than male employees; therefore employers will respond by either hiring fewer women *or* paying females less than their male counterparts.”¹⁵ The question, however, is *which* of these things will happen. I identify the factors that bear on this question.

Part II below uses the economic framework developed in Part I to generate predictions about the effects of the particular accommodation mandates listed above.¹⁶ In broad terms, my framework predicts that accommodation mandates targeted to *disabled workers* will increase or leave unchanged the wages of these workers relative to the wages of nondisabled workers while simultaneously reducing disabled workers’ relative employment levels; the framework also predicts that accommodation mandates targeted to *female workers* will reduce the relative wages of these workers (contrary to the case of disabled workers) and will have ambiguous effects on their relative employment levels. These predictions match up well with the empirical evidence on the effects of accommodation mandates, as explained in Part II.

The predictions and matching empirical evidence raise intriguing normative questions about the desirability of accommodation mandates. If these mandates depress the relative employment levels or relative wages of the targeted group (as the analysis and evidence suggest they often do), should they be abandoned? What might they be replaced with? Can they be maintained while avoiding their negative consequences? Part II’s discussion does not attempt to offer a definitive resolution of these difficult normative questions (as that is a project quite distinct from my focus in the present work), but it does highlight some of the relevant considerations and issues, especially insofar as these are illuminated by the analysis offered here.

The discussion below has two central conclusions. First, accommodation mandates must be analyzed in light of antidiscrimination law and the factors that bear on the effectiveness of that law in constraining employers’ behavior. Much of the confusion in the existing literature stems from the failure to account properly for the economic pressures created by accommodation mandates, on the one hand, and the way in which the law may constrain those pressures, on the other. Second, the framework developed here makes it possible to generate rough predictions about the effects of particular

15. Samuel Issacharoff & Elyse Rosenblum, *Women and the Workplace: Accommodating the Demands of Pregnancy*, 94 COLUM. L. REV. 2154, 2196 (1994) (emphasis added).

16. See notes 4-7 *supra* and accompanying text.

accommodation mandates on the wages and employment levels of accommodated workers—predictions that are shown to be broadly consistent with the empirical evidence.

I. FRAMEWORK

A decade ago, then Professor (now Treasury Secretary) Lawrence Summers proposed an economic framework for analyzing the effects of mandates directed to workers as a whole.¹⁷ This Part builds on Summers's model to offer a framework for analyzing the effects of accommodation mandates, which are directed to subgroups of workers (such as the disabled) rather than to workers as a whole. (The concept of an "accommodation mandate" is defined more precisely below.) The proposed framework is in the spirit of Summers's initial treatment of mandates directed to workers as a whole; it aims to illuminate the essential issues within a graphical framework and without the use of a complex mathematical model.

The challenge in performing this exercise for accommodation mandates is that there is no longer a single employment market affected by the legal intervention. Instead, accommodated and nonaccommodated workers comprise distinct, yet interconnected, employment markets. In addition, and relatedly, legal restrictions on wage and employment differentials across accommodated and nonaccommodated workers come into play. These features complicate the analysis of accommodation mandates within a graphical framework. I show below how these mandates can nonetheless be analyzed in a relatively simple way that is accessible to policy makers and legal commentators.

The focus throughout the analysis is on the distributive effects of accommodation mandates for accommodated workers, not on these mandates' efficiency or "justice" aspects, although of course this is not meant to suggest that only the distributive effects of a law are important.¹⁸ The distributive orientation of my analysis marks a contrast with the existing economics literature on mandates, which is focused almost exclusively on efficiency.¹⁹ Of course, the focus on distributive consequences implicates the normative

17. Summers, *supra* note 2.

18. See Duncan Kennedy, *The Stakes of Law, or Hale and Foucault!*, 15 LEGAL STUD. F. 327, 327-28 (1991).

19. See, e.g., Jonathan Gruber, *The Incidence of Mandated Maternity Benefits*, 84 AM. ECON. REV. 622, 625-27 & n.9 (1994); Alan B. Krueger, *Observations on Employment-Based Government Mandates, with Particular Reference to Health Insurance*, in LABOR MARKETS, EMPLOYMENT POLICY, AND JOB CREATION 297, 299-306 (Lewis C. Solmon & Alec R. Levenson eds., 1994); Olivia S. Mitchell, *The Effects of Mandating Benefits Packages*, 11 RES. LAB. ECON. 297, 301-02 (Laurie J. Bassi & David L. Crawford eds., 1990); Ruhm, *Parental Leave Mandates*, *supra* note 9, at 288-89; Ruhm, *Policy Watch*, *supra* note 9, at 178.

question of whether distributive goals would be better achieved through tax-and-transfer systems.²⁰ But my analysis here is not at all normative in that sense: it does not seek to defend the use of accommodation mandates, as opposed to some alternative tool, to achieve distributive goals. Instead, my focus is simply the positive effects of these mandates on the accommodated group.

A. *Preliminaries*

This section lays the groundwork for the analysis to follow. It provides definitions and offers a methodological background and orientation.

1. *Definitions.*

a. *Accommodation mandates.*

The introduction offered a number of specific examples of accommodation mandates. At this point it is useful to offer a more general definition. An “accommodation mandate” is a requirement that employers take special steps in response to the distinctive needs of particular, identifiable demographic groups of workers. Under this definition, the accommodated workers must comprise a demographic group that is identifiable in advance of the commencement of the employment relationship. This is the reason that laws against discrimination—which regulate employers’ treatment of identifiable demographic groups—become important in analyzing accommodation mandates.

Some of the examples of accommodation mandates given above may benefit groups of workers identifiable in advance but also groups that cannot be identified ahead of time. Indeed the law often takes steps to minimize the degree to which employers are able to place workers in particular groups prior to the commencement of the employment relationship; it does this, for instance, by prohibiting preemployment inquiries into certain topics.²¹ In settings in which a worker’s condition cannot be known in advance (whether because of the law or because of some other factor), a mandate of a particular benefit operates in some respects like an insurance policy, protecting those who turn out to have the burdensome condition. Disability provides a par-

20. See, e.g., A. MITCHELL POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 124-27 (2d ed. 1989) (suggesting reasons that redistribution through legal rules may be inferior to redistribution through tax-and-transfer systems).

21. See, e.g., MARK A. ROTHSTEIN & LANCE LIEBMAN, EMPLOYMENT LAW: CASES AND MATERIALS 132-34 (4th ed. 1998) (reproducing preemployment inquiry guide issued by the West Virginia Human Rights Commission under the West Virginia Human Rights Act).

ticularly important example, since many types of disabilities manifest themselves not at the time of birth (in a manner analogous to sex or race) but later on in life.²² The definition of accommodation mandates used here does not embrace situations such as these. As will become clear below, however, their analysis would be similar to the analysis of accommodation mandates in the case of binding restrictions on wage and employment differentials. For in both instances employers are unable to treat different categories of workers differently in terms of wages or employment levels, either because they cannot tell who is in which category or because the law effectively constrains such differential treatment.

Accommodation mandates may sometimes impose special costs on employers of particular, identifiable demographic groups but also impose such costs on employers of individuals in other, equally identifiable demographic groups. For instance, the FMLA's mandate of leave after the birth of a child requires employers to take steps not only to accommodate female employees of childbearing age (who will require at least a brief period off from work if they have a biological child), but also to accommodate male workers who wish to take parental leave. However, as a result of the undeniable fact that women who have biological children are disabled for at least a brief period of time under current medical technology and with current attitudes toward medical risks, the FMLA's requirement of leave after the birth of a child disproportionately accommodates female workers of childbearing age. This is all that is required for an accommodation mandate under the definition used here.

b. *Binding restrictions on wage and employment differentials.*

Central to the analysis to follow is the role of binding restrictions on wage and employment differentials across accommodated and nonaccommodated workers. By "binding" restrictions I mean (I) legal restrictions that (II) effectively constrain employers' behavior. Whether restrictions are binding in this sense will obviously depend (among other things) both on what the restrictions attempt to prohibit and on how effectively they are enforced.

A preliminary note on the existing legal restrictions on wage and employment differentials is important here. These restrictions apply at the level of the individual employer, not at the level of an occupational category across an industry.²³ As relevant here, this means that an employer that pays

22. See Pamela S. Karlan & George Rutherglen, *Disabilities, Discrimination, and Reasonable Accommodation*, 46 DUKE L.J. 1, 29 (1996) ("[M]ost people may actually feel themselves to be behind a veil of ignorance with respect to disability . . .").

23. See, e.g., Title VII of the Civil Rights Act of 1964 § 703(a), 42 U.S.C. § 2000e-2(a) (1994) (prohibiting discrimination on the basis of race, sex, religion, and national origin); Ameri-

all of its workers less than the wage offered to comparable workers at other firms is not violating any legal restrictions on “wage differentials,” since it is treating all workers within the firm the same.

c. *“Better off,” “worse off,” and distributive gains.*

In analyzing the effects of mandates, the existing literature often makes use of the terms “better off” and “worse off.”²⁴ The analysis below will adopt these same terms, so it is important to be clear about their meaning. Workers are “better off” when the combined value of their wage and any mandated benefit or accommodation is higher and their employment level is also higher relative to the status quo. Conversely, workers are “worse off” when the combined value of their wage and any benefit or accommodation they receive is lower and their employment level is also lower. Cases in which the combined wage-benefit-accommodation value and the employment level may move in opposite directions (as in Part I.B.2.a below) cannot be unambiguously characterized under this approach. “Value” here is defined by the worker’s perception, a point discussed further in Part I.A.2.c below.

When the workers targeted by a mandate are “better off,” the mandate will be said to have produced “distributive gains.” Note that for accommodation mandates, the targeted group is accommodated workers. Thus the concept of “distributive gains” focuses on a subgroup of workers and does not address either the remaining (nonaccommodated) workers or other potentially affected groups such as employers and consumers. Effects on some of these other groups are noted briefly below, however.²⁵

2. *The existing framework: mandates directed to workers as a whole.*

a. *Supply and demand analysis.*

Figure 1 depicts the standard supply and demand diagram for employment markets; this diagram is the basis of Summers’s model of mandates directed to workers as a whole and also of the analysis of accommodation mandates offered here. A few points are necessary by way of background.²⁶ The supply of labor reflects employees’ willingness to work at different

cans with Disabilities Act of 1990 § 102(a), 42 U.S.C. § 12112(a) (1994) (prohibiting discrimination on the basis of disability).

24. E.g., Craswell, *supra* note 11, at 369-70, 373-75, 378-79; Lee, *supra* note 13, at 404.

25. See note 42 *infra* and accompanying text (consumers); note 98 *infra* and accompanying text (nonaccommodated workers).

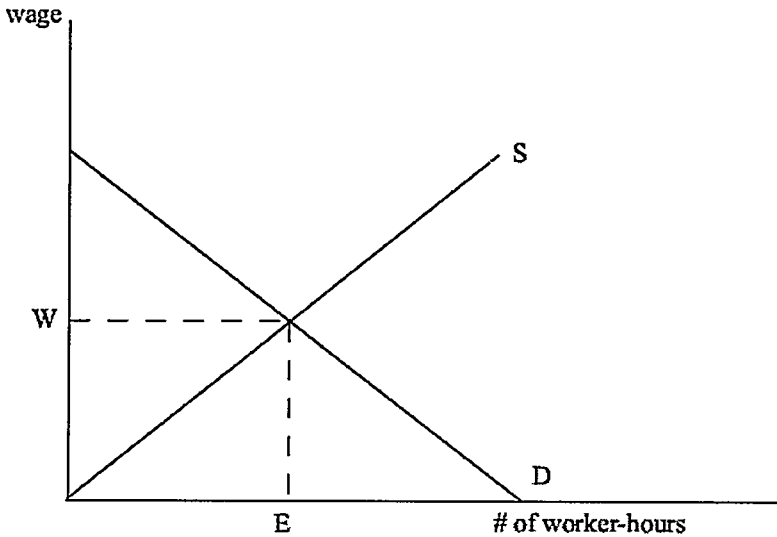
26. For a more in-depth discussion of the supply and demand framework for analyzing employment markets, see Donohue, *supra* note 12, at 1412-15.

wage levels; it slopes upward because employees will generally be willing to work more (provide more worker-hours) if wages are higher. (More worker-hours can result from more hours from each employee, more employees in the labor market, or some combination of these two factors. The analysis assumes that labor supply is not “backward bending,” or downward sloped, over any relevant region.) The demand for labor reflects employers’ demand for worker-hours at different wage levels; it slopes downward because employers will demand fewer worker-hours when wages are higher. The value of a given worker-hour to employers is given by the vertical distance between the horizontal axis and the demand curve; this distance is equal to the “marginal revenue product of labor,” or amount of revenue generated by that worker-hour. The marginal revenue product of labor declines with increasing employment levels because of the law of diminishing returns.²⁷

Labor supply and demand curves are for a single employment market—for instance, the market for entry-level clerical workers in a given geographic region. (Sometimes the boundaries of an employment market will be clear; other times they will not be.) In the analysis below, supply and demand curves will be drawn as lines for ease of illustration, but nothing in the analysis changes if they are curves instead. The intersection of the supply and demand curves will give the wage (W) and employment level (E) for the employment market in question. See Figure 1.

27. I measure the employment level in terms of worker-hours. This differs from the terminology in Daniel Hamermesh’s classic work on labor demand. DANIEL S. HAMERMESH, LABOR DEMAND 45 (1993).

Figure 1
Basic supply and demand framework



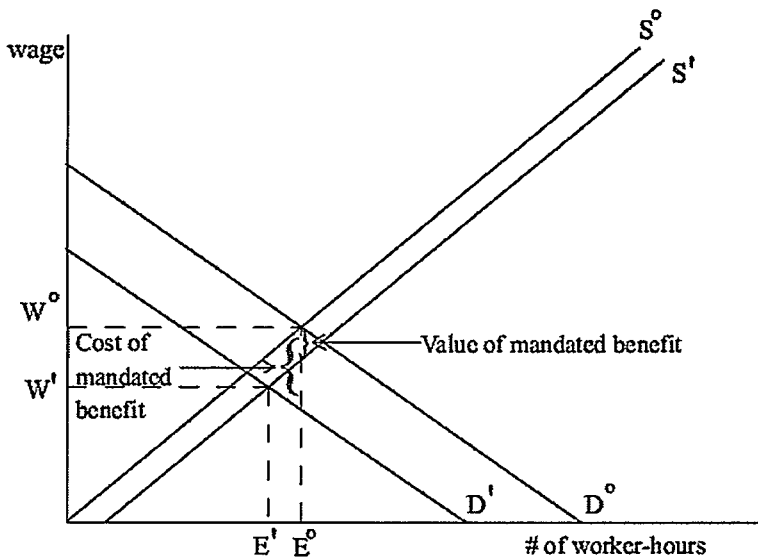
This simple supply and demand framework is all that is necessary to analyze the wage and employment effects of a mandate directed to workers as a whole, as Summers showed. The mandate will shift the labor supply curve down (in a southeasterly direction) by the value of the mandated benefit to workers, since they will be more willing to supply labor at any given wage when they receive the benefit in addition.²⁸ This shift is reflected in the move from S° to S' in Figure 2 (upper or lower panel). Meanwhile, the labor demand curve will shift down (in a southwesterly direction) by the cost of the mandated benefit to employers, since workers' total marginal revenue product, or overall contribution to firms' revenue, will be lower by the cost of the benefit (which employers must now provide).²⁹ This shift is reflected in the move from D° to D' in Figure 2 (upper or lower panel). Summers's formulation assumes that the mandated benefit creates incremental costs for employers—that is, it creates costs that rise with the number of worker-hours—in addition to any fixed or up-front costs that the mandated benefit may entail.

28. Summers, *supra* note 2, at 180 & fig. 1.

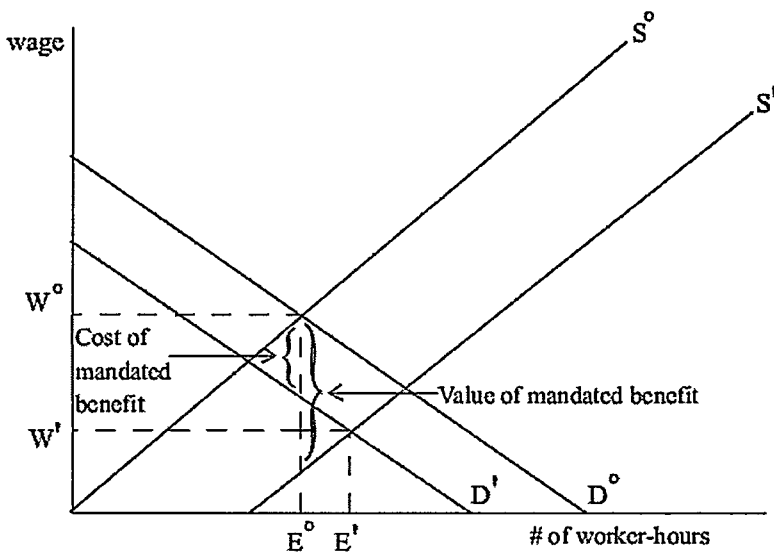
29. *Id.*

Figure 2
Effects of a mandate directed to workers as a whole

Value of mandated benefit is less than its cost



Value of mandated benefit exceeds its cost



Mandates directed to workers as a whole have very limited distributive potential within this framework.³⁰ If the mandated benefit is worth less than its cost, then the downward shift in the labor supply curve will be smaller than the downward shift in the labor demand curve, and the wage will fall by more than the value of the benefit, while the employment level will fall.³¹ Figure 2 (upper panel) illustrates these effects. The wage falls from W^0 to W' (more than the value of the benefit), while the employment level falls from E^0 to E' . Workers here are unambiguously worse off with the mandate.

If, instead, the mandated benefit is worth more to workers than its cost to employers, then the downward shift in labor supply will be larger than the downward shift in labor demand, and the wage will fall by less than the value of the mandated benefit, while the employment level will rise.³² Figure 2 (bottom panel) illustrates these effects. Here (but only here) are workers better off with the mandate. And even in this scenario the potential for distributive gains is quite limited; workers' wage falls by more than the cost of the mandated benefit (see the bottom panel of Figure 2), and thus their "net wage gain" (factoring in the value of the benefit) and corresponding employment gain are limited by the extent of the gap between the value and the cost of the mandated benefit. If the value of the benefit is precisely equal to its cost, then workers experience no net wage gain and no employment gain.³³

The basic intuition for why the potential for distributive gains from mandates directed to workers as a whole is so limited is well summarized by Dwight Lee: "[T]he more a mandated benefit is worth to workers, the more wages will decline when it is provided."³⁴ Craswell emphasizes the same point in the context of consumer mandates.³⁵ The top and bottom panels of Figure 2 illustrate the phenomenon. As the value of the mandated benefit rises, the amount of the cost that is shifted to workers in the form of reduced wages rises as well, limiting the possibility for distributive gains. As shown below, the situation is much different with accommodation mandates.

30. For a more detailed exposition of the points made in this paragraph and the next, in the context of consumer rather than employment mandates, see Craswell, *supra* note 11, at 369-71.

31. Lee, *supra* note 13, at 404, 405 fig.2.

32. *Id.* at 403-04 & fig.1.

33. Summers, *supra* note 2, at 180.

34. Lee, *supra* note 13, at 402.

35. Craswell, *supra* note 11, at 372 ("[T]he rules whose costs are most heavily passed on are also the rules that will benefit consumers the most.").

b. *A technical note about supply and demand elasticities.*

The basic effects highlighted by the Summers framework do not change with changes in the elasticities of the labor supply and demand curves (that is, the steepness of these curves). The tripartite division described above among cases in which the value of the mandated benefit is less than, is greater than, or equals its cost, with the corresponding effects on workers, holds true qualitatively whatever the elasticities of supply and demand. However, within the three categories, elasticities of supply and demand will certainly affect the precise size of the wage and employment effects.

A somewhat related point is that within the Summers framework, shifts in the supply and demand curves are measured in terms of *vertical*, not horizontal, magnitudes. The shifts measure value and cost changes, and these changes are denominated in dollars per worker-hour (the vertical axis), not worker-hours (the horizontal axis). The difference between vertical and horizontal magnitudes becomes particularly important with very inelastic (steep) or very elastic (flat) curves; for instance, with a very inelastic supply curve, a given downward (southeasterly) shift may look very small when viewed horizontally, even though it is very large when viewed vertically.

c. *Simplifying assumptions in the Summers framework.*

The Summers model provides a simple and parsimonious way to analyze the effects of mandates directed to workers as a whole. Because of its simplicity and parsimony, it does not reflect all of the complexities of the range of actual employment markets. The concern is not that the framework makes heroic and unrealistic assumptions about human “optimizing” across the board³⁶ (indeed it makes relatively limited assumptions about the degree to which people optimize), but instead that institutional features of certain employment markets and certain employment mandates may not be fully captured within the framework. These features include:

a) The degree to which a mandate’s effects can be fully characterized by the supply and demand shifts described above. The characterization may be more apt for some “rule types” than for others, as David Charny has emphasized.³⁷

36. Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1476-79 (1998), offer a general discussion of this problem.

37. David Charny, *Global Labor Standards* 8-23 (Mar. 2000) (working paper, on file with the *Stanford Law Review*).

b) The degree to which there is heterogeneity among workers within a given category or group in the value they attach to the mandated benefit. Craswell offers an analysis of the case of heterogeneity within a group.³⁸

c) The degree to which a mandate's costs depend on the number of workers (for instance, where there are fixed per-worker costs) rather than the number of worker-hours, as the Summers framework assumes.³⁹

d) The degree to which workers are demanded and paid in accordance with their total marginal revenue product of labor. In some contexts workers may receive an "efficiency wage" rather than a wage equal to the total marginal revenue product of labor, and this may bear on the analysis of legal intervention in employment markets.⁴⁰

e) The degree to which some of a mandate's costs may be shifted to consumers rather than borne by employers and employees. The Summers framework reflects a "partial equilibrium" approach in the sense that employment market effects are examined while holding fixed other factors in the economy, such as the price of the good the workers are producing. In this setting, all of the effects of a mandate will be felt by employers and workers (and none by consumers).⁴¹ If, however, some of a mandate's costs are shifted to consumers (as may well occur in practice, particularly over longer time frames⁴²), then the effects predicted by the Summers framework will be quantitatively smaller than the framework would otherwise suggest, but they should be *qualitatively* the same, which is what is important for purposes of the present inquiry.

Notwithstanding its omission of these various institutional features, the parsimonious Summers framework is widely accepted for analysis of the effects of employment mandates. In addition to the many academic articles discussed in the introduction and below that apply the Summers framework, his article is excerpted in a number of leading employment law casebooks.⁴³

38. Craswell, *supra* note 11, at 372-85.

39. Summers, *supra* note 2, at 181, notes this issue as an "extra complication" in the case of health insurance mandates.

40. See generally David Charny & G. Mitu Gulati, *Efficiency-Wages, Tournaments, and Discrimination: A Theory of Employment Discrimination Law for "High-Level" Jobs*, 33 HARV. C.R.-C.L. L. REV. 57 (1998) (analyzing antidiscrimination law under the assumption that workers receive an "efficiency wage" rather than a wage equal to the marginal revenue product of labor).

41. Cf. Lee, *supra* note 13, at 401 (discussing sharing of costs between employers and employees).

42. See, e.g., RICHARD A. EPSTEIN, FORBIDDEN GROUNDS: THE CASE AGAINST EMPLOYMENT DISCRIMINATION LAWS 491 (1992) ("[B]y driving up the prices of finished goods, [the ADA] hurts all persons, able and disabled alike, in their role as consumers.").

43. E.g., MARIA O'BRIEN HYLTON & LORRAINE A. SCHMALL, CASES AND MATERIALS ON EMPLOYEE BENEFITS LAW 41 (1998); STEVEN L. WILLBORN, STEWART J. SCHWAB & JOHN F. BURTON, JR., EMPLOYMENT LAW: CASES AND MATERIALS 921 (2d ed. 1998).

For these reasons, the Summers framework is taken as the basic building block for the approach to accommodation mandates developed here.

A final point about the Summers framework is important. That framework assumes “worker sovereignty” in the sense that workers’ labor supply is assumed to shift in accordance with the underlying value of the mandated benefit to workers.⁴⁴ For purposes of normative analysis, this assumption is problematic for a host of familiar reasons: workers may lack adequate information about the benefit and also may “value” it differently depending on whether they have an initial legal entitlement to it.⁴⁵ But for purposes of the largely positive analysis undertaken here, these problems are not very troubling, since the shift in the labor supply curve may simply be interpreted as the “value” of the legal intervention as perceived by workers (correctly or incorrectly). As no normative analysis is undertaken to suggest that a mandate is desirable or not based on the comparison of this “value” to the cost associated with it, the relationship between the value as perceived by workers and the true “value” is simply not central for my purposes.

How can the Summers framework be adapted to the case of accommodation mandates?

3. *Accommodation mandates.*

The key difference between an accommodation mandate and a mandate directed to workers as a whole is that when an accommodation mandate is imposed, the willingness to supply labor rises exclusively or disproportionately for the group to which the accommodation is targeted (for instance, disabled workers or female workers of childbearing age), and the total marginal revenue product of labor falls exclusively or disproportionately for this group. Thus the first innovation that will be necessary in analyzing accommodation mandates as opposed to mandates directed to workers as a whole is to separate out two distinct labor markets: the market for workers whom the mandate accommodates and the market for the remaining workers. Each market will have its own labor supply and demand curves (although, as noted in the following paragraph, the demand curves may end up being the same). And, since the demand for workers of one type will depend, among other things, on the demand for workers of the other type, it will no longer be possible to represent everything of interest on a single, two-dimensional supply and demand diagram, as in the economic analysis of mandates directed to

44. Cf. Craswell, *supra* note 11, at 368-69 (describing assumption of “consumer sovereignty” in the economic analysis of mandates in the consumer context).

45. See Jolls et al., *supra* note 36, at 1506-07 (discussing the role of the initial legal entitlement); Samuel A. Rea, Jr., *Workmen’s Compensation and Occupational Safety Under Imperfect Information*, 71 AM. ECON. REV. 80, 80 (1981) (outlining informational problems).

workers as a whole. A more general analytic framework for the analysis of accommodation mandates is a central goal of this portion of the inquiry.

The second, and critical, innovation that will be necessary in analyzing accommodation mandates is that laws against discrimination will come into play. As noted above, accommodation mandates are directed to groups protected under general antidiscrimination law. As a result, legal restrictions will prohibit employers from paying less to workers to whom accommodation mandates are targeted and from refusing to hire or retain these individuals. Thus, for example, employers cannot (lawfully) respond to the mandate of reasonable accommodation of disabled workers under the Americans with Disabilities Act (ADA)⁴⁶ by paying these workers less or refusing to hire them in the first place, as discussed more fully in Part I.D.1 below. (If the legal restrictions just described are fully binding on employers, then workers in the two groups will face the same labor demand curve despite the difference (noted above) in their total marginal revenue products of labor. See Part I.B.1.a below for an elaboration of this point.) As described above, the implications of legal restrictions on wage and employment differentials for the consequences of accommodation mandates have been overlooked by many commentators, who typically generalize from the Summers model of mandates directed to workers as a whole.⁴⁷

The framework developed below reflects each of the two innovations just described. I will refer to the group of workers to whom the mandate is directed as the “disadvantaged workers,” and to the remaining workers as the “nondisadvantaged workers.”

· What are the effects of imposing an accommodation mandate within this framework? The labor supply curve for disadvantaged workers will shift down by the value of the accommodation, just as, in the case of a mandate directed to workers as a whole, the labor supply curve will shift down by the value of the mandated benefit, as described in Part I.A.2.a above. (The reasoning for accommodation mandates is precisely the same as the reasoning given above for mandates directed to workers as a whole.) The analysis here

46. See notes 3-4 *supra* and accompanying text.

47. See note 9 *supra* and accompanying text. In a previous work, Cass Sunstein, Richard Thaler and I likewise applied the Summers framework to an accommodation mandate. See Jolls et al., *supra* note 36, at 1505-08. It was only in the course of further thinking about this topic that I came to see that the prevailing approach in the literature, under which the Summers framework is uncritically applied to accommodation mandates, is incomplete. As discussed below, however, the correct approach ultimately yields the same qualitative conclusions as the Summers framework for the specific context of accommodation mandates targeted to female workers of childbearing age, which was the context addressed in our earlier piece. See Parts II.B and II.C *infra* (discussing accommodation mandates targeted to female workers); Jolls et al., *supra* note 36, at 1505-08. But it yields very different conclusions in other contexts, such as disability, as discussed in detail below. See Part II.A *infra*.

will assume for expositional ease that the accommodation required by the mandate has no value to *nondisadvantaged* workers, so that there is no shift in their labor supply curve. However, the conclusions offered below would remain qualitatively unchanged if the accommodation had some value to nondisadvantaged workers (although less than the value to disadvantaged workers; as noted in Part I.A.1.a, this is the essence of the definition of an accommodation mandate).

Meanwhile, with regard to labor demand, the effect on the labor demand curve for each type of worker will depend on whether there are binding restrictions on wage and employment differentials between disadvantaged and nondisadvantaged workers, as discussed more fully in Part I.B below. Because of the importance of this factor, the analysis in Part I.B is organized with reference to it. For expositional ease, the analysis will assume throughout that an accommodation mandate imposes no cost on employers in connection with the employment of *nondisadvantaged* workers. However, the conclusions offered below would remain qualitatively unchanged if the mandate imposed some cost (less than the cost for disadvantaged workers) for nondisadvantaged workers.

B. *Restrictions on Wage and Employment Differentials*

This section analyzes the effects of accommodation mandates under alternative assumptions about whether antidiscrimination law's restrictions on wage and employment differentials across disadvantaged and nondisadvantaged workers are binding on employers. A major theme of the discussion is the way in which these restrictions on wage and employment differentials significantly alter the conclusions that obtain for mandates directed to workers as a whole. (As noted in the introduction and as discussed in more detail here, many labor economists and employment law commentators have uncritically applied the analysis for mandates directed to workers as a whole to the case of accommodation mandates.) Part I.D below addresses the factors that bear on whether and when restrictions on wage and employment differentials are likely to be binding.

One possibility with regard to restrictions on wage and employment differentials is that both sorts of restrictions are binding; a second is that restrictions on wage differentials are binding while restrictions on employment differentials are not; a third is that restrictions on employment differentials are binding while restrictions on wage differentials are not; and a fourth is that neither sort of restriction is binding. This section considers each of these possibilities in turn, grouping the third and fourth together for analytic convenience.

1. *Restrictions on wage and employment differentials are binding.*

The first possibility is that both restrictions on wage differentials and restrictions on employment differentials between disadvantaged and nondisadvantaged workers are binding. As noted above, whether this is true will bear significantly on how accommodation mandates affect labor demand.

a. *Labor demand effects.*

With binding restrictions on wage and employment differentials, there must not be any difference between the wages or employment opportunities of disadvantaged and nondisadvantaged workers within a given employment market. Thus, employers must pay each type of worker the same wage and must demand each type in proportion to its willingness to supply labor at that wage. Since employers cannot exhibit differential labor demand for the two types of workers, labor demand for each type of worker will be based on the total marginal revenue product of labor for all workers, disadvantaged and nondisadvantaged, in the employment market in question.

The first effect of an accommodation mandate on labor demand will therefore be to shift the labor demand curve for each type of worker downward (all else equal), since the mandate will produce a downward shift in the total marginal revenue product of labor across the employment market in question. The downward shift in the total marginal revenue product of labor will occur because employers will incur costs for the mandated accommodation; the reasoning is just the same as that offered in Part I.A.2.a above for the case of mandates directed to workers as a whole. The magnitude of the downward shift with an accommodation mandate will be equal to the *average* cost of the mandated accommodation across the employment market in question, just as in the case of a mandate directed to workers as a whole the magnitude of the downward shift is equal to the (average) cost of the mandated benefit across the relevant employment market.⁴⁸ The difference in the context of accommodation mandates is that the average cost will not simply be equal to the cost of the benefit in question; rather it will be equal to the cost of the benefit (accommodation) *multiplied by* the fraction of disadvantaged workers in the employment market, since only these workers require accommodation.

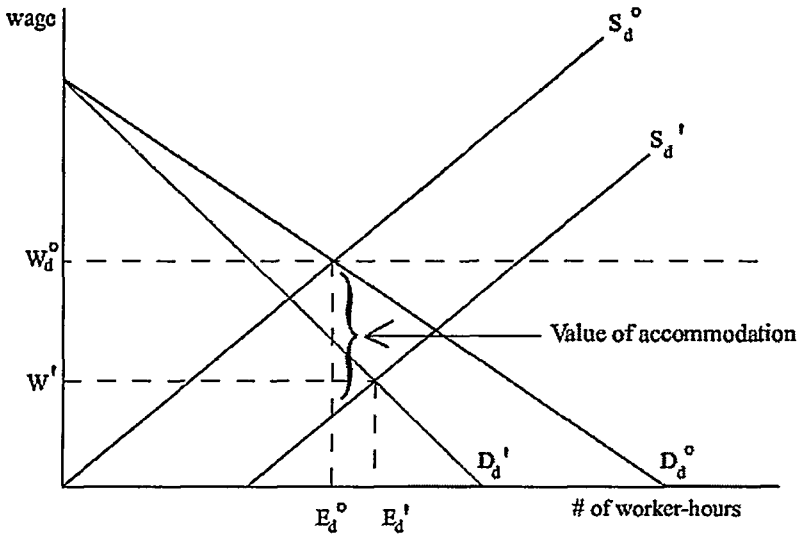
This first effect of an accommodation mandate is depicted in Figure 3 below. The supply and demand curves in this figure are similar to the supply and demand curves in Figure 2 above, but they are for disadvantaged workers rather than for workers as a whole. However, a distinction between the

48. See Summers, *supra* note 2, at 180.

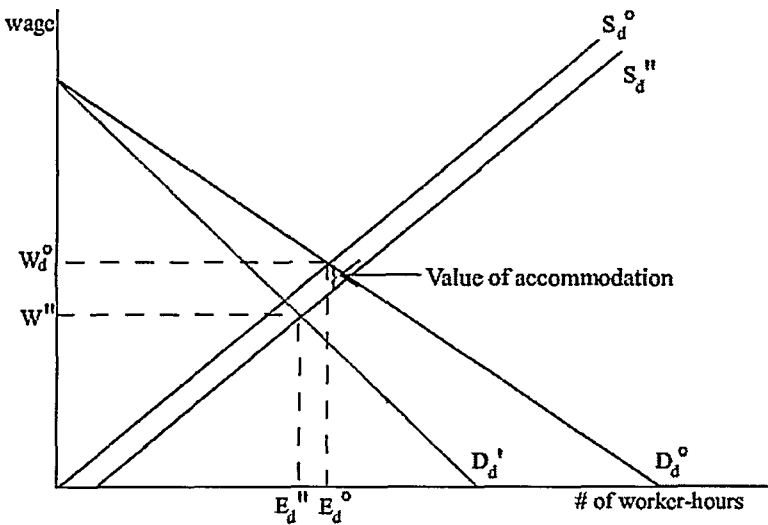
current analysis and the analysis accompanying Figure 2 is that in discussing demand curves it now becomes important to distinguish between two components of the total marginal revenue product of labor across the employment market in question. (As already noted, the total marginal revenue product of labor across the employment market in question determines labor demand.) The first component, which relates to the effect of an accommodation mandate currently under discussion, is the average cost of the mandated accommodation across the employment market in question. The second component, discussed just below, is the “physical” marginal revenue product of labor—the value of the marginal physical output that workers produce. Because the present focus is on the first component, the shift from the curve D_d° to the curve D_d' in Figure 3 (upper or lower panel) reflects only the shift due to this first component; the second component is ignored by assuming that the *physical* marginal revenue product of labor for disadvantaged workers is the same pre- and post-mandate. The Appendix explains why the curve D_d' is steeper than the curve D_d° in Figure 3; it also presents much of the rest of the analysis offered here in a more formal way.

Figure 3
 Effects of an accommodation mandate --
 Market for disadvantaged workers

Value of accommodation equals or exceeds its cost



Value of accommodation is less than its cost



The second component of labor demand for disadvantaged workers (based on the total marginal revenue product of labor across the employment market in question) is, as already noted, the *physical* marginal revenue product of labor for these workers. The downward shift in labor demand in Figure 3 assumed that this physical marginal revenue product was the same pre- and post-mandate for disadvantaged workers. But in fact these workers' physical marginal revenue product will not be the same pre- and post-mandate. The reason is that their physical marginal revenue product depends upon the employment level of *nondisadvantaged* workers, and this will change with the imposition of the mandate. The downward pressure on the total marginal revenue product of labor and, hence, on labor demand as a result of the cost of the mandated accommodation means that the employment level of *nondisadvantaged* workers will fall. (A formal proof of this claim appears in the Appendix.) Intuitively, the accommodation mandate, by requiring employers to incur costs for disadvantaged workers that *nondisadvantaged* workers will have to share as a consequence of the binding restrictions on wage and employment differentials, induces marginal *nondisadvantaged* workers to exit the market. Because the physical marginal revenue product of labor for disadvantaged workers will be higher after the mandate, the ultimate post-mandate labor demand curve for these workers will lie *above* the curve D_a' in Figure 3.

b. *Wage and employment effects.*

The foregoing discussion of the effects of an accommodation mandate on labor demand provides the starting point for analyzing the effects of accommodation mandates on the wages and employment levels of disadvantaged workers. As the division into two separate graphs in Figure 3 suggests, it is useful to separate the analysis into distinct cases based on the relationship between the value and the cost of the mandated accommodation. "Value" in this context means the per-worker-hour value of the accommodation to disadvantaged workers, while "cost" refers to the per-disadvantaged-worker-hour cost of the accommodation to employers.

A threshold question regarding Case 1 below, in which the value of the accommodation equals or exceeds its cost, is why legal intervention would ever be necessary in that circumstance. Economists and economically oriented commentators often assert that parties should bargain on their own for a benefit whose value exceeds its cost.⁴⁹ There are several responses to this argument. First, the value of the benefit may not be appreciated by workers

49. E.g., RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 363 (5th ed. 1998).

because of informational problems.⁵⁰ Second, workers may value the benefit less in the absence of an entitlement to it as a consequence of the endowment effect.⁵¹ Third, the benefit may entail fixed as well as incremental costs, and the fixed-cost component may produce a collective action problem for workers.⁵² Fourth, adverse selection considerations may interfere with market provision of the benefit regardless of whether its value exceeds its cost.⁵³ For all of these reasons, the benefit may not be provided in the absence of a mandate even if its value exceeds its cost. The empirical study by Jonathan Gruber described in Part II.B.2 below provides an example of a situation in which a mandated benefit apparently had a value greater than its cost and yet the mandate was necessary for the benefit to be provided.

Case 1—Value of accommodation equals or exceeds its cost. If the value of the mandated accommodation equals or exceeds its cost, then the downward shift in the labor supply curve for disadvantaged workers will equal or exceed that cost. (As described in Part I.A.3 above, the labor supply curve for disadvantaged workers shifts down by the value of the accommodation.) This shift is reflected in the gap between S_d° and S_d' in Figure 3 (upper panel). At the same time, as explained above, the gap between D_d° and D_d' in Figure 3 is given by the *average* cost of the accommodation in the employment market in question, or equivalently by the cost of accommodation multiplied by the proportion of disadvantaged workers in the employment market. It follows from the preceding statements that the gap between S_d° and S_d' (which equals or exceeds the cost of the accommodation) must equal or exceed the gap between D_d° and D_d' . In addition, as explained above, the post-mandate labor demand curve for disadvantaged workers lies *above* the curve D_d' , as a result of the increase in the physical marginal revenue product of disadvantaged workers resulting from the post-mandate decline in nondisadvantaged employment. Thus the gap between S_d° and S_d' must exceed the downward shift in the labor demand curve for disadvantaged workers resulting from the imposition of the mandate.

Since, as just noted, the post-mandate labor demand curve for disadvantaged workers will lie *above* the curve D_d' in Figure 3, the mandate will cause the wage of disadvantaged workers to fall by *less than* the gap between W_d° and W' (upper panel of Figure 3). This in turn is less than or equal to the value of the accommodation. So disadvantaged workers' wage will fall by less than the value of the accommodation. And their employment level

50. See, e.g., Krueger, *supra* note 19, at 301.

51. See Jolls et al., *supra* note 36, at 1506-07.

52. See, e.g., Douglas L. Leslie, Accommodating the Disabled 5 (1999), at <http://www.legalessays.com/leslie.pdf>.

53. See, e.g., Summers, *supra* note 2, at 179.

will rise by more than the gap between E_d^o and E_d' . It follows that disadvantaged workers will be better off with the mandate.

These conclusions are quite intuitive, but they mark a striking contrast with the results for the case of mandates directed to workers as a whole. In that case, as explained in Part I.A.2.a above, if the value of the mandated benefit exceeds its cost, distributive gains to workers are possible, but they are limited to the extent of the value-cost gap. This gap is often used to measure the efficiency of the mandate;⁵⁴ thus the gains to workers stem from the mandate's efficiency and not from distributive benefits achieved at the expense of another party. Jonathan Gruber extends this analysis of mandates directed to workers as a whole to an accommodation mandate, mandated leave from work around the time of childbirth:

If the government is [acting efficiently] by mandating maternity leave, then women will pay for this valuable leave through lower wages. As a result, *there will be no net redistribution toward women*; they will be, in essence, buying the maternity leave. . . . [A]dvocates of maternity leave cannot have it both ways; either the government is increasing efficiency *or* it is redistributing toward women.⁵⁵

The foregoing analysis shows that this reasoning is incorrect if restrictions on wage and employment differentials are binding. Even when the value of the accommodation exceeds its cost, there are purely "redistributive" (as well as efficiency) benefits to disadvantaged workers from the mandate, since the costs of the accommodation are shared across all workers. No such shifting is feasible in the context of mandates directed to workers as a whole, since there is no other group of workers to whom to shift costs. Of course, as described below, things will be quite different if restrictions on wage and employment differentials are not binding. And, in defense of Gruber's argument, the empirical evidence discussed in Parts II.B and II.C suggests that indeed these restrictions are not binding in the context of male-female differentials.

Shifting of the costs of legal intervention to other parties, as occurs in the case of accommodation mandates, is often considered a negative consequence of mandates.⁵⁶ But insofar as accommodation mandates are concerned, the precise *goal* of the legal intervention is (at least in many proponents' view) to "level the playing field" between disadvantaged and nondis-

54. See, e.g., Craswell, *supra* note 11, at 369 (stating that supply and demand shifts measure value and cost and that in some cases "efficiency can be assessed simply by comparing [these] shift[s] . . .").

55. Jonathan Gruber, *Commentary on Chapter 5*, in GENDER AND FAMILY ISSUES IN THE WORKPLACE 157, 157-58 (Francine D. Blau & Ronald G. Ehrenberg eds., 1997) (emphasis added).

56. See, e.g., David Charny, *The Employee Welfare State in Transition*, 74 TEX. L. REV. 1601, 1615 (1996) (discussing cross-subsidization across different groups of workers in the health insurance context).

advantaged workers by removing from the former a burden not borne by the latter.

Note, however, that the cost-shifting feature of an accommodation mandate in this setting will tend to put pressure on the composition of the employment market in question. Nondisadvantaged workers, who will be earning less than the total marginal revenue product of labor for their group, will prefer jobs in which they are not bearing costs associated with the employment of disadvantaged workers. By contrast, disadvantaged workers will be earning more than the total marginal revenue product of labor for their group, so additional such workers will have an incentive to enter the market. I discuss this point in greater detail in Part I.D.4 below.

Case 2—Value of accommodation is less than its cost. If the value of the mandated accommodation is less than its cost, then it is no longer certain that disadvantaged workers will be better off after the mandate is imposed. The reason is that the labor supply curve for disadvantaged workers will shift down by less than the cost of the accommodation (since value is less than cost), so one can no longer say that this shift, reflected in the gap between S_d° and S_d' in Figure 3 (lower panel), will necessarily equal or exceed the gap between D_d° and D_d' .

However, as long as the fraction of nondisadvantaged individuals in the qualified population is not too small, and the gap between value and cost not too large, an accommodation mandate will always make disadvantaged workers better off. If, for example, nondisadvantaged individuals are ninety percent of the qualified population, then they will tend to constitute the vast majority of the employment market in question. (Their precise representation will depend on the shape of their and disadvantaged workers' labor supply curves and other factors.) If nondisadvantaged workers constitute the vast majority of the employment market in question, then the fall in the total marginal revenue product of labor for all workers in that market with the imposition of an accommodation mandate will be small, since the average cost of the accommodation across the employment market will be small. And the smaller the downward shift in the total marginal revenue product of labor from the accommodation cost, the smaller the gap between the curves D_d° and D_d' in Figure 3 (lower panel), and hence the lower the likelihood that this gap will exceed the downward shift in the labor supply curve (S_d° to S_d'). As long as the downward shift in the labor supply curve equals or exceeds the gap between D_d° and D_d' , the wage of disadvantaged workers will fall by less than the value of the mandated accommodation, while their employment level will rise, just as in Case 1 above.

Intuitively, with a relatively high proportion of nondisadvantaged workers in the workplace, and with binding restrictions on wage and employment differentials, most of the cost of the mandated accommodation will be borne

by the nondisadvantaged group. The value of the accommodation, however, is specific to the disadvantaged workers. Thus, even if the value (to disadvantaged workers) of the accommodation is less than its cost (to employers), disadvantaged workers' wage will fall by less than the value of the accommodation—unless the cost of the accommodation is extremely large relative to its value—since much of the cost will be shifted to the nondisadvantaged group. But, once again, cross-subsidization of this sort may encourage changes in the composition of the employment market, as discussed in Part I.D.4 below.

The foregoing analysis suggests a possible distributive ground for accommodation mandates even when the cost of the accommodation exceeds its value. (As already noted, distributive goals might alternatively be achieved through a tax-and-transfer regime.⁵⁷ Again, my goal is not to mount a normative defense of one form of achieving these goals over another.) In the case of mandates directed to workers as a whole, distributive considerations cannot justify legal intervention in this setting, since, as noted in Part I.A.2.a above, the workers' wage will fall by more than the value of the benefit to them; this occurs because there is no other group to whom to shift costs. But the case of accommodation mandates is different. Even if the value of the accommodation is less than its cost, the mandate may make disadvantaged workers better off because nondisadvantaged workers will bear some of the associated cost.

This point is especially important because the fact that the value of the accommodation is less than its cost may reflect precisely the undesirable distributive situation that the law seeks to remedy. The reason is that "value" in this economic framework is measured by workers' willingness to pay for the benefit by accepting lower wages, and the distributive situation (poverty) of disadvantaged workers might preclude them from accepting lower wages. This is of course the familiar point that wealth matters greatly for determining willingness to pay and hence economic "value."⁵⁸

A further contrast between accommodation mandates and mandates directed to workers as a whole is that for the latter mandates the precise measure of whether the parties to whom the mandate is directed are better off is (somewhat paradoxically) whether their wage falls by more than the cost of the benefit,⁵⁹ which can only happen if the value of the mandated benefit exceeds its cost, as described in Part I.A.2.a above. With an accommodation

57. See note 20 *supra* and accompanying text.

58. See generally Ronald M. Dworkin, *Is Wealth A Value?*, 9 J. LEGAL STUD. 191, 196-201 (1980) (discussing the relationship between an actor's wealth and the actor's willingness to pay for a good).

59. See Lee, *supra* note 13, at 403-04; see also note 35 *supra* (noting Richard Craswell's analogous conclusion in the context of consumer mandates).

mandate, by contrast, disadvantaged workers may be better off even if (and perhaps because of the fact that) their wage falls by less than the cost of the accommodation; some of the cost is being shifted through lower wages to nondisadvantaged workers.

c. *Relative wages and relative employment levels.*

The above discussion focuses on the wage and employment effects of accommodation mandates for disadvantaged workers. But the same analysis allows one to reach conclusions about the wage and employment effects for disadvantaged workers *relative to* those for nondisadvantaged workers. The conclusions about relative wages and relative employment levels in turn make it possible to generate the empirical hypotheses tested in Part II below. Empirical inquiries naturally focus on relative wages and relative employment levels to net out potentially confounding background factors such as changes in the overall state of the economy.

With regard to relative wage effects, the existence of binding restrictions on wage differentials between the two types of workers means that their wages will be the same after the imposition of the mandate. (Of course the “net wage” of disadvantaged workers, factoring in the value of the accommodation, will be higher than that of nondisadvantaged workers. But the following discussion focuses on the monetary wages of the two groups of workers, since that is what is relevant for generating empirical predictions of the sort tested in Part II.)

Before the imposition of the mandate, the disadvantaged workers’ wage may have been less than that of nondisadvantaged workers; this would be the case if disadvantaged workers were less attractive to employers even before the mandated accommodation (say because of discrimination or reduced productivity) and restrictions on wage differentials were only imposed when the accommodation mandate went into place. A possible example here is the Americans with Disabilities Act (ADA);⁶⁰ disabled workers may have been regarded by employers as more costly even prior to the accommodation mandate, and no (federal) law restricted wage differentials prior to the ADA’s enactment. If disadvantaged workers earned less than nondisadvantaged workers prior to the imposition of the mandate, then the mandate will have the effect of increasing their relative wage.

It is also possible that the disadvantaged workers’ wage was the same as that of nondisadvantaged workers prior to the imposition of the mandate. This could occur, for example, if disadvantaged workers were equally attractive to employers prior to the mandate and only become more costly for em-

60. See notes 3-4 *supra* and accompanying text.

ployers to employ as a result of the intervention. (In this case the “disadvantage” of these workers would stem from the need to finance their own accommodation prior to the mandate.) Here, obviously, the mandate will leave unchanged the relative wage of disadvantaged workers. Another case in which the wage of disadvantaged workers would equal that of nondisadvantaged workers before as well as after the mandate is the case in which binding restrictions on wage differentials existed even before the imposition of the mandate. However, as Part II makes clear, none of the accommodation mandates discussed here (and none of which I am aware) involves a situation in which it appears that there were *binding* restrictions on wage and employment differentials both before and after the imposition of the mandate.

It follows from the foregoing discussion that the relative wage of disadvantaged workers will either rise or stay the same with the imposition of an accommodation mandate. (As a result of the binding restrictions on wage differentials, it could not fall.) Note that this conclusion holds true whatever the relationship between the value and the cost of the mandated accommodation; there is no difference between Case 1 and Case 2 above for these purposes.

With regard to relative employment levels, the relative employment level of disadvantaged workers is likely to rise with the imposition of an accommodation mandate given binding restrictions on wage and employment differentials. The relative employment level of these workers is certain to rise when the value of the mandated accommodation equals or exceeds its cost (Case 1 above), since in that case, as explained above, the absolute employment level of disadvantaged workers will rise while the absolute employment level of nondisadvantaged workers will fall. Likewise, in the case in which the value of the mandated accommodation is less than its cost (Case 2), the relative employment level of disadvantaged workers will rise as long as their absolute employment level does, since, again, the absolute level of nondisadvantaged employment falls. As described above, the absolute level of disadvantaged employment will rise as long as the fraction of nondisadvantaged individuals in the qualified population is not too small and the gap between the value and the cost of the mandated accommodation is not too large.

* * *

The foregoing discussion has been somewhat intricate at points (far more so than the remaining analysis will be), but the central conclusions are easy to distill. First, accommodation mandates have far greater potential than might otherwise be realized to achieve distributive gains for disadvantaged workers. (However, at this point it is only a potential, and, as the analysis in Part II suggests, that potential has gone significantly unrecognized under ex-

isting law.) If restrictions on wage and employment differentials are binding on employers, then even a mandated accommodation whose value exceeds its cost produces many of its gains to disadvantaged workers through cost-sharing with nondisadvantaged workers, and an accommodation whose value falls short of its cost may produce gains for disadvantaged workers as a result of the same sort of cost-sharing. Both of these conclusions are contrary to those reached using the existing framework for mandates directed to workers as a whole.

The other critical set of conclusions from the above discussion concerns the relative wage and relative employment effects of accommodation mandates. These are important for purposes of Part II's empirical analysis. The conclusions about relative wage and relative employment effects are summarized in the first and second rows of Table 1.

Table 1

Effects of an accommodation mandate on the relative wage and relative employment level of disadvantaged workers

Scenario		Effect of mandate on relative wage	Effect of mandate on relative employment level
Restrictions on wage and employment differentials are binding	Value of accommodation equals or exceeds its cost	Rises or stays the same	Rises
	Value of accommodation is less than its cost	Rises or stays the same	Rises, unless either the fraction of non-disadvantaged individuals in the qualified population is very small or the gap between value and cost is very large.
Restrictions on wage differentials are binding, but restrictions on employment differentials are not		Rises or stays the same	Falls
Restrictions on wage differentials are not binding (restrictions on employment differentials may or may not be binding)	Value of accommodation exceeds its cost	Falls	Rises
	Value of accommodation equals its cost	Falls	No Change
	Value of accommodation is less than its cost	Falls	Falls

2. *Restrictions on wage differentials are binding, but restrictions on employment differentials are not.*

The previous section analyzed the effects of accommodation mandates under the assumption that restrictions on both wage and employment differentials between disadvantaged and nondisadvantaged workers were binding. This section relaxes that assumption and assumes that only restrictions on wage differentials are binding.

a. *Wage and employment effects.*

With binding restrictions on wage differentials across disadvantaged and nondisadvantaged workers, the two types of workers must receive the same wage, despite the fact that one group of workers—the disadvantaged group—will be more expensive to employ. Employers will thus have an incentive not to employ members of the disadvantaged group. Since restrictions on employment differentials are not binding, they will be able to get away with such behavior. (This is the critical contrast with Part I.B.1 above.)

The fact that an accommodation mandate will produce negative employment effects for disadvantaged workers in this scenario is of course rather obvious; in fact a similar point may be found in Summers's original article, in which he notes that if different groups of workers impose differential costs and wage differences are precluded, employers will "seek to hire workers with lower benefit costs."⁶¹ What is not so obvious, and what has not been appreciated in the existing literature, is that the negative employment effects for disadvantaged workers in this setting mean that *one cannot infer the relationship between the value and the cost of the mandated accommodation from its employment consequences*. Even if the value of the mandated accommodation is incredibly high, so that disadvantaged workers would be willing to work for far lower wages, employers are legally foreclosed from paying them lower wages, and thus the mandate ends up producing job loss for the disadvantaged group. This conclusion contrasts strongly with the case of mandates directed to workers as a whole, for in that setting employment losses from the mandate directly imply that the mandated benefit is valued at less than its cost, as Figure 2 in Part I.A.2.a above indicates.

A related contrast with the case of mandates directed to workers as a whole is that for accommodation mandates the value-cost relationship no longer determines whether there will be distributive gains for targeted workers. In the case of mandates directed to workers as a whole, the greater the

61. Summers, *supra* note 2, at 182.

value of the mandated benefit to the workers to whom it is directed relative to its cost, the more likely the workers are to gain from the mandate, as shown in Part I.A.2.a above. The same is not true in the case of accommodation mandates if restrictions on wage differentials are binding while restrictions on employment differentials are not. Even if the value of the mandated accommodation greatly exceeds its cost, the employment level of disadvantaged workers will fall, and thus the accommodated group will not be better off in the sense described above.

Again, a natural question here is why a mandate would ever be necessary if the value of the mandated accommodation exceeds its cost. As noted above, the existing literature offers a range of responses to that question.⁶²

The conclusion that disadvantaged workers will face negative employment effects in response to an accommodation mandate with binding restrictions on wage but not employment differentials is independent not only of the value-cost relationship but also of the proportion of nondisadvantaged workers in the qualified population. Whereas a high proportion of nondisadvantaged workers makes it more likely that the disadvantaged workers will gain from an accommodation mandate if restrictions on wage and employment differentials are binding and the value of the mandated accommodation falls short of its cost (Case 2 in the preceding section), in the present scenario, with only wage differentials binding, it is irrelevant what proportions of the qualified population hail from the disadvantaged and nondisadvantaged groups. However many or few disadvantaged individuals there are, employers will simply not want to hire them.

A possible mitigating effect would occur if some employers began to hire exclusively disadvantaged workers, paying a lower wage to reflect the cost of the mandated accommodation. Disadvantaged workers might prefer these lower-paying jobs to unemployment, and the employers involved would not be running afoul of restrictions on wage *differentials* because they would be employing exclusively disadvantaged workers. (Recall from Part I.A.1.b above that the law only polices differential practices within a given firm.) Assuming quite plausibly, however, that this possibility is not enough to undo the general negative employment effects of the mandate for disadvantaged workers, these workers will experience job loss in the wake of the mandate.

b. *Relative wages and relative employment levels.*

The discussion thus far of binding restrictions on wage but not employment differentials has focused on the absolute employment effects of ac-

62. See notes 50-53 *supra* and accompanying text.

accommodation mandates for disadvantaged workers. However, exactly the same reasoning—that at a constant wage employers will always prefer non-disadvantaged to disadvantaged workers after a mandate is imposed—shows that the employment level of disadvantaged workers *relative to* that of non-disadvantaged workers will also fall.

In terms of the relative *wage* of disadvantaged workers, the relative wage of those who are employed after the mandate will rise or stay the same, subject to the caveat just above about disadvantaged-only firms, which may pay lower wages. The reasoning behind the conclusion that the relative wage will rise or stay the same parallels that offered in Part I.B.1.c above for the case in which both restrictions on wage differentials and restrictions on employment differentials are binding; nothing in that argument relied on the existence of binding restrictions on employment differentials, and so the argument carries over directly to the current context.

3. *Restrictions on wage differentials are not binding.*

This section considers the case in which restrictions on wage differentials are not binding. Without binding restrictions on wage differentials, employers will not have any reason to prefer one type of worker to the other; if too many of either type want to work at a given wage, then their wage will simply be lowered (since no legal restriction precludes this). Thus, when restrictions on wage differentials are not binding, it becomes irrelevant whether restrictions on employment differentials are binding or not; the following analysis applies equally to either case.

a. *Wage and employment effects.*

Since employers are unrestricted in their ability to pay differential wages, each group of workers will face its own labor demand curve based on the total marginal revenue product of labor for that group. After an accommodation mandate, the total marginal revenue product of labor for disadvantaged workers will be lower than it was before by the cost of the mandated accommodation; the reasoning is just the same as that offered in Part I.A.2.a above for the case of a mandate directed to workers as a whole. This downward shift in labor demand is analogous to the first effect of an accommodation mandate discussed in Part I.B.1.a above (when restrictions on both wage and employment differentials are binding), but the critical difference is that here, just as in the case of a mandate directed to workers as a whole, the labor demand curve for the group targeted by the mandate falls by the *full cost* of what is mandated, rather than, as in Part I.B.1.a, by the *average cost* of what is mandated across the disadvantaged and nondisadvantaged workers in the employment market in question. The lack of binding restrictions on

wage differentials means that the effect of an accommodation mandate is localized to disadvantaged workers, a conclusion similar to the one reached for the case of a mandate directed to workers as a whole.

In fact, the only *difference* between this setting and the case of a mandate directed to workers as a whole is that here there is still *some* interdependence between the labor demand curve for disadvantaged workers and what is happening in the market for *nondisadvantaged* workers. This interdependence stems from the fact that the *physical* marginal revenue product of disadvantaged workers (the second component of the analysis from Part I.B.1.a above) will depend on the employment level of nondisadvantaged workers. As shown in the Appendix, in the absence of binding restrictions on wage differentials the employment level of nondisadvantaged workers will fall with the imposition of an accommodation mandate if the value of the mandated accommodation exceeds its cost and will rise if the opposite is true.

The intuition for the effects of an accommodation mandate on *nondisadvantaged* employment is straightforward. If the value of the mandated accommodation exceeds its cost, then disadvantaged workers have in effect become cheaper to employ than they were before the mandate, so employers will substitute toward them and away from nondisadvantaged workers. (Again, reasons that a mandate might be necessary when the value of the accommodation exceeds its cost are discussed above.⁶³) Conversely, if the value of the mandated accommodation falls short of its cost, then employers will substitute away from disadvantaged workers toward nondisadvantaged workers, who have effectively become cheaper to employ (relative to disadvantaged workers) after the mandate.

The fall in nondisadvantaged employment when the value of the accommodation exceeds its cost will shift up the labor demand curve for disadvantaged workers relative to the case of a mandate directed to workers as a whole. This means a smaller wage decrease and a larger employment gain for disadvantaged workers than would be suggested by the analysis of mandates directed to workers as a whole. But even in that analysis the wage fell by less than the value of the mandated benefit, and the employment level rose, all as described in Part I.A.2.a. It follows that disadvantaged workers here are better off after the imposition of the accommodation mandate, and that this is true to an even greater degree than in the model of mandates directed to workers as a whole.

Conversely, when the value of the mandated accommodation falls short of its cost, the associated rise in nondisadvantaged employment will shift down the labor demand curve for disadvantaged workers relative to the case

63. See notes 50-53 *supra* and accompanying text.

of a mandate directed to workers as a whole. This means a larger wage decrease and a larger employment loss for disadvantaged workers than would be suggested by the analysis of mandates directed to workers as a whole. But even in that analysis the wage fell by more than the value of the mandated benefit, and the employment level fell, as described in Part I.A.2.a. It follows that disadvantaged workers are worse off after the imposition of the accommodation mandate, and that this is true to an even greater degree than in the model of mandates directed to workers as a whole.

If the value of the mandated accommodation is exactly equal to its cost, then, as shown in the Appendix, the employment level of nondisadvantaged workers will remain unchanged after the mandate is imposed. It follows that the wage and employment effects of an accommodation mandate for disadvantaged workers will be exactly the same as the wage and employment effects of a mandate directed to workers as a whole. Tracking the analysis in Part I.A.2.a, the wage of disadvantaged workers will fall by exactly the value of the mandated accommodation, while their employment level will remain unaffected.

To summarize, then, the tripartite set of results for mandates directed to workers as a whole, based on whether the value of the mandated benefit exceeds, falls short of, or equals its cost, will be mirrored in the case of accommodation mandates with no binding restrictions on wage differentials. Quantitatively, however, the effects of an accommodation mandate when value either exceeds or falls short of cost will be larger than those of a mandate directed to workers as a whole.

In light of the interrelationship described here between the markets for disadvantaged and nondisadvantaged workers, my analysis differs from Craswell's claim in the context of consumer mandates that "[i]f sellers could charge different prices to [different buyers], each group of buyers could be analyzed as a separate submarket consisting of essentially homogeneous consumers," so that the conclusions for the case of a single market "could then be restated for each submarket."⁶⁴ In the present context, the conclusions are not precisely identical to the case of a mandate directed to workers as a whole, even without binding restrictions on wage differentials, since the two submarkets for labor affect each other. As Daniel Hamermesh notes, a policy directed to "a certain demographic group of workers . . . will affect not only their employment but the employment of other workers as well."⁶⁵ The same sort of interrelationship presumably would arise in the consumer context, for reasons similar to those given just above for employment markets,

64. Craswell, *supra* note 11, at 373 n.19.

65. HAMERMESH, *supra* note 27, at 178.

but I do not pursue the point here because it is quite distinct from the focus of my present inquiry.

b. *Relative wages and relative employment levels.*

What are the effects of an accommodation mandate on relative wages and relative employment levels in this setting? After the imposition of the mandate, since employers are unrestricted, both types of workers will be paid in accordance with the total marginal revenue product of labor for their group, as noted above. Thus, the post-mandate wage of disadvantaged workers will be equal to the physical marginal revenue product of labor at the post-mandate levels of disadvantaged and nondisadvantaged employment minus the cost of the mandated accommodation and minus the cost, if any, associated with employing disadvantaged workers wholly apart from the mandate. Meanwhile, the post-mandate wage of nondisadvantaged workers will be equal to the physical marginal revenue product of labor at the post-mandate levels of disadvantaged and nondisadvantaged employment. So the gap between the post-mandate wages of the two groups is equal to the sum of the cost of the mandated accommodation and the cost, if any, of employing disadvantaged workers wholly apart from the mandate. Meanwhile, before the imposition of the mandate the gap between the two wages was simply the preexisting cost, if any, of employing disadvantaged workers. It follows that the relative wage of disadvantaged workers must fall with the mandate.

This conclusion is of course highly intuitive. The mandate imposes a new cost on disadvantaged workers, and nothing prevents employers from passing this cost on to these workers in the form of reduced wages. If employers were not paying disadvantaged workers a wage less than that of nondisadvantaged workers by the cost of the mandated accommodation, then employers would always prefer to hire exclusively nondisadvantaged workers. Only if a new gap between disadvantaged and nondisadvantaged workers' wages is introduced after the mandate is imposed will employers be willing to employ both types of workers. For this reason the relative wage of disadvantaged workers must fall with the imposition of the mandate.

The relative employment effects of an accommodation mandate in this setting are also straightforward. If the value of the mandated accommodation exceeds its cost, then, as described above, the absolute employment level of disadvantaged workers rises, while the absolute employment level of nondisadvantaged workers falls. The opposite occurs if the value of the mandated accommodation falls short of its cost, and both groups' employment levels stay the same if value equals cost. It follows that the relative employment level of disadvantaged workers rises if the value of the mandated accommodation exceeds its cost, falls if the value of the mandated ac-

commodation falls short of its cost, and is unchanged if the value and cost are equal.

Table 1 above provides a summary of all of the relative wage and relative employment level effects of accommodation mandates under different assumptions about whether restrictions on wage and employment differentials are binding. As already noted, this table will provide a useful reference for the analysis of specific accommodation mandates in Part II.

C. *Related Literature*

The closest analogue in the existing literature to the analysis offered just above of the effects of accommodation mandates is Craswell's treatment of the effects of consumer mandates in situations of consumer heterogeneity.⁶⁶ The scenario that Craswell considers has some important parallels with the case of accommodation mandates. As noted in the introduction, his conclusion that a mandate may produce distributive gains even when the mandate is inefficient,⁶⁷ in the sense that the value of the mandated benefit falls short of its cost,⁶⁸ is mirrored in the analysis offered here.

By the same token, there are a series of important differences between Craswell's analysis and my own. First, Craswell assumes that different consumers must receive the same treatment in the market,⁶⁹ whereas a critical point of my framework is that the effects of an accommodation mandate depend precisely on whether differential treatment of differently situated groups is feasible. If restrictions on wage and employment differentials are not binding, so that such differential treatment is possible, then an accommodation mandate will have very different effects than would otherwise occur.

Second, on the level of modeling assumptions, Craswell assumes not that buyers are distinguished into two groups (for instance, uninformed and informed, or in my context disadvantaged and nondisadvantaged), but instead that they are distinguished along a continuum, with some consumers "marginal" and some "inframarginal."⁷⁰ Thus Craswell does not analyze two distinct markets, as the analysis here does, and his approach does not draw upon two distinct supply and demand interactions, as the analysis here does. Instead the variation across consumers in his analysis can be fully captured in the relative slopes of the pre- and post-mandate demand curves on a single supply and demand diagram.⁷¹ Focusing on the existence of two distinct

66. Craswell, *supra* note 11, at 372-85.

67. *See id.* at 378-79, 380.

68. *See* note 54 *supra* (giving definition of efficiency in terms of the value-cost relationship).

69. Craswell, *supra* note 11, at 373.

70. *Id.* at 373-76.

71. *See id.* at 378-79 & fig.5.

markets, as I do here, illuminates points such as the one noted above about how the effects of an accommodation mandate when restrictions on wage differentials are not binding differ from the effects of a mandate directed to workers as a whole.⁷² A generalization of both frameworks would combine the separation of distinct markets and the recognition of heterogeneity of actors within each market.⁷³

Related to the difference in modeling assumptions, a third difference between Craswell's analysis and mine is that the source of distributive gains in Craswell's approach—and in similar lines of reasoning offered earlier by Bruce Ackerman, Duncan Kennedy, and Richard Markovits⁷⁴—is quite distinct from the source of the distributive gains in my analysis. In the articles just mentioned, the distributive gains stem from the nature of the marginal versus the inframarginal consumers' preferences; the low valuation of a mandate by marginal consumers limits the degree of the price increase resulting from the mandate, and thus this price increase may be less than the valuations of the mandate by inframarginal consumers. By contrast, in my analysis the distributive gains occur wholly apart from any differences in preferences between marginal and inframarginal actors (although such gains might well also be produced by such differences).

Another case in which, as in my analysis, a mandate may make a subgroup better off even if that group values the mandated benefit at less than its cost is discussed in an article on pension antidiscrimination rules by Joseph Bankman.⁷⁵ Bankman examines the effect of tax rules that require employers to provide comparable levels of pension and other benefits to highly compensated and non-highly compensated employees if they choose to offer benefits at all. These rules are somewhat akin to a mandate of benefits for non-highly compensated employees because of the common assumption (which Bankman makes⁷⁶) that the benefits are quite valuable to highly compensated employees (hence employers will want to offer benefits) but not very valuable to non-highly compensated employees. Bankman shows that

72. See notes 64-65 *supra* and accompanying text.

73. See note 38 *supra* and accompanying text.

74. Bruce Ackerman, *Regulating Slum Housing Markets on Behalf of the Poor: Of Housing Codes, Housing Subsidies and Income Redistribution Policy*, 80 YALE L.J. 1093, 1105-06 (1971); Duncan Kennedy, *Distributive and Paternalist Motives in Contract and Tort Law, with Special Reference to Compulsory Terms and Unequal Bargaining Power*, 41 MD. L. REV. 563, 611-12 & App. B(1) (1982); Richard S. Markovits, *The Distributive Impact, Allocative Efficiency, and Overall Desirability of Ideal Housing Codes: Some Theoretical Clarifications*, 89 HARV. L. REV. 1815, 1818-27 (1976); see also Craswell, *supra* note 11, at 380-83 (lucidly distilling the essentials of Ackerman's argument).

75. Joseph Bankman, *The Effect of Anti-Discrimination Provisions on Rank-and-File Compensation*, 72 WASH. U. L.Q. 597 (1994).

76. *Id.* at 602-03.

even if the benefits are worth less to non-highly compensated employees than they cost employers to provide, non-highly compensated employees may be better off with the mandate of comparable coverage.⁷⁷

Again, however, the source of the distributive gains is quite distinct from the source of these gains in the analysis of accommodation mandates offered above. In Bankman's case the mechanism for the gains is elimination of the benefits plan (not highly valued by the non-highly compensated employees) altogether and the concomitant increase in the relative attractiveness of employing non-highly compensated employees versus highly compensated employees.⁷⁸ In my analysis, by contrast, the distributive gain occurs because of the persistence, not the elimination, of a nonwage benefit (such as the ADA's requirement of reasonable accommodation). In addition, Bankman, like Craswell, does not consider the effects of restrictions on wage and employment differentials across workers who are and are not targeted by the mandate, for the quite natural reason that the law does not impose any such restrictions insofar as highly compensated versus non-highly compensated employees are concerned.

D. *When Will Restrictions on Wage and Employment Differentials Bind?*

The analysis in Part I.B shows the importance of whether restrictions on wage and employment differentials between disadvantaged and nondisadvantaged workers bind for determining the effects of accommodation mandates. As has been described, misimpressions often arise from an uncritical application of the model of mandates directed to workers as a whole to the distinct context of accommodation mandates. The present section takes the next step and describes when each set of circumstances, with regard to whether restrictions on wage and employment differentials will bind, is likely to obtain. It also discusses the important question of when the effects of an accommodation mandate are likely to be felt primarily in wages and when they are likely to be felt primarily in employment levels.

Of course, many factors go into whether legal restrictions will bind, in the sense of effectively constraining actors' behavior. In part, control of behavior will depend on the degree to which the law exerts a moral force that leads actors to obey it wholly apart from enforcement pressures. The following discussion, however, focuses on what the law aims to prohibit and on how effectively it can be enforced; these factors lend themselves much more to the predictive analysis about the effects of different accommodation mandates that is undertaken in Part II below.

77. *See id.* at 609.

78. *See id.*

1. *Scope of the law.*

As a threshold matter, it is important to consider whether the law attempts to restrict wage and employment differentials between disadvantaged and nondisadvantaged workers in response to an accommodation mandate. No one questions that the law attempts to restrict employment differentials; thus, employers cannot lawfully respond to the cost of a mandated accommodation by refusing to hire disadvantaged workers. The question that requires a bit more discussion is whether wage adjustments are permitted in response to the cost of a mandated accommodation.

It is clear that wage adjustments are *not* permitted based on the *average* cost of employing a member of the disadvantaged group. In *City of Los Angeles v. Manhart*,⁷⁹ the Supreme Court faced an antidiscrimination challenge to an employer's practice of charging women more than men for an employer-provided pension policy. The employer charged women more because women on average tend to live longer than men, and thus it costs more to provide women with a pension policy (holding fixed the annual payment). The extra charge was of course the functional equivalent of a lower wage (compared to otherwise similarly situated male workers) resulting from the cost of the pension benefit. The Court held that the employer's practice of (in effect) adjusting women's wages in response to the cost of the pension plan violated Title VII of the Civil Rights Act of 1964.⁸⁰ Although *Manhart* did not involve any sort of mandate (as the pension benefits in question were voluntarily provided by the employer), the case stands for the general proposition that an employer may not pay differential wages based on the average cost of employing members of two different groups (where group status turns on a protected trait such as sex).

But is a wage adjustment permissible when it is clear that a *particular employee* is more costly to employ because of an accommodation mandate? Are there any examples of such cases? Most accommodation mandates do not fit this scenario, since the mandate increases the *average* cost of employing members of the disadvantaged group, but it may not increase the cost of employing a given member of that group at all. For instance, the Family and Medical Leave Act (FMLA)⁸¹ increases the average cost of employing disabled and female employees,⁸¹ but it will not increase the cost of employing certain individual disabled and female employees at all. And it will

79. 435 U.S. 702 (1978).

80. *See id.* at 707-11.

81. *See* notes 6-7 *supra* and accompanying text.

generally be quite difficult for the employer to pinpoint in advance which employees will end up being costly.⁸²

The most obvious exception to the statements made in the previous paragraph is the mandate of reasonable accommodation under the Americans with Disabilities Act (ADA),⁸³ since one could certainly imagine that there are cases in which the cost of accommodating a given individual is fairly well known in advance, based, for instance, on the employer's past experience in accommodating the individual's particular disability. Perhaps because the issue seems most likely to arise with disabilities (although for similar reasons one could imagine it arising in the pregnancy context too), the ADA context is the one area of which I am aware in which the question of the permissibility of wage adjustments has been addressed. The Equal Employment Opportunity Commission (EEOC) interpretive guidance under the ADA states that wage adjustments *are* permissible *if* a particular accommodation would not be required (because it would cause "undue hardship") in the absence of such adjustments.⁸⁴ It seems a clear inference from this provision that wage adjustments are *not* permitted—despite the clear costs an accommodation may entail—when the accommodation is otherwise required by the ADA. Consistent with this suggestion, the EEOC interpretive guidance provides that "the individual's willingness to provide his or her own accommodation does not relieve the employer of the duty to provide the accommodation should the individual for any reason be unable or unwilling to continue to provide the accommodation."⁸⁵

Thus, it seems fairly clear that the law restricts both wage and employment adjustments in response to the cost of a mandated accommodation. But are these restrictions enforceable in practice?

2. *Occupational integration.*

The first question that must be asked in considering whether restrictions on wage and employment differentials between disadvantaged and nondisadvantaged workers are enforceable is whether there is substantial occupational integration of the disadvantaged and nondisadvantaged groups, or whether instead they are significantly segregated. Occupational segregation is generally measured by the Duncan Index, which is given by the proportion of

82. In the specific context of sex, if the employer could pinpoint this in advance, without relying in any way on the trait of sex, then corresponding wage adjustments would be permissible according to the *Manhart* Court. See *Manhart*, 435 U.S. at 713 n.24.

83. See notes 3-4 *supra* and accompanying text.

84. 29 C.F.R. pt. 1630 app. at 371 (2000) (EEOC Interpretive Guidance to 29 C.F.R. § 1630.15(d)).

85. *Id.* at 365 (EEOC Interpretive Guidance to 29 C.F.R. § 1630.9).

workers of one group (either disadvantaged workers or nondisadvantaged workers in the present context) who would have to change occupations for the occupational distributions of the two groups to be the same.⁸⁶

In the absence of significant occupational segregation, binding restrictions on wage differentials are likely to exist. To begin, these restrictions are generally fairly easy to enforce.⁸⁷ Moreover, employers may have incentives to adhere to norms of pay equity wholly apart from legal restrictions because of the potential morale problems that can result from inequity in wages between different groups performing the same work.⁸⁸

The problem arises with enforcement of restrictions on *employment* differentials, which are notoriously harder to police. There is in fact a broadly held view that such restrictions are significantly limited in their enforceability, specifically insofar as restrictions on hiring differentials are concerned.⁸⁹ Enforcement is particularly difficult when disadvantaged workers comprise a relatively small proportion of the qualified labor pool for the relevant employment market. For in this case it will be difficult or impossible to make out a statistical showing of differential employment by any but the very largest firms.

A numerical example will illustrate this point. Suppose that disadvantaged workers comprise 0.5 percent of the qualified labor pool for a given employment market. (This might seem like a small percentage, but certainly the percentage of certain groups of disabled workers, such as the blind, is far lower. The issue of whether blind workers should be aggregated with other disabled workers for purposes of statistical comparisons is discussed more fully in Part II.A.1 below.) And consider an employer with 200 employees in that market. Suppose none of its workers are from the disadvantaged group. This could reflect differential treatment of disadvantaged workers, or it could reflect pure chance. On average a 200-employee division should have one disadvantaged worker, but random deviations from this result would be expected purely as a matter of chance. Now suppose that the employer has 400 employees in the relevant category and still no disadvantaged employees. This looks worse for the employer, but still the result could easily happen as a matter of chance. Only with a firm that has a very large number of employees in the relevant employment market will an outsider be

86. See Francine D. Blau, Patricia Simpson & Deborah Anderson, *Continuing Progress? Trends in Occupational Segregation in the United States over the 1970s and 1980s*, 4 FEMINIST ECON. 29, 33-34 (1998) (describing the Duncan Index).

87. Posner, *The Efficiency and the Efficacy of Title VII*, *supra* note 12, at 517.

88. See, e.g., Gruber, *supra* note 19, at 626 (“[W]orkplace norms that prohibit different pay across groups . . . may have similar effects to antidiscrimination rules.”).

89. See, e.g., Donohue, *supra* note 12, at 1426 n.36; Posner, *The Efficiency and the Efficacy of Title VII*, *supra* note 12, at 517-19; Schwochau & Blanck, *supra* note 12, at 290 n.105.

able to draw reliable inferences from disparities between the number of disadvantaged workers in the employer's workforce and the number of such workers in the qualified population.⁹⁰

The point here is that the size of the disadvantaged group interacts with the size of the relevant employer division in determining how difficult it is to establish differential employment patterns for disadvantaged and nondisadvantaged workers. While it is easy to imagine an employer division in which the absence of any female employees would be suspicious, it is difficult to imagine a division in which the absence of any blind employees would be suspicious. There are of course ways to attempt to deal with the statistical problems presented by small firms or small divisions within firms,⁹¹ but these will not make the problem go away or even reduce it to a significant degree. Thus, the proportion of disadvantaged individuals in the qualified population, viewed in relation to the typical employer division size at issue, will be an important factor in determining whether restrictions on employment differentials between disadvantaged and nondisadvantaged workers will bind.

Large firms are more likely to face binding restrictions on employment differentials for other reasons as well. There may be economies of scale in regulatory compliance. Moreover, a firm with more than one hundred employees must file an annual form (called an EEO-1) reporting the composition of its workforce.⁹² It is likely that a firm required to report in this way will be more sensitive, all else equal, to the representation of disadvantaged workers in its workforce than a firm not subject to the reporting requirement.

The suggestion here is of course not that the size of the disadvantaged group relative to the size of the employer division in question is the sole, or even the primary, factor in determining the degree to which restrictions on employment differentials are binding. A large number of employment discrimination claims do not even involve statistical comparisons between disadvantaged and nondisadvantaged workers' representation in the employment market at all. The need to rely on statistical claims may be particularly limited in the disability context, where (among other things) employers may be less careful about disguising discriminatory influences on their decisions. The general point is simply that, all else equal, restrictions on employment differentials will be more likely to bind with greater levels of disadvantaged

90. Judge Frank Easterbrook nicely describes the dynamics in this sort of setting in *Hill v. Ross*, 183 F.3d 586, 591 (7th Cir. 1999).

91. See Michael J. Piette & Paul F. White, *Approaches for Dealing with Small Sample Sizes in Employment Discrimination Litigation*, 12 J. FORENSIC ECON. 43 (1999), for a recent discussion.

92. 29 C.F.R. § 1602.7 (2000).

representation in the qualified labor pool than with lesser levels of disadvantaged representation.

The foregoing analysis provides some purchase on the question of whether the effects of an accommodation mandate will be felt in wages or in employment levels. Regardless of the representation of disadvantaged workers in the qualified population, it will be easy to prove wage differentials. The problem is the difficulty of proving employment differentials. So if disadvantaged workers are a small proportion of the qualified population, we should expect the effects of legal intervention to be felt in employment levels and not in wages.

3. *Occupational segregation.*

a. *In general.*

If there is substantial occupational segregation between disadvantaged and nondisadvantaged workers, then, in contrast to the preceding section, restrictions on wage differentials will tend to be of little force. This is so because the only comparisons that are drawn in the law are those between workers *within the same employment market* (or, more technically, those performing the same or similar work, although, of course, both of these conceptions are not clear-cut and are subject to manipulation). Thus, if disadvantaged and nondisadvantaged workers are significantly concentrated in different employment markets, then restrictions on their relative wages will have limited force.

The primary consequence of occupational segregation is thus that an accommodation mandate will have negative effects on the wages (both absolute and relative) of disadvantaged workers and either positive or negative consequences on their relative employment levels depending on the value versus the cost of the mandated accommodation. These conclusions follow from the discussion in Part I.B.3 above of the scenario in which restrictions on wage differentials are not binding.

One might object at this point by saying that very few employment markets are actually perfectly segregated, so that there is absolutely no opportunity to compare disadvantaged and nondisadvantaged workers' wage levels. That is of course true; the notion of complete separation of groups, so that restrictions on wage differentials have no force at all, is a useful heuristic rather than an exact description of reality. A more exact account is that in markets with significant segregation, the wage and employment effects of accommodation mandates will look almost the same if restrictions on wage and employment differentials are binding as if restrictions on wage differentials are not binding at all.

To see this important point, consider the case of an employment market characterized by significant occupational segregation; suppose, for instance, that ninety-five percent of the workers in this market are from the disadvantaged group. (Part II.C.1 below gives many examples of markets with this sort of occupational segregation.) As noted above, restrictions on wage differentials between disadvantaged and nondisadvantaged workers in the market are likely to be enforceable, and, given the size of the disadvantaged group, restrictions on employment differentials are likely to be as well. However, because of the small number of nondisadvantaged workers in the market, there is little potential for shifting costs to those workers even with binding restrictions on wage and employment differentials. As a result, disadvantaged workers will bear the costs of the mandated accommodation, just as in the analysis of Part I.B.3 above for the case of no binding restrictions on wage differentials. It is in this sense that the case in which restrictions on wage differentials are not binding serves as a useful heuristic for analyzing the effects of accommodation mandates in cases of substantial occupational segregation.

With regard to whether the effects of an accommodation mandate will be felt in wages or employment levels, the analysis in Part I.B.3 suggests that the main effect will be on wages. Indeed, as that analysis shows, the effects of an accommodation mandate will be felt exclusively in wages, with no reduction at all in the employment level, unless the cost of the mandated accommodation exceeds its value.

b. *A (brief) caveat from cognitive psychology.*

As just described, a standard economic analysis suggests that in cases of substantial occupational segregation the effects of an accommodation mandate will be felt most significantly in wages. However, an argument about the psychology of employers (or, more accurately, of individual decision-makers who act on behalf of employers) suggests a possible reason that this may not be true. Costs that are difficult to monetize—such as the cost of certain accommodation mandates—may be less likely to be felt in wages and more likely to be felt in employment levels, at least in the short run before employment decisionmakers learn ways to monetize these costs. (It is also possible that hard-to-monetize costs will be ignored completely in decision-making as a result of their uncertain quality.) Thus, for instance, a requirement that employers expend a particular sum on health insurance for particular employees might be relatively likely to be felt in wages in cases of occupational segregation, since the cost is easy to monetize (at least in the case of employers who do not self-insure), but a requirement that employers permit job sharing, family leave, or the like might be less likely to be felt in wages, since the costs of these forms of intervention would be harder to

monetize, at least in the short term before employers have significant experience with the requirement. Employers thus might respond to a mandate of job sharing or family leave by reducing employment levels rather than by reducing wage levels.

Obviously this point would need to be elaborated and developed in a much fuller way before reaching any definitive conclusions on the basis of it. The argument is offered here in a highly preliminary way, with the idea of seeing whether it is consistent with the empirical evidence discussed in Part II below. As described there, the evidence neither strongly confirms nor strongly disconfirms the argument based on cognitive psychology.

4. *The effect of accommodation mandates on occupational segregation.*

The discussion until now has focused on the role of occupational segregation in determining the effects of accommodation mandates. This approach assumes a conventional attribution of the level of occupational segregation to a combination of supply-side and demand-side factors, including sex-based occupational preferences on the supply side and various forms of discriminatory behavior on the demand side.⁹³ (The point about discriminatory behavior suggests that nonbinding restrictions on employment differentials may *cause*, as well as merely accompany, occupational segregation.) But the analysis offered here suggests an additional factor that may affect the level of occupational segregation. Accommodation mandates, if imposed in markets with binding restrictions on wage differentials (which would necessarily, by the analysis offered above, be markets without significant occupational segregation initially), will *themselves* create pressure for increased segregation of those markets. This can happen in two ways.⁹⁴

First, in employment markets with binding restrictions on wage but not employment differentials, accommodation mandates will produce negative employment effects for disadvantaged workers, as described in Part I.B.2 above. If the workers displaced from the previously integrated markets become concentrated in newly “disadvantaged heavy” markets, then the mandate will have produced an increase in occupational segregation.

Second, in employment markets with binding restrictions on both wage and employment differentials, nondisadvantaged workers will be paid less than their total marginal revenue product of labor after the imposition of the mandate, and disadvantaged workers will be paid more than their total mar-

93. See Blau et al., *supra* note 86, at 31 (describing possible supply-side and demand-side factors).

94. For another argument that accommodation mandates may increase segregation, see Ruhm, *Parental Leave Mandates*, *supra* note 9, at 288 (citing an account of the Swedish experience).

ginal revenue product of labor, all as described in Part I.B.1.b. This situation would create pressure on the composition of the employment market: non-disadvantaged workers would have an incentive to leave, and disadvantaged workers would have an incentive to enter. Nondisadvantaged workers would prefer employment markets without binding restrictions on wage and employment differentials (in other words, segregated markets) and, although this would be less ideal from their perspective, they would also prefer integrated employment markets with fewer disadvantaged workers to subsidize. Disadvantaged workers, by contrast, would have the opposite incentives. So the mandate itself would tend to cause an increase in occupational segregation, as the formerly unsegregated market would tend to become more and more concentrated with disadvantaged workers.

Empirically, the critical question would be how easy such employment market switches are for workers, given their preexisting training, human capital investments, and other factors. In addition, a complete analysis of such market switching would have to take into account the resulting wage changes that would occur in the various markets with inflows or outflows of workers. A comprehensive analysis of these effects is beyond the scope of the present inquiry. The important point for present purposes is simply that, along with the usual supply-side and demand-side factors used to explain occupational segregation, accommodation mandates may have at least a second-order effect on segregation in certain markets. It is therefore possible that a market that initially appeared to have binding restrictions on wage differentials might, as a consequence of an accommodation mandate and the resulting increase in segregation, begin to behave like a market without such binding restrictions.

* * *

Table 2 below summarizes the circumstances under which restrictions on wage and employment differentials are likely to be binding or nonbinding given the initial level of occupational integration or segregation in the employment market in question. Together with Table 1, this table will prove helpful in generating the empirical predictions offered in Part II below.

Table 2
Binding or Nonbinding Restrictions on Wage and Employment
Differentials

Scenario		Restrictions on wage differentials	Restrictions on employment differentials
Occupational integration	Disadvantaged workers comprise a relatively large proportion of the qualified labor pool	Binding	Binding
	Disadvantaged workers comprise a relatively small proportion of the qualified labor pool	Binding	Nonbinding
Occupational segregation	Costs of mandated accommodation are easy to monetize	Nonbinding	Nonbinding
	Costs of mandated accommodation are difficult to monetize	Binding	Nonbinding

II. APPLICATIONS

The framework developed in Part I can be used to generate testable predictions about the wage and employment effects of specific accommodation mandates. This Part generates such predictions about each of the accommodation mandates described in the Introduction: the requirement of reasonable accommodation under the Americans with Disabilities Act (ADA); the state law requirements that health insurance plans provide coverage for maternity-related hospital and medical expenses if they provide general hospital and medical coverage; and the requirement under the Family and Medical Leave Act (FMLA) that employees be given unpaid leave in the event that they have a serious health condition or a newborn or newly adopted child or a family member who is ill.

The predictions generated for each of these accommodation mandates can then be tested against the existing empirical evidence on the effects of

the particular mandate. As described below, the empirical evidence matches up well with the analytic predictions generated by Part I's framework.

Two preliminary methodological points are important here. The first relates to a difference in scope between the analytic framework developed in Part I and the empirical data presented here. As described in Part I.A.2.a, the supply and demand framework used here is for a given employment market—for instance, the market for entry-level clerical workers in a given geographic region. The empirical data, by contrast, are typically aggregate, covering employment markets as a whole. The data look at how a given mandate affects all workers within a given group (for instance, disabled workers in the case of the ADA), not simply how it affects workers in that group within a given employment market. Empirical work of the sort on which I rely here generally cannot be done for individual employment markets, since only large sample sizes allow one to test the effects of the legal doctrines at suitable levels of statistical significance. What this means, however, is that the highly aggregated empirical data may gloss over significant variations across individual employment markets. What the empirical data show is what is happening in *most* employment markets, not necessarily what is happening in each and every individual market.

The second methodological point relates to the parsimony of the Summers model and, correspondingly, the framework developed in Part I. As noted above, the Summers model adopts a number of simplifying assumptions; certain contextual factors that may characterize some real-world employment markets and some legal doctrines may not be fully captured in the framework. The question addressed in this Part is whether the modified version of this framework offered here nonetheless generates predictions that are generally confirmed by the data. This is simply an application of the general economic method, which calls for starting with a parsimonious model and seeing if it adequately explains observed patterns of evidence.

A. *The Americans with Disabilities Act*

1. *Analysis.*

The ADA creates a protected class of individuals who have an “impairment that substantially limits one or more . . . major life activities,” have a record of such an impairment, or are regarded as having such an impairment.⁹⁵ The ADA protects this class of disabled individuals through a requirement of “reasonable accommodation,” which an employer must provide

95. 42 U.S.C. § 12102(2) (1994).

unless doing so would pose an "undue hardship."⁹⁶ Reasonable accommodation may entail "physical modifications to a work space, flexible scheduling of duties, or provision of assistive technologies to aid in job performance."⁹⁷

What will the wage and employment effects of the ADA's reasonable accommodation mandate be? Under the framework developed in Part I, a critical factor in determining these effects is the degree to which restrictions on wage and employment differentials between disabled and nondisabled workers will be binding. If such restrictions are binding, then the accommodation mandate will leave unchanged or increase the relative wages of disabled workers and will be likely to increase these workers' relative employment levels (see Part I.B.1.c above).

At least some of the gains to disabled workers from the ADA with binding restrictions on wage and employment differentials in place would come at the expense of nondisadvantaged (nondisabled) workers in the same employment market, as described more fully in Part I.B.1.b. Sherwin Rosen argues that the nondisabled workers in the employment markets containing the greatest number of disabled workers are disproportionately likely to be unskilled workers.⁹⁸ Rosen's argument suggests the possibility that the ADA inappropriately places the burden of employing and accommodating the disabled on the shoulders of unskilled workers. This is an interesting and conceptually important idea (assuming the underlying empirical premise about disabled workers' relative representation in unskilled employment markets is correct), but I do not think it is practically significant, since the scenario in which there are binding restrictions on both wage and employment differentials between disabled and nondisabled workers is unlikely to obtain in practice.

The reason it is unlikely to obtain in practice is *not* that binding restrictions on wage differentials are unlikely to exist. This would occur with large-scale occupational segregation of disabled and nondisabled individuals, as described in Part I.D.3.a above. But it is not the case that some employment markets are populated heavily or exclusively by disabled individuals while others are populated heavily or exclusively by nondisabled individuals; rather, all (or virtually all) employment markets are populated heavily or exclusively by nondisabled individuals, simply because disabled individuals are a relatively small proportion of the overall labor force, as argued more fully

96. *Id.* § 12112(a), (b)(5).

97. Peter David Blanck, *The Economics of the Employment Provisions of the Americans with Disabilities Act: Part I — Workplace Accommodations*, 46 DEPAUL L. REV. 877, 892 (1997).

98. Sherwin Rosen, *Disability Accommodation and the Labor Market*, in DISABILITY AND WORK, *supra* note 14, at 18, 27, 29.

just below. (And, indeed, a premise of Rosen's argument is that disabled and nondisabled workers are found in the same employment markets.)

Rather the issue is that there are unlikely to be binding restrictions on *employment* differentials between disabled and nondisabled workers. The reason is that, as noted in Part I.D.2 above, it is generally quite difficult for disadvantaged workers to establish that they were unlawfully refused employment by an employer. Also as noted in Part I.D.2, the difficulty is particularly acute when the disadvantaged group is relatively small. In the case of disabled workers, the Supreme Court has recently made clear its reluctance to expand the size of the overall class of disabled individuals.⁹⁹ Moreover, and more importantly, an individual with a particular disability might well have to show a disparity between the employer's workforce and the qualified population with respect to *that* disability, not "disability" in general. A contrary approach could encourage "cream-skimming" by employers, since by hiring a sufficiently large number of people with relatively less serious disabilities they could immunize themselves against challenges by rejected individuals with more serious disabilities.¹⁰⁰ A possible response to this problem would be to allow employees to show disparities using the broader pool of all disabled individuals while forbidding employers to defend their employment practices by using this pool, but existing law does not provide any precedent for using different pools depending on whether the use is "offensive" or "defensive." The difficulty of making out a statistical claim in the disability context may explain the rarity of such claims in practice.

The hypothesis offered here is therefore that binding restrictions on wage differentials between disabled and nondisabled individuals are likely to exist (since this is not a case of high occupational segregation), but binding restrictions on employment differentials are not likely to exist. In this scenario, the ADA's reasonable accommodation mandate is predicted to increase or leave unchanged the relative wages of disabled workers while decreasing their relative employment levels, as explained in Part I.B.2.b.

The one exception to these predictions concerns the category of purely fixed-cost accommodations. As described in Part I.A.2.a, the supply and demand framework used here assumes that there is some incremental cost, correlated with the employment level, of a mandate in addition to any fixed

99. See *Sutton v. United Air Lines, Inc.*, 527 U.S. 471, 484-87 (1999). Of course, with a more expansive definition of the class, establishing employment differentials would be easier, but at the same time the opportunity for distributive gains, even with binding restrictions on wage and employment differentials, would be smaller, as the analysis in Part I.B.1.b above reveals.

100. Cf. Richard V. Burkhauser, Robert H. Haveman & Barbara L. Wolfe, *How People with Disabilities Fare when Public Policies Change*, 12 J. POL'Y ANALYSIS & MGMT. 251, 264-65 (1993) ("[The ADA] may stimulate the employment of some people with disabilities via 'creaming' of those workers with the least-serious disabilities . . .").

cost it may entail. Thus, under my framework, each disadvantaged worker hired creates new costs for the employer. Where the mandated accommodation in question is, say, a reader for a blind employee, this framework clearly makes sense. However, in the case of accommodations with no incremental cost, such as a wheelchair ramp or a lower sink in an employee kitchen, the framework would not apply. Such accommodations entail a one-time cost, and thus an employer would not have any disincentive, as a result of the accommodation mandate, to hire disabled workers once the one-time cost had been incurred. Therefore, in this particular setting, the negative relative employment effects predicted here may not arise. However, as already noted, the empirical evidence on the effects of mandates is at an aggregate level, and the overall or aggregate prediction remains that the ADA will cause negative relative employment effects but no negative relative wage effects for disabled workers.

Are the predictions offered here consistent with the evidence?

2. *Empirical evidence.*

a. *Basic results.*

The most comprehensive study of the empirical effects of the ADA to date is due to M.I.T. economists Daron Acemoglu and Joshua Angrist, who compare wages and employment levels of disabled and nondisabled workers before and after the ADA went into effect.¹⁰¹ Acemoglu and Angrist find that the wages of disabled workers exhibited no change relative to those of nondisabled workers, while employment levels fell significantly for disabled workers aged 21-39 relative to nondisabled workers in this same age cohort.¹⁰² (They also find a significant decrease in employment levels for disabled men aged 40-58 relative to nondisabled men in this same age cohort, but the decline may be explained by increases in federal disability benefits receipts.¹⁰³ Acemoglu and Angrist find no effect at all on the employment levels of disabled women aged 40-58 relative to those of nondisabled women in this same age cohort.¹⁰⁴) Acemoglu and Angrist's results are similar to those discovered by Thomas DeLeire, who finds that the ADA had no negative effect on the relative wages of male disabled workers and a significant

101. Acemoglu & Angrist, *supra* note 14.

102. *See id.* at 12-13.

103. *See id.* at 12-13, 17-18.

104. *See id.* at 12-13.

negative effect on the relative employment levels of these workers (with no distinctions across age groups).¹⁰⁵

These results are consistent with the predictions generated above. The relative wages of disabled workers stayed the same, while their relative employment levels fell in some or all instances. By contrast, if restrictions on both wage and employment differentials were binding, as Rosen's analysis of the ADA assumes, then the relative wages of disabled workers would stay the same or rise (consistent with the empirical evidence), but the relative employment levels of these workers would be likely to rise (contrary to the empirical evidence). Meanwhile, if neither restrictions on wage differentials nor restrictions on employment differentials were binding, then the relative wages of disabled workers would fall, again contrary to the empirical evidence.

b. *Discussion.*

The empirical evidence of declines in relative disabled employment levels in the wake of the ADA presents somewhat of a puzzle in light of prior data suggesting that the costs of accommodation of disability in the workplace are fairly modest.¹⁰⁶ If those prior studies are correct, then the reduction in relative disabled employment in the wake of the ADA may result from the costs of other aspects of the ADA rather than from its requirement of reasonable accommodation (which should not have much effect if the usual cost of accommodation is truly modest). Elsewhere I develop more systematically the effects of the ADA's other provisions—in particular, its prohibitions on differential treatment of disabled workers and on practices that have a disparate impact on such workers;¹⁰⁷ Acemoglu and Angrist also offer a related discussion.¹⁰⁸ Of course, it is also possible, or even likely, that the studies suggesting modest costs of accommodation are inaccurate; this could be true for a host of reasons, including that only relatively inexpensive accommodations may have been provided (and thus captured by the studies)

105. Thomas DeLeire, *The Wage and Employment Effects of the Americans with Disabilities Act*, 35 J. HUM. RESOURCES (forthcoming 2000) (manuscript at 11-15, on file with the *Stanford Law Review*).

106. See, e.g., Michael Ashley Stein, *Labor Markets, Rationality, and Workers with Disabilities*, 21 BERKELEY J. EMP. & LAB. L. 314, 322-23 (2000) (summarizing data on the costs of accommodation).

107. Christine Jolls, *Antidiscrimination and Accommodation* 11-17, 44-52 (2000) (working paper, on file with author).

108. Acemoglu & Angrist, *supra* note 14, at 7-10.

and that measuring many indirect costs of accommodation is likely to be extremely difficult.¹⁰⁹

Assuming, however, that the effects of the ADA are due at least in part to its reasonable accommodation mandate, it is critical to note that the reduction in disabled workers' relative employment levels does not in any way suggest that the reasonable accommodation mandate is inefficient in the sense that the value of accommodation to disabled workers falls short of its cost to employers. As emphasized in Part I.B.2 above, with binding restrictions on wage but not employment differentials, the absolute and relative employment levels of disadvantaged workers will fall regardless of the value-cost relationship. This point is particularly pertinent in the context of the ADA because of the suggestion of some courts that *only* when the value of the proposed accommodation exceeds, or at least does not fall significantly short of, its cost may the accommodation qualify as "reasonable" within the meaning of the statute.¹¹⁰

c. *Caveats about the empirical evidence.*

One possible objection to the empirical evidence of negative relative employment effects discussed above is that the category of "disabled" workers is not properly defined. In Acemoglu and Angrist's study, and also in DeLeire's work, the definition of a "disabled" worker is based on individuals' responses to a government survey question about disability status. For instance, Acemoglu and Angrist identify disabled workers by the question, "Does [the individual] 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?"¹¹¹ An affirmative answer to this question clearly does not map perfectly onto the ADA's definition of disability.¹¹² Someone could give a negative answer to the question yet be disabled within the meaning of the ADA (for instance, a person with asymptomatic HIV¹¹³), and, conversely, someone could give an affirmative answer and yet not be disabled within the meaning of the statute (for instance, someone whose poor vision precludes

109. See Thomas N. Chirikos, *Will the Costs of Accommodating Workers with Disabilities Remain Low?* 17 BEHAV. SCI. & L. 93, 94 (1999) (recognizing the possibility of a cost-skewed sample of accommodations); Michael Ashley Stein, *Empirical Implications of Title I*, 86 IOWA L. REV. 1672, 1677 (2000) (noting the problem of cost-skewed samples and the difficulty of measuring "soft" costs of accommodation).

110. See, e.g., *Vande Zande v. Wisconsin Dep't of Admin.*, 44 F.3d 538, 542-43 (7th Cir. 1995).

111. Acemoglu & Angrist, *supra* note 14, at 10.

112. Schwochau & Blanck, *supra* note 12, at 299-300.

113. See *Bragdon v. Abbott*, 524 U.S. 624 (1998) (holding that such a person is disabled within the meaning of the ADA).

certain jobs in the transportation industry¹¹⁴). But it seems clear that the survey question measures something sufficiently related to the actual definition of disability under the ADA to be telling us something meaningful about the effects of the statute. In other words, if we learn that those who answer “yes” to the survey question experienced reduced relative employment levels and no reduction in relative wage levels in the aftermath of the ADA, we learn at least something about the effects of the law.

Definitional issues aside, a general problem with time series evidence such as that offered by Acemoglu and Angrist and by DeLeire is that other things relevant to the relative employment situation of disabled workers may have changed at the same time that the ADA went into effect. This makes it difficult to be certain that the changes in the relative employment situation of disabled workers resulted from the ADA rather than from these other factors. Acemoglu and Angrist offer several tests to distinguish between the effects of the ADA and the effects of other forces. First, they control for increases in federal disability benefits receipts, since such increases could obviously cause reductions in disabled employment levels if some individuals would no longer work with more generous benefit levels.¹¹⁵ Second, they examine the change in the relative employment levels of disabled workers at small firms (many of which are not subject to the ADA) relative to medium-sized firms that are both subject to the ADA and likely to have relatively high compliance costs (compared to still larger firms), and they find that the employment declines are greater at the medium-sized firms.¹¹⁶ Third, Acemoglu and Angrist examine reductions in the relative employment levels of disabled workers in states with a large number of ADA-related discrimination charges versus reductions in their relative employment levels in states with fewer such charges, and they find much larger reductions in the former states.¹¹⁷ It should be noted in connection with this last point, however, that variation in charge levels may be an endogenous “policy” variable rather than a variable that is exogenous to the outcome of interest (relative employment levels of disabled workers).¹¹⁸ If it is not exogenous, then this third test will have less force. But the first and second tests still point to the same conclusion.

114. See *Sutton v. United Air Lines, Inc.*, 527 U.S. 471 (1999) (holding that such a person is not disabled within the meaning of the ADA).

115. See Acemoglu & Angrist, *supra* note 14, at 16-18. For a more detailed analysis of the effects of federal disability benefits on disabled employment levels, see JOHN BOUND & TIMOTHY WAIDMANN, ACCOUNTING FOR RECENT DECLINES IN EMPLOYMENT RATES AMONG THE WORKING-AGED DISABLED (National Bureau of Econ. Research Working Paper No. 7975, 2000).

116. See Acemoglu & Angrist, *supra* note 14, at 20-21.

117. See *id.* at 21-22.

118. See Kenneth Y. Chay, *The Impact of Federal Civil Rights Policy on Black Economic Progress: Evidence from the Equal Employment Opportunity Act of 1972*, 51 *INDUS. & LAB. REL. REV.* 608, 612 & n.5 (1998) (making an analogous point about Title VII).

One possibility that Acemoglu and Angrist fail to consider is that the ADA may produce negative relative employment effects for disabled workers for a reason quite distinct from whatever costs the law's accommodation mandate imposes. The ADA's protection of disabled workers may encourage greater human capital investments (hence greater time spent in school), and greater particularity about job matches, among this group. The relative employment level of disabled workers could therefore drop as a result of the ADA wholly apart from the costs imposed by the law's accommodation mandate.

3. *Normative ramifications (briefly).*

The analytic predictions and empirical evidence described above obviously raise potentially troubling normative issues about the ADA. If the law reduces the relative employment levels of disabled workers for reasons at least in part independent of increased human capital investment or more particularity about job matches (the last point raised above), then is the ADA undesirable, and should it be abandoned? A full answer to this question would obviously require extended discussion and would take me far afield from the central purposes of the present inquiry, which are quite distinct from that normative issue. However, this short section will briefly describe some possible responses to the negative relative employment effects that the ADA appears to produce. The discussion assumes, without defending the assumption here, that such effects are undesirable in the sense that if accommodation of disability could be achieved without them, this would be the better outcome.

One reform, frequently advocated by commentators, would be to replace the ADA's accommodation mandate with a subsidy scheme encouraging employers to employ (and compensating them for employing) disabled workers.¹¹⁹ Such a scheme would be structurally similar to the sort of subsidy-and-fine systems that Robert Cooter and David Strauss have suggested as potential alternatives to the existing legal regime governing discrimination on the basis of race and (in the case of Cooter) sex.¹²⁰ However, if one is troubled by the idea of a subsidy-type scheme in the context of race or sex discrimination—as many people are, on grounds of stigma and symbol-

119. See, e.g., EPSTEIN, *supra* note 42, at 493-94.

120. See Robert Cooter, *Market Affirmative Action*, 31 SAN DIEGO L. REV. 133, 144-49 (1994); David A. Strauss, *The Law and Economics of Racial Discrimination in Employment: The Case for Numerical Standards*, 79 GEO. L.J. 1619, 1654-56 (1991).

ism¹²¹—then the subsidy alternative to the ADA may be similarly troubling, since it may similarly stigmatize its intended beneficiaries. As well, a subsidy system may lack the political durability of a rights-based regime such as the ADA.¹²² At the same time, some subsidy-type options, particularly those that involve direct government aid with workplace accommodations (such as readers for the blind) as opposed to cash payments to employers, might not be stigmatizing or otherwise symbolically objectionable. Moreover, given the historical precedent for government aid to the disabled, such subsidies might fare well on political durability grounds.

A different alternative to the current regime would be to preserve the ADA's accommodation mandate while significantly increasing the damages available for violations of its restrictions on hiring differentials.¹²³ This change would obviously improve employers' incentives to conform to the hiring restrictions. Under the Civil Rights Act of 1991, compensatory and punitive damages are potentially available in ADA actions but are subject to caps that vary with the size of the firm.¹²⁴ Available damages range from \$50,000 for firms with 100 or fewer employees to \$300,000 for firms with more than 500 employees;¹²⁵ even the \$300,000 cap is far smaller than the damages in many successful tort actions.¹²⁶ Moreover, there are special limits on the availability of damages in cases that involve issues of reasonable accommodation.¹²⁷ Changing these restrictive rules in the context of claims of hiring discrimination could help to improve the degree to which the ADA's restrictions on hiring differentials effectively constrain employers' behavior. Such a strategy could be usefully complemented by attending to the incentives and operations of institutions (such as government actors and public-interest organizations) devoted to protecting employees' legal rights and to ways to enhance such institutions' effectiveness.¹²⁸ Of course, en-

121. See, e.g., DERRICK BELL, *FACES AT THE BOTTOM OF THE WELL: THE PERMANENCE OF RACISM* 47-64 (1992); John J. Donohue III, *Discrimination in Employment*, in 1 *THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW* 615, 619 (Peter Newman ed., 1998).

122. See Matthew Diller, *Judicial Backlash, the ADA, and the Civil Rights Model*, 21 *BERKELEY J. EMP. & LAB. L.* 19, 36 (2000).

123. See 42 U.S.C. § 12112(a), (b)(1)-(4), (6)-(7) (1994).

124. See *id.* § 1981a(a)(2), (b)(3).

125. *Id.* § 1981a(b)(3).

126. See, e.g., *Wilson v. Monarch Paper Co.*, 939 F.2d 1138 (5th Cir. 1991) (upholding a \$3.1 million verdict on a tort claim of intentional infliction of emotional distress brought by an employee).

127. See 42 U.S.C. § 1981a(a)(3) (1994).

128. See generally Christine Jolls, *The Role and Functioning of Public-Interest Legal Organizations in the Enforcement of the Employment Laws*, in *EMERGING LABOR MARKET INSTITUTIONS FOR THE 21ST CENTURY* (Richard B. Freeman, Lawrence Mischel, Joni Hersch & Elaine Bernard eds., forthcoming) (manuscript on file with the *Stanford Law Review*) (discussing employee-side representation by public-interest organizations).

hancing the penalties for hiring differentials would impose various sorts of administrative and other costs at the same time.¹²⁹

A third possible approach to the negative relative employment effects that appear to be associated with the ADA would be to relax the legal restrictions on wage differentials imposed by the law. In that case the ADA would no longer protect disabled workers from wage reductions in response to the law's accommodation mandate, but the ability of wages to adjust would reduce employers' incentive to refuse to employ disabled individuals in the first place. If wage reductions for disabled workers are thought to be less troubling than employment losses, then this change might be a desirable one. But such a view is contestable; John L. Lewis of the United Mine Workers of America famously claimed that it is "better to have half a million men working . . . at good wages . . . than it is to have a million working . . . in poverty."¹³⁰ By the same token it might be regarded as better to have fewer disabled workers employed without wage adjustments than to have more employed at lower wages. But even assuming that wage adjustments are thought to be preferable to employment adjustments, the fact of the matter is that nonlegal as well as legal forces generally operate to curtail wage differences in employment markets, as described above.¹³¹ As a result the relaxation of legal restrictions on wage differentials would probably have relatively little practical effect.

B. *State Law Requirements Governing Health Insurance Plans*

1. *Analysis.*

a. *Basic predictions.*

As noted in the Introduction, some states require health insurance companies to include coverage of maternity-related hospital and medical expenses in their plans when general hospital and medical coverage is provided.¹³² (Such coverage is likely to be independently required for employer-provided health insurance under the Pregnancy Discrimination Act of 1978 (PDA);¹³³ elsewhere I describe the relationship between the PDA and

129. See, e.g., Posner, *The Efficiency and the Efficacy of Title VII*, *supra* note 12, at 514-16 (describing costs of antidiscrimination provisions).

130. CHARLES R. PERRY, *COLLECTIVE BARGAINING AND THE DECLINE OF THE UNITED MINE WORKERS* 104 (1984) (citing JOSEPH E. FINLEY, *THE CORRUPT KINGDOM: THE RISE AND FALL OF THE UNITED MINE WORKERS* 61 (1972)).

131. See note 88 *supra* and accompanying text.

132. See note 5 *supra* (citing state statutes).

133. 42 U.S.C. § 2000e(k) (1994). See, e.g., *Newport News Shipbldg. & Dry Dock Co. v. EEOC*, 462 U.S. 669, 676-79 (1983); Wendy W. Williams, *Equality's Riddle: Pregnancy and the*

accommodation mandates in greater detail.¹³⁴) To the extent that employers procure health insurance from companies covered by these state laws, such requirements operate as mandates that accommodate the special needs of female employees of childbearing age. Many states presumably would also like to be able to regulate the plans provided by employers who self-insure instead of purchasing coverage through insurance companies, but such regulation is preempted by the federal Employment Retirement Income Security Act (ERISA),¹³⁵ which tends to be more limited in its substantive regulation of health insurance plans than are state statutes.¹³⁶ As of 1998, fifty percent of all insured workers were enrolled in self-insured plans exempt from state mandates.¹³⁷

What will the wage and employment effects of the state health insurance accommodation mandates be? Again, a critical factor will be the degree to which binding restrictions on wage and employment differentials between disadvantaged and nondisadvantaged workers (here, females and males of childbearing age) exist.

Female and male workers "are to a considerable degree segregated in different jobs."¹³⁸ In quantitative terms, using 1990 data, approximately half of workers of one sex or the other would have to change occupations (for example, from male-dominated to female-dominated, or vice-versa) for the occupational distributions of men and women to be the same.¹³⁹ In addition, these statistics, based on data from the Census, are likely to underestimate the full extent of occupational segregation because of the limited specificity of the occupational categories used by the Census. It is possible that a Census category appears integrated, but this may disguise significant segregation across jobs within that category.¹⁴⁰

In light of this substantial occupational segregation by sex, restrictions on wage differentials are likely to have limited force, as described in Part I.D.3.a above. Thus, the relative wages of female workers should fall with the imposition of the mandate, and their relative employment levels should rise or fall depending on whether the value of the mandated accommodation

Equal Treatment/Special Treatment Debate, 13 N.Y.U. REV. L. & SOC. CHANGE 325, 347-49 (1984-1985).

134. Jolls, *supra* note 107, at 13-25, 29-30.

135. 29 U.S.C. §§ 1001-1461 (1994 & Supp. IV 1998). See *Metropolitan Life Ins. Co. v. Massachusetts*, 471 U.S. 724, 747 & n.25 (1985); WILLBORN ET AL., *supra* note 43, at 851.

136. WILLBORN ET AL., *supra* note 43, at 843-44.

137. Gail A. Jensen & Michael A. Morrissey, *Employer-Sponsored Health Insurance and Mandated Benefit Laws*, 77 MILBANK Q. 425, 426 (1999).

138. Francine D. Blau & Lawrence M. Kahn, *Institutions and Laws in the Labor Market*, in 3A HANDBOOK OF LABOR ECONOMICS 1399, 1439 (Orley Ashenfelter & David Card eds., 1999).

139. See Blau et al., *supra* note 86, at 33-34 & tbl.1.

140. *Id.* at 54.

exceeds or falls short of its cost, all as described in Part I.B.3.b. If value exceeds (or equals) cost, the relative employment level of female workers will not fall at all; rather, the whole effect of the intervention will be felt in wages.

One caveat to these conclusions concerns the case of a binding minimum wage. In that scenario the effects of an accommodation mandate will be felt in employment levels rather than wages, even with high levels of occupational segregation. The reason is simple: there is no room for wages to adjust downward. This might explain press reports that a newly enacted maternity leave law in Brazil reduced the hiring of women even in traditionally female occupations such as low-level office work, hotel staff, and cleaning services.¹⁴¹ Particularly in the case of employment markets covered by “living wage” ordinances, wage adjustments may simply not be feasible.¹⁴² However, the empirical evidence described below suggests that the minimum wage qualifier does not turn out to be significant in practice.

The analysis of wage and employment effects offered here helps to shed light on the longstanding debate over whether accommodation mandates directed to female workers—such as the requirement that maternity-related hospital and medical expenses be covered in health insurance plans if general hospital and medical coverage is provided—are or are not akin to the “protective” legislation that applied to these workers earlier in the century (for instance, limitations on their work hours).¹⁴³ The economic framework developed in Part I reveals that one cannot sensibly analyze this question without first understanding the degree to which restrictions on wage and employment differentials between female and male workers are likely to bind. Whether legal intervention helps or hurts the accommodated group, and to what degree, will depend critically on this factor. The analysis above suggests that restrictions on wage differentials frequently will not bind for female workers, as a result of occupational segregation, and, thus, that accommodation mandates targeted to female workers will be likely to be financed by those same workers primarily in the form of lower wages. This is not to suggest a complete similarity with the old-style protective legislation; that legislation was based on stereotyped views of women’s abilities and capaci-

141. See Marlise Simons, *Brazil Women Find Fertility May Cost Jobs*, N.Y. TIMES, Dec. 7, 1988, at A11 (describing reduced hiring of women).

142. For examples of communities with such ordinances, see Craig L. Briskin & Kimberly A. Thomas, *The Waging of Welfare: All Work and No Pay?*, 33 HARV. C.R.-C.L. L. REV. 559, 589 & n.179 (1998), and Gregory D. Squires, Sally O’Connor, Michael Grover & James Walrath, *Housing Affordability in the Milwaukee Metropolitan Area: A Matter of Income, Race, and Policy*, J. AFFORDABLE HOUSING & COMMUNITY DEV. L., Fall 1999, at 34, 41.

143. For discussions of this debate, see, for example, Issacharoff & Rosenblum, *supra* note 15, at 2172-79; Reva B. Siegel, *Employment Equality Under the Pregnancy Discrimination Act of 1978*, 94 YALE L.J. 929, 952-55 (1985); and Williams, *supra* note 133, at 371-72, 376-77.

ties rather than brute scientific facts such as that it is women who give birth to biological children. The point, however, is that the two forms of legal intervention are similar in terms of ostensibly “protecting” women, but doing so to women’s detriment in terms of their position in employment markets.

A complicating factor in the analysis of the effects of accommodation mandates in the health insurance context is that it is not only the employee who may affect health plan costs but also the employee’s spouse, who may be covered under the plan. Thus, while an accommodation mandate relating to health insurance plans imposes costs associated with female employees, it may also impose costs associated with *male* employees to the extent that those employees’ spouses are covered by the plan. But this effect seems likely to be weaker than the direct effect related to female employees. (Certainly the empirical evidence discussed below suggests that it is.)

b. *Further implications of the shifting of accommodation costs to wages.*

As described above, Part I’s framework predicts substantial or exclusive shifting of the costs of a mandated accommodation of female workers to these workers’ wages. This view contrasts with the analysis offered by Richard Epstein of mandates that increase the cost of employing female workers: “[E]mployers will surely have [an] incentive to avoid *hiring* women likely to bear children, given the additional costs . . . that they will have to pay.”¹⁴⁴ Courts and other commentators similarly posit reductions in female employment as a result of mandates that increase the costs of employing female workers.¹⁴⁵ What these arguments overlook is the possibility that occupational segregation will mean that costs of employing women may be significantly or exclusively reflected in wage adjustments, despite the nominal existence of a legal prohibition on such adjustments. As discussed below, the empirical evidence supports this possibility. (Both the data discussed in this section and the data discussed in the following section, relating to the FMLA and other leave mandates, are relevant here.) This is not to say that negative employment effects as opposed to negative wage effects for female workers will occur only rarely or not at all; it is simply to say that these effects may be less likely than others have suggested.

A corollary prediction stemming from this analysis is that employers will not be particularly likely to respond to a mandate accommodating female workers in the health insurance context by eliminating a health insurance

144. EPSTEIN, *supra* note 42, at 337-38 (emphasis added).

145. See, e.g., *Dormeyer v. Comerica Bank-Illinois*, 223 F.3d 579, 584 (7th Cir. 2000); Deborah A. Calloway, *Accommodating Pregnancy in the Workplace*, 25 STETSON L. REV. 1, 23 (1995).

plan altogether. Justice Powell voiced a concern along these lines for pension plans in his dissent in a case¹⁴⁶ similar to *City of Los Angeles v. Manhart*¹⁴⁷; Powell worried that the requirement that employers offer pension benefits on equal terms to male and female workers, despite the greater average cost of the latter, would lead employers to curtail their plans entirely (as in fact the employer had done in that case).¹⁴⁸ Richard Epstein has offered similar arguments about *Manhart*, the Pregnancy Discrimination Act of 1978, and the ADA.¹⁴⁹ And *Manhart* itself addressed the question whether male workers would withdraw from pension plans, or move to different employers, in response to the Court's decision.¹⁵⁰

The framework developed in Part I shows that these concerns are likely to be misplaced or, at a minimum, overstated. For what they overlook is again the ability of *wages* to adjust in response to an accommodation mandate, as a result of the substantial occupational segregation of male and female workers. If the cost of the mandated accommodation is largely or exclusively absorbed in the lower wages paid to disadvantaged workers, then the employer has little incentive to drop the benefits plan in response to the imposition of an accommodation mandate.

2. Empirical evidence.

The foregoing analysis suggests that accommodation mandates requiring health insurance coverage of maternity-related hospital and medical expenses should have negative effects on the relative wages of female workers and either positive or negative effects on these workers' relative employment levels (depending on the value of the accommodation in relation to its cost). Are these predictions consistent with the evidence? In a well-known study published in the *American Economic Review*, Jonathan Gruber examined the effects of these mandates.¹⁵¹ As noted above, such state mandates are preempted by ERISA insofar as they attempt to regulate employers who self-insure, but in the period studied by Gruber (the 1970s), only a very small proportion of employers self-insured.¹⁵²

146. *Arizona Governing Comm. v. Norris*, 463 U.S. 1073 (1983).

147. See text accompanying notes 79-80 *supra*.

148. See *Arizona Governing Comm.*, 463 U.S. at 1095, 1098 & n.4 (Powell, J., dissenting).

149. See EPSTEIN, *supra* note 42, at 325-26, 343, 492.

150. *City of Los Angeles v. Manhart*, 435 U.S. 702, 716 n.30 (1978).

151. Gruber, *supra* note 19.

152. See Jon Gabel, Cindy Jajich-Toth, Gregory de Lissovoy, Thomas Rice & Howard Cohen, *The Changing World of Group Health Insurance*, HEALTH AFF., Summer 1988, at 48, 58 ("In 1975, an estimated 5 percent of employees were enrolled in self-insured plans.").

Gruber's study finds that mandating coverage of maternity-related hospital and medical expenses reduced the wages of married women of child-bearing age relative to the wages of the workers least likely to be affected by the mandate (workers beyond childbearing age and unmarried male workers of childbearing age).¹⁵³ This is consistent with the prediction above. The relative employment level of married women of childbearing age stayed the same or rose with the mandate,¹⁵⁴ which suggests that the value of the mandated accommodation exceeded its cost. Given the magnitude of the cost of this accommodation,¹⁵⁵ it is plausible that the shifting to wages occurred via cuts in real, but not nominal, wages.

All in all, the results strongly support the prediction that health insurance mandates requiring coverage of maternity-related hospital and medical expenses will reduce the relative wages of female workers. Moreover, the implication, noted above, that the value of the mandated accommodation exceeded its cost supports the earlier claim that mandates may sometimes be necessary even when value exceeds cost. (As Gruber notes, a large number of health insurance plans did not cover maternity-related hospital and medical expenses prior to the imposition of a mandate.¹⁵⁶)

Note that Gruber's study involves the effects of legal changes that occurred in the 1970s.¹⁵⁷ Occupational segregation was substantially higher then than it is now, although, as noted above, it is still quite significant today.¹⁵⁸ Nonetheless, the fact that occupational segregation has decreased over time means it is possible that a health insurance mandate targeted to female workers today would have effects different from what Gruber finds. At the same time, segregation decreased by less than a quarter between 1970 and 1990, so a qualitative difference in the results may not be particularly likely.¹⁵⁹

A more refined empirical test than Gruber's for the predictions offered above would look at whether the predicted effects are particularly likely in the most highly segregated employment markets (as Part I's framework would suggest). Unfortunately, no such test has been done, presumably because such a test would not be feasible to implement at conventional levels

153. See Gruber, *supra* note 19, at 630-31 & tbl.3.

154. See *id.* at 633 & tbl.4, 637 & tbl.5.

155. See *id.* at 625.

156. *Id.* at 623.

157. *Id.*

158. See Blau et al., *supra* note 86, at 33-34 & tbl.1 (providing figures for 1970, 1980, and 1990).

159. See *id.* (reporting that the proportion of members of one sex who would have to change occupations for the occupational distribution of men and women to be the same was 68 percent in 1970 versus 53 percent in 1990).

of statistical significance. This is an application of the point about aggregation of employment markets discussed at the beginning of this Part.

3. *Normative ramifications (briefly).*

As in the ADA context, the analytic predictions and empirical evidence described above raise difficult normative issues. To the extent that the costs of mandated health insurance coverage of maternity-related hospital and medical expenses are fully borne by female workers in the form of reduced wages, as the above analysis and evidence suggest, such mandates are not producing any significant distributive gains for female workers. Indeed, as described in Part I.B.3.a above, the effects of such accommodation mandates are very similar to the effects of mandates directed to workers as a whole, which have extremely limited distributive potential. In this setting, an accommodation mandate may make the accommodated workers better off if the value of the mandated accommodation exceeds its cost, but the distributive gains are completely tethered to that value-cost gap.

One possible normative implication of this analysis is that if the value of the mandated accommodation is less than its cost, then the mandate should not be imposed, since in that circumstance (given nonbinding restrictions on wage differentials) female workers would be worse off with the mandate in place. The difficulty with this approach, however, relates to the problems noted earlier with the concept of worker "value." As described in Part I.A.2.c, there are many potential limitations on workers' ability to value a mandated accommodation, and thus the fact that the (perceived) value of the accommodation falls short of its cost does not necessarily imply that disadvantaged workers would be worse off with a mandate in place.

In any event, the broader point would remain that, in the absence of binding restrictions on wage differentials, any accommodation of female workers will be fully financed by reductions in their wages. The remainder of this section discusses possible responses to this fact under the assumption, not defended here, that the shifting of costs to female wages is undesirable in the sense that if accommodation could be provided without such shifting, that would be a better outcome.

As with the ADA, the existing regime could be replaced by a subsidy scheme under which employers would be compensated for providing the previously mandated accommodation. However, as in the ADA context, the subsidy alternative might be problematic on grounds of symbolism and stigma as well as political durability, although perhaps to a greater or lesser degree depending on the particular form of the subsidy.¹⁶⁰

160. See generally notes 119-122 *supra* and accompanying text.

A second alternative discussed in connection with the ADA was increasing the penalties imposed for violations of restrictions on hiring differentials. However, in a market with significant occupational segregation, it is unclear whether this strategy will help. If the existing segregation results from supply-side factors, then it will not, since restrictions on wage differentials will continue not to bind, and, as described in Part I.B.3 above, in that circumstance it is irrelevant whether restrictions on employment differentials are binding. If, by contrast, the existing segregation results from demand-side barriers to female employment in male-dominated occupations, then increasing sanctions for the underlying exclusionary behavior could certainly have the effect both of increasing female representation in male-dominated occupations and of facilitating the continued enforcement of restrictions on hiring differentials in those markets.

A final normative strategy in response to the predictions and empirical evidence described above would be to broaden antidiscrimination law to embrace notions of "comparable worth." In that case the law would regulate male-female wage differentials across employment markets that are male-dominated and employment markets that are female-dominated, as it fails to do today.¹⁶¹ If such a reform were implemented, the situation would be similar to the case of binding restrictions on wage and employment differentials with integrated employment markets. Obviously, however, adopting the comparable worth approach would impose many complexities and create many costs, a full assessment of which is far beyond the scope of the present inquiry.¹⁶²

In some sense, all of the normative suggestions discussed in this section may be less urgent than the analogous suggestions discussed in the context of the ADA. As already noted, occupational segregation by sex is decreasing over time (albeit not rapidly). If the trend to decreased segregation continues, then restrictions on wage differentials will become more likely to bind over time. Moreover, since women are a substantially larger group than disabled individuals (particularly when disabled individuals are further categorized by their specific disabilities to avoid the cream-skimming problems noted in Part II.A.1 above), restrictions on employment differentials may be much more likely to bind for female workers than for disabled workers. As a

161. See generally *AFSCME v. Washington*, 770 F.2d 1401, 1404 (9th Cir. 1985) (describing comparable worth doctrine).

162. Leading contributions to the voluminous literature on comparable worth include Barbara R. Bergmann, *The Economic Case for Comparable Worth*, in *COMPARABLE WORTH: NEW DIRECTIONS FOR RESEARCH* 71 (Heidi I. Hartmann ed., 1985); Daniel R. Fischel & Edward P. Lazear, *Comparable Worth and Discrimination in Labor Markets*, 53 U. CHI. L. REV. 891 (1986); and Paul Weiler, *The Wages of Sex: The Uses and Limits of Comparable Worth*, 99 HARV. L. REV. 1728 (1986).

result, the future may hold a more optimistic picture for accommodation mandates targeted to female workers, such as mandated coverage of maternity-related hospital and medical expenses in health insurance plans, than the current predictions and existing empirical evidence suggest.

C. *The Family and Medical Leave Act*

1. *Analysis.*

a. *Basic Predictions.*

The FMLA, enacted in 1993, provides eligible employees with twelve weeks of unpaid leave upon the birth or adoption of a child, the serious illness of the employee, or the serious illness of an immediate family member.¹⁶³ Permitting leave after the birth of a child accommodates the special needs of female employees of childbearing age, since women who have biological children will require at least a brief period of time off from work after a birth to recover from the temporary disability associated with giving birth. (At least this is true given the current state of medical knowledge and current views of acceptable risks and discomforts.)

The requirement under the FMLA that workers be given time off in the event of an adoption or the serious illness of an immediate family member accommodates those workers who need or wish to take time off in such circumstances. In today's society such workers may be disproportionately likely to be women. If this is the case, then the requirement qualifies as an accommodation mandate. Note, though, that what is being accommodated in this instance is no longer a matter of physical or medical necessity (at least under current conditions), but instead is arguably a purely social phenomenon.¹⁶⁴ Obviously, this difference is potentially important for normative analysis, but for purposes of the largely positive discussion here it is not particularly significant.

The requirement that employers give workers time off in the event of the workers' own serious illness accommodates those individuals who face such an illness. Since this group will be disproportionately (although of course not exclusively) composed of disabled workers, the requirement accommodates the special needs of these workers. (Note that this may be *less* true for the observable disabilities on which my analysis focuses than for disabilities in general, but it is still likely to be true even for the case of observable dis-

163. 29 U.S.C. § 2612(a)(1) (1994).

164. See generally Sylvia A. Law, *Rethinking Sex and the Constitution*, 132 U. PA. L. REV. 955, 965-68 (1984) (contrasting biological and socially created differences between men and women).

abilities.) Because the FMLA does not contain any “reasonableness” requirement or defense for “undue hardship” (apart from the limited exception along these lines for employees who are among the highest paid ten percent of all employees¹⁶⁵), the FMLA might entitle a worker to leave even if such leave were not required as a reasonable accommodation under the ADA.

What will the wage and employment effects of the FMLA be? With regard to the provisions that accommodate female workers (the first two sets of provisions discussed above), the discussion of occupational segregation by sex from the analysis of state health insurance accommodation mandates applies here as well. As discussed above, with significant occupational segregation the effect of an accommodation mandate will be to lower the relative wages of disadvantaged workers and to increase or decrease their relative employment levels depending on whether the value of the mandated accommodation exceeds or falls short of its cost.

A caveat to this conclusion, however, relates to the cognitive psychology argument offered in Part I.D.3.b above. That argument suggests that employment adjustments may be more likely, and wage adjustments less likely, if the costs of a mandated accommodation are difficult to monetize. While the sorts of accommodation mandates discussed in the previous section involved health insurance benefits whose costs were quite clear and tangible to the non-self-insuring employers governed by the mandates, the cost of unpaid leave is likely to be far more ambiguous. The employer is not confronted with a specific increase in the cost of its health insurance plan. Rather it faces the hard-to-monetize disruption of losing an employee temporarily and having either to replace the employee or to reassign the individual’s tasks to others.¹⁶⁶ For reasons of cognitive psychology, accommodation mandates that impose such hard-to-monetize costs may be more likely to be reflected in reductions in the relative employment levels of disadvantaged workers and less likely to be reflected in reductions in their relative wages, as described above.

Turning now briefly to the FMLA’s accommodation of the needs of disabled workers through the leave requirement for employees with serious illnesses, what are the wage and employment effects likely to be? As discussed in Part II.A.1 above, mandates that accommodate disabled workers are predicted to leave unchanged the relative wages of these workers while reducing their relative employment levels.

165. 29 U.S.C. § 2614(b) (1994).

166. See Issacharoff & Rosenblum, *supra* note 15, at 2191-92, for a summary of the costs of short-term leaves for employers.

b. *Further implications of the shifting of accommodation costs to wages.*

As in the discussion of mandates requiring coverage of maternity-related hospital and medical expenses in health insurance plans, the suggestion that the effects of the FMLA on female workers will be felt substantially or exclusively in wages rather than employment levels is at odds with views expressed in the existing literature. For instance, Issacharoff and Rosenblum write of the FMLA:

By assigning the costs of leave to firms . . . the FMLA reintroduces an incentive to discriminate against women at the hiring stage. For example, during testimony in 1989, the House Subcommittee on Labor-Management Relations was told in no uncertain terms: "Faced with mandated parental leave, a business owner choosing between two qualified candidates—one male and one female—would be tempted to select the male."¹⁶⁷

What this account overlooks is that in a situation with substantial occupational segregation, the choice posited here—between a male and a female candidate—may be the real choice facing employers less often than one would think. In an occupation such as nursing, elementary school teaching, hotel cleaning, plumbing, or construction (and obviously the list is much longer, as noted just below), that choice will rarely occur. And precisely because there is substantial occupational segregation by sex, the wages of female workers can bear all or a significant fraction of the cost of the mandated accommodation. As described below (and also in the previous section), there is empirical evidence of just such wage responses.

In addition to the empirical evidence of wage rather than employment level adjustments described above and below, data on the composition of employment markets show that there are many markets in which a choice between two candidates of opposite sexes will occur only very rarely. Table 3 below lists all occupations that were at least ninety-five percent female or ninety-five percent male in 1990. Many more occupations were between ninety and ninety-five percent female or male at that time.¹⁶⁸

167. *Id.* at 2192 (quoting *Family and Medical Leave Act of 1989: Hearings on H.R. 770 Before the Subcomm. on Labor-Mgmt. Relations of the House Comm. on Educ. and Labor*, 101st Cong. 102 (1989) (statement of Dr. Earl Hess, U.S. Chamber of Commerce)).

168. See Blau et al., *supra* note 86, at 61-71 (listing percent female in various years for an extensive list of occupations).

Table 3
List of Occupations At Least 95% Female or 95% Male in 1990

Occupation	% Female in 1990
Child care workers, except private household	95.6
Receptionists	95.7
Dental assistants	97.1
Child care workers, private household	97.3
Prekindergarten & kindergarten teachers	97.8
Dental hygienists	98.4
Secretaries	98.7
Supervisors, brickmasons, stonemasons, & tile setters	0.7
Business, truck, & stationary engine mechanics	0.9
Heavy equipment mechanics	1.1
Farm equipment mechanics	1.1
Supervisors, carpenters & related workers	1.2
Heating, air conditioning, & refrigerator mechanics	1.3
Brickmasons & stonemasons	1.3
Concrete & terrazzo finishers	1.3
Electrical power installers & repairers	1.4
Sheetmetal duct installers	1.4
Drillers, oil well	1.4
Plumbers, pipefitters, & steamfitters	1.5
Roofers	1.6
Longshore equipment operators	1.6
Excavating & loading machine operators	1.6
Elevator installers & repairers	1.7
Carpenters	1.7
Railroad brake, signal, & switch operators	1.7
Grader, dozer, & scraper operators	1.7

Table 3
List of Occupations At Least 95% Female or 95% Male in 1990
(continued)

Occupation	% Female in 1990
Small engine repairers	1.8
Automobile mechanics	1.9
Structural metal workers	1.9
Supervisors, plumbers, pipefitters, & steamfitters	2.0
Plasterers	2.0
Operating engineers	2.0
Automobile body & related repairers	2.1
Electricians & power transmission installers	2.2
Carpet installers	2.2
Tile setters, hard & soft	2.3
Hoist & winch operators	2.3
Boilermakers	2.4
Crane & tower operators	2.4
Drywall installers	2.5
Electricians	2.5
Paving, surfacing, & tamping equipment operators	2.5
Drillers, earth	2.5
Firefighting occupations	2.7
Mining machine operators	2.7
Mining occupations, n.e.c.	2.7
Locomotive operating occupations	2.7
Supervisors, firefighting & fire prevention	2.8
Supervisors, construction, n.e.c.	2.8
Ship captain & mates, excluding fishing boats	2.9
Timber cutting & logging occupations	3.0
Captains & other officers, fishing vessels	3.0

Table 3
List of Occupations At Least 95% Female or 95% Male in 1990
(continued)

Occupation	% Female in 1990
Stevedores	3.0
Construction trades, n.e.c.	3.1
Millwrights	3.4
Airplane pilots & navigators	3.5
Supervisors, extractive occupations	3.5
Marine & naval architects	3.7
Sailors & deckhands	3.7
Not specified mechanics & repairers	4.0
Insulation workers	4.0
Construction laborers	4.0
Industrial machinery repairers	4.1
Household appliance & power tool repairers	4.1
Garbage collectors	4.2
Supervisors, forestry & logging workers	4.5
Machinery maintenance occupations	4.5
Helpers, construction trades	4.5
Machinists	4.6
Aircraft mechanics	4.7
Stationary engineers	4.7
Welders & cutters	4.7
Motor transport occupations, n.e.c.	4.8
Patternmakers & model makers, metal	4.9
Mechanical controls & valve repairers	5.0
Supervisors, painters, paperhangers, & plasterers	5.0

Source: Francine D. Blau, Patricia Simpson & Deborah Anderson, *Continuing Progress? Trends in Occupational Segregation in the United States over the 1970s and 1980s*, 4 FEMINIST ECON. 29, 61-71 (1998).

The argument here is of course not that the effect of a mandate such as the FMLA will never be reflected in reduced employment opportunities rather than reduced wages for female workers. The claim is simply that this may not be as likely a consequence as others have implied.

2. *Empirical evidence.*

a. *Effects of the FMLA on disabled workers.*

The effects of the FMLA on the relative wages and relative employment levels of disabled workers may be difficult to disentangle from the effects of the ADA on these things. The ADA went into effect in 1992 (with application to employers with between fifteen and twenty-four employees delayed until 1994),¹⁶⁹ the FMLA in 1993.¹⁷⁰ The roughly contemporaneous effective dates of the two laws make it hard to tell what the effects of each on disabled workers are. Thus it is possible that the empirical studies of the ADA discussed above may reflect a mix of ADA effects and FMLA effects. To the extent that this is true, the empirical findings (no reduction in relative wages, and reductions in relative employment levels)¹⁷¹ are consistent with the analytic predictions about the FMLA offered above (although it is theoretically possible that the FMLA has different empirical consequences that, however, are swamped by the effects of the ADA).

b. *Effects of the FMLA on female workers.*

More specific and extensive evidence exists on the effects of the FMLA on female workers. The most obvious approach, of course, is to examine female workers' relative wages and relative employment levels in the aftermath of the FMLA, much as the disability studies examined the relative wages and relative employment levels of disabled workers in the aftermath of the ADA. Jane Waldfogel takes such an approach.¹⁷² She finds no consistent pattern of statistically significant results; many of her estimated coefficients are statistically insignificant, and in some cases where estimates are significant, they have surprising signs.¹⁷³ The difficulty with Waldfogel's empirical approach, however, is that many female workers were entitled (by state legislation or firm policy) to FMLA-type benefits upon the birth of a

169. Linda Hamilton Krieger, *Foreword—Backlash Against the ADA: Interdisciplinary Perspectives and Implications for Social Justice Strategies*, 21 BERKELEY J. EMP. & LAB. L. 1, 6 (2000).

170. Waldfogel, *supra* note 9, at 282.

171. *See* notes 101-105 *supra* and accompanying text.

172. Waldfogel, *supra* note 9, at 283.

173. *See id.* at 294-99.

child even prior to the FMLA's enactment.¹⁷⁴ Coverage may have increased even further with the FMLA,¹⁷⁵ but the existence of pre-FMLA policies covering many female workers makes it harder to discern the effects of the law. Indeed, it is not even clear that female leave-taking after the birth or adoption of a child increased in any clear way after the FMLA's enactment. Waldfogel offers some evidence of an increase,¹⁷⁶ but Christopher Ruhm suggests a variety of difficulties with Waldfogel's evidence.¹⁷⁷ Probably for similar reasons, Jacob Alex Klerman and Arleen Leibowitz's study of earlier state-level leave mandates fails to uncover (with one exception noted below¹⁷⁸) statistically significant relationships between the mandates and either leave-taking behavior or employment levels of female workers with infants compared to a control group of female workers with older children.¹⁷⁹

A potentially more reliable test of the effects of a requirement such as the FMLA's mandate of parental leave comes from looking at the effects of European laws mandating leave after the birth of a child. The leading study in this area, published in the *Quarterly Journal of Economics*, is by Christopher Ruhm.¹⁸⁰ Ruhm examines the effects of laws that mandate *paid* parental leave, which in practice is taken almost exclusively by female workers.¹⁸¹

174. See ROBERTA M. SPALTER-ROTH & HEIDI I. HARTMANN, UNNECESSARY LOSSES: COSTS TO AMERICANS OF THE LACK OF FAMILY AND MEDICAL LEAVE 3-6 & tbl.1 (1990); Michael Selmi, *The Limited Vision of the Family and Medical Leave Act*, 44 VILL. L. REV. 395, 407-10 (1999); Waldfogel, *supra* note 9, at 282.

175. See Jane Waldfogel, *Family Leave Coverage in the 1990s*, MONTHLY LAB. REV., Oct. 1999, at 13, 14-20.

176. See Waldfogel, *supra* note 9, at 289-94.

177. Ruhm notes:

1) [T]he coefficients are frequently estimated imprecisely . . . ; 2) the growth in maternity leave is generally greater for persons working for large (500 or more employees) than medium (100-499 employees) employers, even though the smaller companies less frequently voluntarily provide[d] leave benefits [prior to the FMLA]; and 3) there is no consistent indication that the FMLA had a larger effect in states without than in those with pre-existing maternity leave mandates.

Ruhm, *Policy Watch*, *supra* note 9, at 184.

178. See note 187 *infra* and accompanying text.

179. See Jacob Alex Klerman & Arleen Leibowitz, *Labor Supply Effects of State Maternity Leave Legislation*, in GENDER AND FAMILY ISSUES IN THE WORKPLACE, *supra* note 55, at 65, 79 (finding no significant effect of leave mandates on leave-taking); *id.* at 81 (finding no significant effect of leave mandates on leave-taking or employment levels).

Ruhm claims that Klerman and Leibowitz's "main results" are increases in leave-taking and employment levels, see Ruhm, *Policy Watch*, *supra* note 9, at 181 tbl.1, but those results come from specifications that fail to use a control group and thus are subject to problems that Klerman and Leibowitz describe and that Lawrence Katz reiterates. See Klerman & Leibowitz, *supra*, at 79 (explaining reasons for using women with older children as a control group); Lawrence F. Katz, *Commentary on Chapter 3*, in GENDER AND FAMILY ISSUES IN THE WORKPLACE, *supra* note 55, at 86, 87 (stating that the control-group results are "more methodologically convincing").

180. Ruhm, *Parental Leave Mandates*, *supra* note 9.

181. *Id.* at 286.

Although the leave is paid, the government covers most or all of the wage costs,¹⁸² so the only (or main) cost to employers is the same as the cost under the FMLA: the disruption in operations and the need to rely on temporary replacements or substitutes among the existing workforce. (Given the limited nature of this cost, it is plausible, as in the case of the Gruber study described above, that any wage shifting that occurs is accomplished through cuts in real but not nominal wages.)¹⁸³

Ruhm finds that mandated leave is negatively related to the relative wages of female workers and positively related to their relative employment levels.¹⁸⁴ These results are exactly what the analysis above predicted. Note that because workers' leave is paid, in contrast to the situation under the FMLA, it is possible that Ruhm's positive employment effects would not carry over to the FMLA, which would presumably be valued less by workers because of the unpaid nature of the leave. But the critical point for present purposes is that the mandate makes itself felt significantly in wages, and there is no reason to think that this result would not apply in the FMLA context as well.

Ruhm's results are robust across a range of specifications.¹⁸⁵ The only exception is that the effect of having some mandated leave versus none, as distinguished from the effect of having a short mandated leave versus a long mandated leave, has no statistically significant effect (rather than a statistically significant negative effect) on relative wages of female workers.¹⁸⁶ This may result from the fact that a short leave, as opposed to a long leave, imposes relatively few costs on employers, and thus provides little occasion for a wage adjustment. As with the Gruber study, it would be ideal to test whether Ruhm's results are strongest in the employment markets with the greatest levels of occupational segregation, but the sample sizes are very likely too small.

Ruhm's results do not confirm the prediction based on cognitive psychology that the effects of difficult-to-monetize mandates, such as the FMLA, will be felt in employment levels rather than in wages; his results instead support the traditional model of wage rather than employment effects in cases of occupational segregation. On the other hand, Klerman and Leibowitz find a statistically significant negative effect of recently enacted (at the time of their study) state leave mandates on the employment levels of women with infants compared to a control group of women with older chil-

182. See Issacharoff & Rosenblum, *supra* note 15, at 2214; Ruhm, *Parental Leave Mandates*, *supra* note 9, at 289-90.

183. See note 155 *supra* and accompanying text.

184. See Ruhm, *Parental Leave Mandates*, *supra* note 9, at 303-05 & tbl.IV.

185. See *id.* at 305-07 & tbl.V.

186. See *id.* at 307-09 & tbl.VI.

dren.¹⁸⁷ It is possible that parental leave mandates are reflected in wage adjustments in European countries that have long experience with such intervention¹⁸⁸ (and hence where employers may be more capable of monetizing the costs of the intervention) but are reflected in employment level adjustments in the United States, where such intervention is newer and less familiar. On the other hand, the difference between Ruhm's results and those of Klerman and Leibowitz may simply reflect the difficulty of teasing out the effects of parental leave mandates. (The latter possibility is given weight by the fact that an earlier, albeit more preliminary, study by Ruhm and Jackqueline Teague finds no difference between the employment effects of leave mandates on women and the employment effects of such mandates on the labor force as a whole,¹⁸⁹ again suggesting the difficulty of getting robust results in this area.)

A further subtlety in discerning the effects of the FMLA is that, as Waldfoegel emphasizes, this mandate may have a sort of composition effect, moving women into, or keeping them in, better, higher-level jobs.¹⁹⁰ The analytic framework developed in Part I focuses on individual employment markets, and the implicit assumption in the empirical application of the framework is that the overall labor market is an aggregation of individual employment markets, in each (or many) of which similar effects are observed. But if women move out of some employment markets and into others in response to the FMLA, the aggregate effects may be more mixed and more complex.

3. *Normative ramifications (briefly).*

Both the predictions and the evidence are somewhat less unambiguous in the context of the FMLA than in the context of the ADA and the state law mandates governing health insurance plans. However, to the extent that the FMLA's mandates accommodating female workers tend to be largely or fully borne by these workers in the form of reduced wages, the normative ramifications are very similar to those discussed in Part II.B.3 above on state law mandates governing health insurance plans. Of special note in the FMLA context, however, is the fact that the subsidy alternative has been

187. See Klerman & Leibowitz, *supra* note 179, at 79.

188. For a description of the history of the European programs, see Ruhm, *Parental Leave Mandates*, *supra* note 9, at 290-91.

189. See Christopher J. Ruhm & Jackqueline L. Teague, *Parental Leave Policies in Europe and North America*, in GENDER AND FAMILY ISSUES IN THE WORKPLACE, *supra* note 55, at 133, 146-47.

190. See Waldfoegel, *supra* note 9, at 296; Jane Waldfoegel, *Understanding the "Family Gap" in Pay for Women with Children*, J. ECON. PERSP., Winter 1998, at 137, 150-52; see also Eileen Trzcinski, *Separate Versus Equal Treatment Approaches to Parental Leave: Theoretical Issues and Empirical Evidence*, 13 LAW & POL'Y 1, 10-11 (1991) (offering a similar argument).

sketched out in some detail in the existing literature.¹⁹¹ As above, a central question about this sort of approach is the degree to which it is similar to or different from subsidy schemes advocated as alternatives to traditional prohibitions on race and sex discrimination, which are often regarded as problematic.¹⁹²

CONCLUSION

Mandates directed to workers as a whole and antidiscrimination law are old and well-developed topics. Accommodation mandates provide newer and less well explored terrain. The present inquiry has used some of what we know about the two more familiar topics to clear up the confusion that exists about the less familiar one. The framework for accommodation mandates offered here provides a systematic way to understand the effects of these mandates. It also generates testable predictions about these effects—predictions that are largely confirmed by the empirical evidence.

Because accommodation mandates are for many advocates rooted in claims of rights rather than economics, it may upon first glance seem unnatural to examine them within the type of framework I have used here. But because these mandates impose costs on employers, and because they operate against the backdrop of employment markets in which employers may remain largely free to adjust wage and employment levels in response to such costs, it is critical to examine these laws from an economic perspective. Indeed, a failure to do so leaves one vulnerable to the arguments of opponents of such laws (often economists or economically oriented commentators) that the laws will tend to harm their intended beneficiaries—an argument that the foregoing analysis has shown to be at least potentially less valid in the context of accommodation mandates, which operate against the backdrop of antidiscrimination law, than in the context of mandates directed to workers as a whole.

191. See Issacharoff & Rosenblum, *supra* note 15, at 2214-20.

192. See note 121 *supra* and accompanying text.

Appendix

This Appendix contains formal proofs of the claims in Part I.B of the text that cannot be rigorously established with purely verbal and graphical reasoning. It also presents some of the analysis from the text in a more formal way.

The discussion makes use of some notation. Let E_d denote the employment level of disadvantaged workers; W_d the wage level of this group; E_n the employment level of nondisadvantaged workers; W_n the wage level of nondisadvantaged workers; $C (> 0)$ the cost of a mandated accommodation; and V the value of a mandated accommodation. (These concepts are defined in the text.) Also let MRPL be the “physical” marginal revenue product of labor, a decreasing function of the total level of employment; S_d the labor supply of disadvantaged workers, a nondecreasing function of the wage earned by these workers; S_n the labor supply of nondisadvantaged workers, a nondecreasing function of the wage earned by them; D_d the labor demand for disadvantaged workers; and D_n the labor demand for nondisadvantaged workers. Finally, let $G (\geq 0)$ be the incremental per-worker-hour cost of disadvantaged workers to employers wholly apart from any mandated accommodation; this cost could result from discrimination against these workers or from lower average productivity of this group.

Prior to the imposition of an accommodation mandate, the wages earned by disadvantaged and nondisadvantaged workers will be given by the following equations:

$$W_d = \text{MRPL}(E_d + E_n) - G; \tag{A1}$$

$$W_n = \text{MRPL}(E_d + E_n). \tag{A2}$$

Note that this formulation assumes, for $G > 0$, that binding restrictions on wage differentials between disadvantaged and nondisadvantaged workers do not predate the imposition of an accommodation mandate. In other words, prior to the imposition of the mandate, employers are not restricted from paying the two types of workers different wages, even if this is no longer true after the mandate is imposed. Of course, if $G = 0$, so that disadvantaged and nondisadvantaged workers are equally attractive to employers apart from the cost of a mandated accommodation, then it is irrelevant whether there are restrictions on wage differentials prior to the imposition of the mandate, as workers will be paid the same either way.

The labor supply curves for the two groups of workers prior to the imposition of an accommodation mandate are given by the following equations:

$$E_d = S_d(W_d); \tag{A3}$$

$$E_n = S_n(W_n). \tag{A4}$$

The system comprised of the four equations in (A1) to (A4) contains four unknowns. Let $(W_d^\circ, W_n^\circ, E_d^\circ, E_n^\circ)$ denote a solution to the system. I assume an interior solution: $E_d^\circ > 0$ and $E_n^\circ > 0$.

After the imposition of an accommodation mandate, the labor supply curves for the two groups of workers are given by

$$E_d = S_d(W_d + V); \tag{A5}$$

$$E_n = S_n(W_n). \tag{A6}$$

The labor demand curves after the imposition of the mandate will depend on the degree to which restrictions on wage and employment differentials are binding. The following analysis first examines the case in which both sets of restrictions are binding and then the case in which restrictions on wage differentials are not binding (and restrictions on employment differentials are or are not binding).

Restrictions on Wage and Employment Differentials Are Binding

With binding restrictions on wage differentials, the two groups of workers must receive a common wage after the imposition of an accommodation mandate. This common wage, which will be denoted by W , is given by the total marginal revenue product of labor across the disadvantaged and nondisadvantaged workers in the employment market in question, where the total marginal revenue product for each group of workers is given by the “physical” marginal revenue product of labor, or marginal revenue product from production, minus the cost of the accommodation:

$$W = [E_d/(E_d + E_n)][MRPL(E_d + E_n) - G - C] + [E_n/(E_d + E_n)]MRPL(E_d + E_n).$$

Rewriting:

$$W = \text{MRPL}(E_d + E_n) - [E_d/(E_d + E_n)](G + C). \quad (\text{A7})$$

The equation in (A7), together with the labor supply equations in (A5) and (A6), yields a system of three equations in three unknowns. Let (W^*, E_d^*, E_n^*) denote a solution to this system.

The remainder of this discussion explains why the curve D_d' is steeper than the curve D_d° in Figure 3 in the text and then shows that the employment level of nondisadvantaged workers falls with the imposition of the mandate. Along the way it offers formal expressions for the D_d° and D_d' curves in Figure 3.

Explanation of why D_d' is steeper than D_d° in Figure 3.

As explained in the text, the only difference between the curve D_d° and the curve D_d' in Figure 3 is that the latter reflects a downward shift from the average cost of the mandated accommodation across the disadvantaged and nondisadvantaged workers in the employment market in question. The curve D_d° is given by equation (A1) with $E_n = E_n^\circ$, since it is the pre-mandate labor demand curve for disadvantaged workers at the pre-mandate equilibrium level of nondisadvantaged employment (E_n°). The curve D_d' is given by this same expression *minus* the average cost of the mandated accommodation across the employment market in question:

$$W = \text{MRPL}(E_d + E_n^\circ) - G - [E_d/(E_d + E_n^*)]C. \quad (\text{A8})$$

Note that both D_d° and D_d' contain the term G . For the sake of expositional simplicity, this term was not explicitly discussed in the text, which focused on the other two terms here, the physical marginal revenue product of labor ($\text{MRPL}(E_d + E_n^\circ)$) and the term reflecting the cost of the mandated accommodation across the employment market in question ($[E_d/(E_d + E_n^*)]C$). But since G is simply a constant in both the D_d° curve and the D_d' curve, it has no effect on the analysis.

In the (E_d, W) space depicted in Figure 3, the slope of the curve D_d° is given by the derivative of MRPL with respect to E_d (evaluated at E_n°), while the slope of the curve D_d' is given by the derivative of MRPL with respect to E_d (also evaluated at E_n°) minus the derivative of $[E_d/(E_d + E_n^*)]C$ with respect to E_d . The latter derivative is equal to $[E_n^*/(E_d + E_n^*)^2]C$, which is nonnegative. It follows that D_d' is steeper than D_d° , as was sought to be shown.

The intuition for this result is straightforward. When E_d rises, the wage level falls under equation (A1) for a single reason: MRPL falls. By contrast, when E_d rises, the wage level falls under equation (A8) for two reasons: MRPL falls, and the proportion of workers for whom the cost of the mandated accommodation must be incurred rises.

Proof of claim that the employment level of nondisadvantaged workers falls with an accommodation mandate ($E_n^ < E_n^\circ$).*

The proof of this claim is by contradiction. Suppose that $E_n^* \geq E_n^\circ$. It follows that $W^* \geq W_n^\circ$, since labor supply is nondecreasing in the wage. $W^* \geq W_n^\circ$ implies $W^* \geq W_d^\circ$, since $W_n^\circ = W_d^\circ + G$. $W^* \geq W_d^\circ$ in turn implies $E_d^* \geq E_d^\circ$, again because labor supply is nondecreasing in the wage. But if $E_n^* \geq E_n^\circ$ and $E_d^* \geq E_d^\circ$, then

$$\text{MRPL}(E_d^* + E_n^*) - [E_d^*/(E_d^* + E_n^*)](G + C) < \text{MRPL}(E_d^\circ + E_n^\circ),$$

since the marginal revenue product of labor is declining in the total level of employment (and $E_d^* > 0$ since $E_d^\circ > 0$ by assumption). So $W^* < W_n^\circ$ (using (A2) and (A7)). This yields the desired contradiction.

Note that it follows immediately from $E_n^* < E_n^\circ$ that the post-mandate labor demand curve for disadvantaged workers must lie above the curve D_d' in Figure 3 in the text. As already noted, the curve D_d' is given by equation (A8) above. Meanwhile, the post-mandate labor demand curve for disadvantaged workers is given by

$$W = \text{MRPL}(E_d + E_n^*) - [E_d/(E_d + E_n^*)]G - [E_d/(E_d + E_n^*)]C \quad (\text{A9})$$

(using (A7) and rewriting slightly). The first term of this expression is greater than the first term in (A8) at any given level of E_d because $E_n^* < E_n^\circ$. The second term is also greater because $-[E_d/(E_d + E_n^*)]G \geq -G$ (as $E_n^* \geq 0$). The third term is the same. It follows that the curve given by (A9) lies above the curve given by (A8). (The exact relation of the post-mandate labor demand curve for disadvantaged workers to the curve D_d' will depend, among other things, on how the MRPL term as a function of E_d changes with the change from E_n° to E_n^* . Note that this may vary with the level of E_d .)

Restrictions on Wage Differentials Are Not Binding

If restrictions on wage differentials are not binding, then the following two equations characterize the post-mandate labor demand curves for disadvantaged and nondisadvantaged workers (and these equations do not depend at all on whether restrictions on employment differentials are binding):

$$W_d = \text{MRPL}(E_d + E_n) - G - C; \quad (\text{A10})$$

$$W_n = \text{MRPL}(E_d + E_n). \quad (\text{A11})$$

These equations, together with the labor supply equations in (A5) and (A6), yield a system of four equations in four unknowns. Let $(W_d^{**}, W_n^{**}, E_d^{**}, E_n^{**})$ denote a solution to this system.

*Proof of claim that the employment level of nondisadvantaged workers falls with an accommodation mandate ($E_n^{**} < E_n^\circ$) if the value of the mandated accommodation exceeds its cost and rises with an accommodation mandate ($E_n^{**} > E_n^\circ$) if the value of the mandated accommodation is less than its cost.*

Suppose to the contrary that $E_n^{**} \geq [\leq] E_n^\circ$ when $V > [<] C$. This requires $W_n^{**} \geq [\leq] W_n^\circ$, since labor supply is nondecreasing in the wage. Substituting using the labor demand curves, $W_n^{**} \geq [\leq] W_n^\circ$ implies

$$\text{MRPL}(E_d^{**} + E_n^{**}) \geq [\leq] \text{MRPL}(E_d^\circ + E_n^\circ). \quad (\text{A12})$$

Since $E_n^{**} \geq [\leq] E_n^\circ$, (A12) in turn requires $E_d^{**} \leq [\geq] E_d^\circ$, which itself requires $W_d^{**} + V \leq [\geq] W_d^\circ$. Since $V > [<] C$, it follows that $W_d^{**} + C < [>] W_d^\circ$. But $W_d^{**} + C = W_n^{**} - G$ and $W_d^\circ = W_n^\circ - G$ (see (A1), (A2), (A10) and (A11)), so it must be true that $W_n^{**} < [>] W_n^\circ$. This yields the desired contradiction.

*Proof of claim that the employment level of nondisadvantaged workers does not change with an accommodation mandate ($E_n^{**} = E_n^\circ$) if the value of the mandated accommodation is equal to its cost.*

Suppose to the contrary. Assume first that $E_n^{**} < E_n^\circ$. This requires $W_n^{**} < W_n^\circ$, since labor supply is a nondecreasing function of the wage. (The fact that it is a function rather than a correspondence means that a given wage level cannot produce two different solutions for the employment level, so $E_n^{**} < E_n^\circ$ rules out $W_n^{**} = W_n^\circ$.) If $W_n^{**} < W_n^\circ$, it follows that $W_d^{**} + G + C < W_d^\circ + G$ (see (A1), (A2), (A10), and (A11)). So $W_d^{**} < W_d^\circ$. From $W_d^{**} < W_d^\circ$ it follows that $E_d^{**} \leq E_d^\circ$, since labor supply is nondecreasing in the wage. But if $E_n^{**} < E_n^\circ$ and $E_d^{**} \leq E_d^\circ$, then

$$\text{MRPL}(E_d^{**} + E_n^{**}) > \text{MRPL}(E_d^\circ + E_n^\circ),$$

since the marginal revenue product of labor is declining in the total level of employment. But this implies $W_n^{**} > W_n^\circ$, which yields the desired contradiction.

Assume now that $E_n^{**} > E_n^\circ$. This requires $W_n^{**} > W_n^\circ$, since labor supply is a nondecreasing function of the wage (and is not a correspondence). Substituting using the labor demand curves, $W_n^{**} > W_n^\circ$ implies

$$\text{MRPL}(E_d^{**} + E_n^{**}) > \text{MRPL}(E_d^\circ + E_n^\circ).$$

This in turn requires $E_d^{**} < E_d^\circ$ (since $E_n^{**} > E_n^\circ$). $E_d^{**} < E_d^\circ$ in turn requires $W_d^{**} + V < W_d^\circ$. But by assumption $V = C$, so it must be true that $W_d^{**} + C < W_d^\circ$. It follows, using (A1), (A2), (A10) and (A11), that $W_n^{**} < W_n^\circ$. This yields the desired contradiction.