Labor-Market Responses to Employer Liability

James N. Dertouzos, Lynn A. Karoly

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Foreword

Most observers of the civil justice system would agree that the past decade has seen a marked expansion in the nation's liability system. This expansion has taken several forms, including new types of liability, defendants being held to stricter standards of liability, and new forms of damages for plaintiffs.

Although there is general agreement about the nature of these changes, there is nothing like agreement as to whether these changes have, on balance, been beneficial or harmful. Proponents argue that these changes have expanded access to compensation for injured parties and promoted greater care for safety and efficiency among businesses. Opponents, on the other hand, view the expansion as the source of a torrent of lawsuits that have increased corporate liability costs and harmed the competitiveness of the economy.

Proponents and opponents of the expansion, of course, have a direct stake in the outcome of the debate about these issues. Consequently, policymakers and the general public have often regarded with skepticism the claims and evidence marshaled by both sides. Unfortunately, there has been little empirical information available with which to address these issues. Moreover, the most readily accessible data concern the immediate effects of these changes on the parties directly involved in specific litigation, while the key issues from a public policy perspective concern the more significant but harder to measure effects of these changes on society and the economy.

This report, the second in a series on employment liability, provides some of the first empirical evidence on the wider economic effects of expanded liability. The employment area provides an especially useful context in which to study the broader effects of expanded liability because employment law, since it relates particularly to the employer's ability to terminate employees, has been the subject of rapid changes in case law over the last two decades.

In our earlier study, we described the changes that had been occurring in the liability doctrines relating to wrongful termination and analyzed the experience of the California courts with this litigation. California was chosen because its courts had been in the forefront in accepting the new liability doctrines. The results of that study provided a mixed message. On the one hand, they documented the rapid increase in suits filed and the substantial size of the average award (over $600,000). On the other hand, they also showed that despite the high costs of individual cases, the direct legal costs of wrongful-termination litigation, when calculated on a per-worker basis, were relatively modest.

In the current study, the authors move beyond the bounds of California and the direct legal costs of the litigation to consider the wider economic consequences of changes in wrongful-termination doctrines. They focus specifically on how the diffusion of doctrines and damages across the 50 states has affected selected labor-market outcomes, including aggregate employment levels.

These results are noteworthy both for the answers they provide and for the questions they raise. The results suggest, for example, that not only are there substantial economic effects of wrongful-termination litigation but that these effects may indeed be much larger than the direct legal costs associated with the litigation. This latter possibility, however, raises important questions as to why this should be the case and whether the potential benefits of this litigation might outweigh the costs. Unfortunately, we do not yet know the answers to these questions. However, for the first time, we have a sounder empirical basis for addressing these issues.

Kevin F. McCarthy, Director
The Institute for Civil Justice

Executive Summary

INTRODUCTION

The U.S. labor market in the twentieth century is frequently characterized by the relative ease with which employers are able to adjust their labor force in response to the prevailing economic environment. Historically, one important tool available to employers was the common-law employment-at-will doctrine, which allowed employers to terminate the employment relationship for good cause, bad cause, or no cause at all. The "flexible labor market" conditions in the U.S. are often contrasted with the "rigidities" associated with the employment-protection provisions that many European countries implemented in the 1960s and 1970s. These restrictions are often cited as an explanation for the persistence of high unemployment rates in Great Britain and Western Europe.

The image of a flexible U.S. labor market does not take into account recent changes in the common-law doctrines that challenge the employment-at-will rule. The rapid adoption of a series of new wrongful-termination doctrines by the state judiciaries in the 1980s represents a potentially significant increase in employer liability. These changes in the common law have been accompanied by legislative changes, such as state and federal antidiscrimination statutes and the 1988 Worker Adjustment and Retraining Notification (WARN) Act, which further restricts the ability of employers to adjust their work forces at their own discretion.

Earlier research[1] on the new wrongful-termination doctrines considered the direct legal costs and liabilities associated with the new common laws. That analysis concluded that the direct costs, when calculated on a per-worker or per-termination basis, appeared to be quite small. Although few firms may incur direct legal costs associated with a wrongful-termination suit, virtually all employers are af-

[1]Dertouzos, Holland, and Ebener (1988).

fected by the potential liability associated with the new legal doctrines. Consequently, the impact of the new employment liability may be more widespread than an analysis of the direct legal costs would indicate, as firms engage in activities to avoid the costs of litigation. In this analysis, we consider the indirect economic consequences of the wrongful-termination doctrines by quantifying the effects of the new doctrines on aggregate state labor-market outcomes.

THE CHANGING LEGAL ENVIRONMENT

There is no doubt that there has been a dramatic change in the legal environment in the last decade with respect to employment law. The employment-at-will doctrine, a feature of the common law for close to a century, has been eroded by a series of new legal doctrines recognized by the state courts. Prior to the recent judicially recognized exceptions, the application of the employment-at-will rule was limited to private-sector employees without a fixed-term contract who were not covered by a collective-bargaining agreement. In addition, a variety of federal and state statutes, such as the National Labor Relations Act and Title VII of the Civil Rights Act, placed restrictions on the ability of employers to invoke the employment-at-will rule.

The new wrongful-termination doctrines typically arise from three legal theories: the implied-contract exception, the public-policy exception, and the covenant of good faith and fair dealing. In the case of the first legal theory, the courts have held that an employee is no longer "at will" when the employer has made explicit or implicit statements that place limits on the ability of the employer to terminate the employment relationship. For example, the evidence of an employment contract has been based on oral statements at the time of the hiring, on written statements in policy manuals, and on the circumstances of the employment relationship, such as longevity of service. In contrast, the second legal theory, the public-policy exception, prohibits employers from terminating even employment-at-will employees when the firing violates some public policy as represented, for example, in statutes or regulations. Thus, employers have been held liable for terminating employees who refuse to violate a law or who exercise a statutorily protected right. The third legal theory represents the greatest increase in employer liability in that it can imply that employees must always be fired for cause. The doctrine of good faith and fair dealing has been recognized in a more limited form, requiring the existence of an employment contract, and more broadly as a theory applicable to all employment relationships.

Each of the 50 states can be characterized by which of the three legal theories, if any, its judiciary has adopted as doctrine. In addition, because of the differences in the remedies available to a successful plaintiff, we also distinguish states by whether the legal doctrine represents a tort cause of action (where both compensatory and punitive damages are available) or a contract cause of action. An employer's potential liability is also affected by whether the theory, such as the public-policy doctrine, has been interpreted in a broad or narrow manner by the courts. Based upon an examination of the precedent-setting cases, we provide a characterization of the wrongful-termination environment in each of the 50 states.[2] This characterization demonstrates the pattern in the timing of the adoption of the new doctrines and the degree to which these doctrines represent an increase in liability for employers.

Although a few states, such as California, Michigan, and New Hampshire, provided early signals of the willingness of the state judiciaries to place restrictions on the employment-at-will rule, the 1980s have witnessed a virtual landslide of cases, as almost every state has recognized at least one of the new doctrines. For instance, in 1980, only 13 states recognized one of the new legal doctrines. By 1989, at least one of the new doctrines was recognized in 45 states, leaving only five states that remained strictly employment-at-will. Furthermore, the remedies available to employees in eight states included all three of the new legal doctrines, while at least two of the doctrines applied to workers in another 25 states. Despite the almost universal acceptance of the new common-law theories, very few state benches have been willing to recognize the most liberal versions of the new doctrines. With the 1988 California Supreme Court decision in *Foley v. Interactive Data Corp.*, reversing the earlier acceptance of the tort of good faith and fair dealing, only two states currently accept this particularly liberal tort version of the good faith doctrine.

FACTORS ASSOCIATED WITH THE ADOPTION OF THE NEW DOCTRINES

The timing and pattern of adoption of the new legal doctrines suggests that the legal decisions of the state judiciaries in the 1980s are not simply random events. Rather, the increased willingness of the

[2]Recently, a uniform Employment Termination Act has been proposed by a committee of the National Conference of Commissioners on Uniform State Laws. This proposed legislation will eliminate differences between states by adopting a good-cause standard while, at the same time, limiting remedies to compensatory damages.

state judiciaries to recognize exceptions to the employment-at-will rule may be associated with changes in underlying political, economic, and social forces. While interesting in its own right, an examination of the factors that may have brought about the legal changes also provides insights into their possible effects. In addition, if the changes in the legal environment are systematic, our causal inferences will be improved by simultaneously modeling the factors that determine the legal environment and the effect of the legal environment on labor market outcomes.

We hypothesize that the developments in the common law during the 1980s were the result of changes in the supply of and demand for new legal doctrines. For example, we predicted that declines in the degree of unionization would increase the demand for greater job protection, as an increasing fraction of the work force would no longer be covered by collective-bargaining agreements with just-cause-discharge provisions. Similarly, increases in the unemployment rate would increase the number of workers who would gain from the new wrongful discharge remedies. The willingness to supply the new doctrines can be affected by prevailing attitudes toward labor as measured by a state's characteristics, such as the existence of right-to-work laws or the degree of unionization. Furthermore, because of spillover effects from one state to another, a state judiciary may be affected by the extent to which neighboring states have recognized the new doctrines.

Using a statistical analysis of the pattern and timing of the adoption of the various wrongful-termination doctrines, we explore a number of hypotheses regarding the factors that may have influenced the legal changes. The results indicate that the probability of adopting the exceptions to the employment-at-will rule strongly correlates with a number of economic, social, and legal variables. For example, holding other factors constant, a state with a right-to-work law has only a 32-percent probability of accepting a narrow version of the public-policy doctrine, compared to 64 percent for a state without a right-to-work law. Similarly, the probability of adopting the doctrine increases from 37 percent in a state with a low degree of unionization (13 percent) to 64 percent in one that is more highly unionized (28 percent). Also, the likelihood of a state adopting the doctrine is higher the higher the number of lawyers per capita. The likelihood is also higher the greater the decline in the degree of unionization.

THE ECONOMIC CONSEQUENCES OF WRONGFUL TERMINATION

With the rapid adoption of the new legal doctrines, concern has increased over the potential economic consequences of expanded employer liability. Despite the existence of large jury awards, our first investigation of the economic effects of wrongful termination demonstrated that the direct legal costs (measured as legal fees, settlement payments, and jury awards) appear to be quite small. A sample of cases filed in California indicates that the typical plaintiff can expect to receive a final payment that, in present value terms, amounts to half a year's salary. Even accounting for the 95 percent of cases that settle prior to trial, the aggregate direct legal costs of wrongful-termination litigation amount to less than $10 per employee, or $100 on a per-termination basis.

Given the small size of the direct legal costs of wrongful termination, we consider a number of factors that may explain the concern on the part of the business community over the expansion of these wrongful-termination doctrines. First, because of misperceptions or a lack of information, businesses and managers may simply not have accurate information about the true costs of the liability associated with the new legal doctrines. Even with accurate information about the true costs of the liability, firms and managers may be extremely risk averse, so that they attempt to avoid even the small probability of a very large wrongful-termination award.

In attempting to avoid the liability, firms may adopt preventative measures that themselves represent hidden or indirect costs of the new legal environment. For example, firms may avoid the liability by not terminating employees who are poor performers. When workers are fired, severance payments may be used to prevent the threat of a wrongful-termination suit. In periods of expansion, firms may be less willing to add to their work force, preferring instead to expand overtime hours or use temporary workers for whom the liability costs are lower. In addition to altering their utilization of labor, firms may adjust their internal decisionmaking processes, requiring more screening when workers are hired, more formalized review and evaluation procedures, and less autonomy regarding termination decisions. These types of indirect costs may overwhelm the smaller direct legal costs of wrongful termination.

Given the potential for significant indirect costs, a number of empirical implications emerge. Since wrongful termination is most likely to impact the costs of hiring and firing and therefore the cost of labor, we focus our analysis upon the potential short-run and long-run labor-market consequences of the expanded liability. First, we hypothesize that, as a consequence of the increased costs of labor inputs, firms will have an incentive to reduce their long-run utilization of labor. The magnitude of this aggregate employment effect is an empirical question that we address in our statistical analysis. Second, in the short run, increased labor costs will induce firms to reduce the speed with which they respond to changes in their desired employment levels. Thus, in expansions, businesses will add to their labor force less rapidly, and they will contract their labor force more slowly in economic downturns. Finally, the above short-run and long-run responses are likely to vary by industry, given differences in their cyclical vulnerability and work-force compositions. Because of differences in the ability to engage in avoidance behaviors, the effects may vary as well for small versus large firms.

THE IMPACT OF THE NEW LEGAL DOCTRINES ON EMPLOYMENT OUTCOMES

Using statistical techniques, we examine the above hypotheses regarding the labor market effects of the wrongful-termination doctrines using aggregate state-level data from 1980 to 1987. The empirical results support the conclusion that the wrongful-termination doctrines have resulted in a reduction in equilibrium employment levels. We also find that the employment effects are largest for nonmanufacturing industries, namely services and finance. In addition, employment levels appear to have declined more in large firms (greater than 250 employees) compared to small firms. Below, we briefly highlight the key findings.

The employment effect is greatest for states with the most liberal version of the wrongful-termination theories (the good-faith tort exception or the broad public-policy exception). Recognition of one of these doctrines leads to a 2-percent decline in the state's aggregate employment level. The effect is smaller, around 1 percent, when the implied contract or good-faith contract doctrine is recognized, and there is no statistically significant employment effect when a narrow public-policy exception is adopted by the state court.

We also find evidence of an employment effect when states are differentiated on the basis of whether tort and/or contract remedies are

available. For instance, the adoption of a tort cause of action (i.e. public-policy tort or good-faith tort) results in about a 3-percent reduction in employment. Adopting a contract cause of action leads to a 1- to 2-percent employment decline, although imprecision in the estimate does not allow us to reject the hypothesis that the effect is zero. If both tort and contract causes of action are recognized, the effect is cumulative, equaling a 4- to 5-percent drop in employment. In general, the tort-versus-contract distinction appears to be more important than differentiating states based on the legal doctrines available.

The effect of recognizing a tort cause of action upon aggregate employment is insignificant for the group of manufacturing industries, but there is about a 3-percent decline in employment for the group of nonmanufacturing industries. The effect is even larger when we examine the services sector and the finance sector, nearly 6 percent and 7 percent, respectively.

The industry's disaggregated data show some evidence of an effect of wrongful termination upon firms' short-run speed of adjustment of employment levels. In the nonmanufacturing sector, and the retail and financial industries in particular, recognition of a tort cause of action reduces the speed of employment adjustment in response to changes in economic conditions.

CONCLUSIONS

Since wrongful-termination litigation is so rare, the aggregate legal costs are only about 0.1 percent of the total wage bill. However, either because firms are extremely risk averse or because decisionmakers are avoiding what could be larger liabilities, the indirect economic effects of wrongful termination are significant. Using standard results from the general literature on labor demand, we estimate that the employment response to increased wrongful-termination liability is consistent with about a ten percent increase in wages. This implies that the indirect effects of wrongful-termination doctrines are 100 times more costly than the direct legal costs of jury awards, settlements, and attorney fees.

Whether or not these changes are desirable depends upon whether or not there are compensating benefits to employees, firms, or society at large. Surely, some workers benefit from the enhanced job security, and others receive compensation in isolated cases of egregious employer behavior. The limitations on manager discretion in firing employees could also be more generally efficient, with benefits accruing to firms as well. If so, firms may already have incentives to adopt job

security provisions and mechanisms to protect employees against mistreatment. However, the legal system reduces uncertainty about the enforceability of the implicit agreement and provides an external guarantee, thereby enabling management and labor to reap the mutual benefits of a long-run employment relationship. Workers are willing to invest in firm-specific human capital, are willing to work to enhance long-term firm profitability, and may be willing to accept a lower wage rate in return for job security.

In the absence of case-study information on individual firms and microeconomic data describing the internal decisionmaking process of corporate management, it is not possible to come to any definitive conclusions concerning the efficacy of wrongful-termination doctrines. Indeed, the aggregate analysis does not identify the source of the implied cost increases or permit a judgment of whether or not they are desirable. However, we do know that these changes are very significant and that they dwarf the direct legal expenses associated with this new litigation.

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1. INTRODUCTION

The labor market in the United States has always been more flexible than those of other Western societies. In the spirit of the laissez-faire tradition, American enterprises have been relatively unencumbered in dismissing poor performers or adjusting the labor force in response to exogenous changes in product demand, technological change, or the competitive environment. Indeed, the U.S. system has been the envy of European business managers, who attribute a variety of their own economic ills, including high costs, unemployment, and slow growth, to a series of "worker protection" regulations adopted during the 1960s and 1970s.[1] Although the conventional wisdoms concerning "cause and effect" are not well-grounded in solid data, workplace restrictions remain the suspected culprit.[2] Thus, despite the dearth of convincing evidence, several countries, including the United Kingdom, Germany, France, Italy, and Spain, have recently introduced legislation that would relax the legal restrictions on employers.[3]

At the same time that the European economic community is attempting to enhance employer flexibility, the prevailing trends in the United States flow in the opposite direction. For example, the 1988 Worker Adjustment and Retraining Notification Act (WARN) requires certain employers to provide workers and local government officials with 60 days advance notice of impending layoffs or plant closings.[4]

[1]For a description of these regulations and a discussion of their claimed effects on business in Western Europe, see International Organization of Employers (1985).

[2]See OECD (1986) for a review of the rather sparse empirical evidence. More recently, Burgess (1988) found that unfair dismissal provisions and redundancy payment provisions have reduced business flexibility in Great Britain. Also, Abraham and Houseman (1989a and 1989b) offer some evidence that U.S. employers adjust more rapidly to output shocks than do their Japanese and German counterparts. Finally, Lazear (1990) analyzes data from 22 countries and finds some provocative correlations between employment rates and mandated severance pay.

[3]Although the specifics vary from country to country, most of the proposals relax the legal standards in the area of dismissal protection and/or create loopholes that provide increased managerial discretion in adjusting employment. For example, some of the new codes facilitate the use of fixed-term contracts or temporary employees. See Buechtemann (1990) for a summary of recent legislative proposals for change.

[4]Penalties for noncompliance include back pay and a fine of $500 per day for failing to notify local authorities. However, this requirement only applies to firms employing 100 or more workers. In addition, the layoff must involve either 500 workers or at least one-third of the workforce. A plant closing is defined as an employment loss for 50 or more employees. Other exemptions also exist. As a result, only a small percentage of dismissed employees are protected by this statute. Ehrenberg and Jakubson (1988)

In addition, the number of discrimination suits involving job protection for women and minorities increased rapidly during the 1980s.[5]

The most important of the trends may be a series of state-court rulings that have reduced employer discretion in firing workers. As we will see, the relentless erosion of "employment at will" is thought to have important implications for labor-market flexibility in certain jurisdictions. For example, recent bench rulings and jury awards have received a great deal of media attention.[6] Interviews with business managers suggest that the threat of liability for wrongful termination[7] has had a significant bearing on corporate decisionmaking and has led some firms to make substantive changes in their human resource practices.[8] Finally, individual corporations, as well as employer and industry associations, have spearheaded a substantial effort to pass worker protection legislation. These lobbying activities have emerged in those states in which common-law restriction remedies are most detrimental to business well-being.[9] Most of the proposed statutes codify rules for employee dismissal and establish modest and standard remedies; it is clear that employer risk is significantly reduced. Strong business support for such changes is *prima facie* evidence that the current system affects the cost of doing business.

Although such evidence is suggestive, it falls short of providing convincing documentation that the expanding employment liability is important to the U.S. economy. We hope to begin filling this gap by providing, for the first time, empirical estimates of the aggregate ef-

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estimate that, in New York State, only 4.6 percent of unemployment is due to layoffs covered by WARN.

[5]For a discussion of these trends, see Donohue and Siegelman (1989). Although much of the increase appears to be correlated with higher unemployment rates, their empirical analysis fails to explain a large portion of the trend. They develop survey evidence that suggests that the increase is not due to increased discrimination but, rather, conclude that "the effects of Title VII have changed from the opening up of access to jobs for traditional victims of discrimination, especially blacks and women, to the protection of those who already have jobs. What we now have may be conceived as a sort of implicit tort of wrongful discharge—absent the potential for punitive damages—for virtually all workers except white males under 40."

[6]For examples of media coverage, see "When Can An Employee Be Fired?" *Los Angeles Times*, July 28, 1987, and "Legal Action Invades the U.S. Work Place," *The National Law Journal*, March 7, 1988.

[7]Also referred to as "unjust dismissal."

[8]See Reuter (1988). In a series of "focus group" discussions, business representatives also cited environmental and products liability as major causes of corporate concern.

[9]For an interesting analysis of the link between legislative activity and the evolving common law, see Krueger (1991).

fects of wrongful termination. In Sec. 2, we begin by outlining the major exceptions to employment at will that have been adopted by state court jurisdictions. Particular attention is given to those elements of the common law that are likely to have implications for business decisionmaking. Then, in Sec. 3, we examine the timing and pattern of state adoption of the new doctrines. In an econometric analysis, we identify those political, legal, and economic factors that are correlated with, and possibly causes of, the changes in court views of employee job protection. By providing clues about the origins of these legal changes, this exercise can help us to gain insights about their possible effects. In addition, by simultaneously considering the economic factors that may have induced changes in the legal environment, we are better able to derive reliable causal inferences about the subsequent effect on labor markets.[10] In Sec. 4, we evaluate the likely consequences of the legal changes for the behavior of business decisionmakers and derive testable implications for labor-market outcomes. In Sec. 5, we present our empirical findings on state-level employment effects that can be linked to expanding liabilities. We consider the policy implications of our results in our final section.

[10]This is a technical issue that is more fully explained in Sec. 3. The upshot is that if legal differences across states are caused by economic factors, it becomes difficult to establish causation between changes in the law and subsequent labor-market outcomes.

2. THE CHANGING LEGAL ENVIRONMENT: FROM EMPLOYMENT AT WILL TO WRONGFUL TERMINATION

The 1980s witnessed a virtual revolution in the common law regarding the relationship between the employer and the employee. The universally accepted employment-at-will doctrine has been gradually eroded by a series of judicial decisions at the state level. In this section, we review the new legal doctrines that state courts have recognized as exceptions to the common-law employment-at-will rule. Our first aim is to highlight the important features of the new wrongful-termination doctrines in terms of the implications for employer behavior. Based on the features of the new doctrines, we present a characterization of the legal environment and identify the timing of the changes in the common law. This characterization allows us to chronicle the dramatic changes in the legal environment across the 50 states in the last decade.

CHANGES IN THE COMMON LAW

The Employment-at-Will Doctrine

The historical common-law rule that governs the relationship between employers and employees is known as the employment-at-will doctrine. According to the rule, when the hiring is for an indefinite period of time, the employment relationship can be terminated at any time by either party for good cause, for bad cause, or for no cause at all. Known as "Wood's Rule," the employment-at-will doctrine is attributed to an 1877 treatise by Horrace Gray Wood (Shapiro and Tune, 1974). In a departure from English common law, Wood's Rule was first adopted by New York's highest court in the 1895 case of *Martin v. New York Life Insurance Co.* [148 N.Y. 117, 42 N.E. 416 (1895)]. The employment-at-will rule was not strictly a feature of the common law, as several states, including California, eventually codified the doctrine (Cal. Labor Code 2922) (Mauk, 1985). The universal adoption of the common-law employment-at-will rule by the state courts is interpreted by commentators as a sign of the laissez-faire, free enterprise philosophy that predominated in the U.S. at the turn of the century (Feinman, 1976; Shapiro and Tune, 1974).

Prior to the recent judicially created exceptions to the employment-at-will rule, statutory and contractual provisions placed some limita-

tions on the application of the employment-at-will rule to all employment relationships (without a fixed-term contract). Federal statutes, in protecting certain activities and certain classes of workers, limit the general applicability of the employment-at-will rule. Examples include the National Labor Relations Act of 1935 (prohibiting termination for labor-union activities), the antidiscriminatory provisions in Title VII of the 1964 Civil Rights Act (providing protection against discrimination on the basis of race, color, sex, religion, or national origin), and the 1967 Age Discrimination in Employment Act. Many states have also adopted similar antidiscrimination statutes, as well as statutes protecting workers against discharge for certain activities, such as filing a worker's compensation claim or serving on a jury. In addition, federal civil service workers have had provisions requiring just-cause termination since 1912, while similar guarantees were afforded to state and local workers in the 1960s (Perritt, 1984). Job-security provisions in union contracts requiring termination only for cause also represent another exception to the application of the employment-at-will rule.

Judicially Created Exceptions

Despite the historical acceptance of the employment-at-will doctrine by the state judiciary, the last decade has witnessed a rapid transformation of the legal environment through the recognition of several exceptions to the doctrine. The erosion of the employment-at-will rule is typically associated with three new legal doctrines: the implied contract exception, the public-policy exception, and the covenant of good faith and fair dealing. Although the 1980s are identified with the adoption of these new doctrines, many of the precedent-setting cases occurred as many as 20 years earlier.

Under the implied contract exception, the courts have held that the employment relationship is governed by contractual provisions that place restrictions on the ability of the employer to terminate the employee under the employment-at-will rule. The evidence of a "contract" between the employer and the employee has been construed explicitly, based on oral or written statements as to the nature of the employment relationship, and implicitly, based on employment practices or the context of the employment relationship. For example, in the case of *Drzewiecki v. H & R Block, Inc.* [24 Cal. App. 3d 695, 101 Cal. Rptr. 169 (1972)], the California Appellate Court ruled in favor of an employee who had been terminated contrary to the express, written promise of the employer to terminate only if he "improperly conducted his business." In another leading case, *Touissant v. Blue*

Cross & Blue Shield [408 Mich. 579, 292 N.W. 2d 880 (1980)], the Michigan Supreme Court found that a policy manual stating that employees could only be terminated for cause defined a contractual right to a just-cause standard. California also provides one of the few examples where the employment context itself is taken to represent the employment contract. *Pugh v. See's Candies* [116 Cal. App. 3d 311, 171 Cal. Rptr. 917 (1981)] involved the case of an employee with 32 years of service who started as a pot washer and ended as a vice president. The Appellate Court in *Pugh*, and later the Supreme Court in *Foley v. Interactive Data Corp.* [47 Cal. 3d 654, 254 Cal. Rptr. 211, 765 P.2d 373 (1988)], held that an implied-in-fact promise could be based on:

> . . . the personnel policies or practices of the employer, the employee's longevity of service, actions or communications by the employer reflecting assurances of continued employment, and the practices of the industry in which the employee is engaged. [116 Cal. App. 3d at 327 (1981)]

In many of the cases where these contract-based exceptions have been recognized, the courts have not required the employee to provide consideration to the employer in exchange for the express or implied contract provisions, and in some cases, the courts have not even required that the employee be aware of the policy.

While the implied contract exception overrides the presumption of employment at will based on the contractual nature of the employment relationship, the public-policy exception applies even in the case of an employment-at-will employee. The public-policy exception, sometimes referred to as the tort of abusive or retaliatory discharge, precludes employers from terminating employees for refusing to commit an act that public policy condemns or for committing an act that public policy protects. Again, California provides one of the earliest examples of the public policy exception in the case of *Petermann v. International Brotherhood of Teamsters* [174 Cal. App. 2d 184, 344 P.2d 25 (1959)]. The Appellate Court held that the termination of an employee who refused to commit perjury on behalf of the employer violated the public policy that would encourage employees not to violate the law. In other cases, the courts have found in favor of employees who were terminated for refusing to commit other unlawful or unethical acts, for performing public obligations, for exercising a statutory right or privilege (e.g., filing a worker's compensation claim or serving on a jury), or for reporting an employer's unlawful conduct (i.e., whistleblowing) (Mauk, 1985).

The final exception to the employment-at-will rule is potentially the most far-reaching of the three, in that it can imply that termination must always be for cause. In its most expansive application, the implied covenant of good faith and fair dealing has been applied to the employment context as an implied-in-law covenant, i.e. a covenant that applies to all employment relationships. In the case of *Cleary v. American Airlines* [111 Cal. App. 3d 443, 168 Cal. Rptr. 722 (1980)], the court held that an 18-year employee had to be treated in good faith, requiring that the employee could only be terminated for cause. Prior to the *Cleary* decision, the covenant of good faith and fair dealing had been interpreted as a feature inherent in all employment contracts. Thus, in the New Hampshire case of *Monge v. Beebe Rubber Co.* [114 NH 130, 316 A.2d 549 (1974)], the plaintiff had to first prove the existence of an employment contract before the covenant of good faith could be applied. With the decision in *Foley v. Interactive Data Corp.* [47 Cal. 3d 654, 254 Cal. Rptr. 211, 765 P.2d 373], the California Supreme Court, reversing the Appellate Court ruling in *Cleary*, held that the covenant of good faith arises out of an employment contract rather than existing in every employment relationship. The *Foley* decision placed California in line with the handful of other states who had recognized the good faith exception in its more limited form.

In a number of states, rather than creating judicial exceptions, the courts have deferred to the state legislatures to adopt exceptions to the traditional employment-at-will doctrine. While numerous bills have been introduced into state legislatures, Montana is the only state, thus far, to adopt a statute recognizing the new legal doctrines. The 1987 Wrongful Discharge from Employment Act codified a Montana employer's liability for discharges that violate public policy (covering health, safety, or welfare and established by constitutional provision, statute, or administrative rule) or that violate the express terms of written personnel policies. Most importantly, the Montana law places limitations on the damages that an employee can recover, allowing recovery of lost wages and benefits for no more than four years after the date of the discharge. Punitive damages are allowed only in cases involving fraud or malice, and compensatory damages for emotional distress are ruled out. The statute does not apply to employees covered by collective bargaining agreements or employees with fixed-term contracts, nor does it apply to discharges in violation of other statutes, such as antidiscrimination laws.

CHARACTERIZING THE LEGAL ENVIRONMENT

To assess the economic impact of wrongful-termination doctrine, it is important to carefully characterize the legal environment. While the above three-way classification is one way of characterizing the new exceptions to the employment-at-will doctrine, a number of other features are potentially important. Four issues arise in particular:

- Does the cause of action recognized in various exceptions to the employment-at-will doctrine sound in contract or in tort?
- Is the exception to the employment-at-will doctrine broad or narrow?
- Which court recognized the exception?
- Does a ruling *in dicta* indicate a change in the legal environment?

The first two questions point to the complexities of the wrongful-termination doctrines beyond the simple division into public-policy, implied contract, and good faith exceptions. The last two questions relate to difficulties associated with identifying the timing of the legal changes.

Contract vs. Tort. Whether an exception to the employment-at-will doctrine represents a contract or tort cause of action is an important distinction from the perspective of both the plaintiff and the defendant. Generally, in a contract cause of action, a plaintiff is eligible for compensatory damages associated with the contractual losses. In the case of a terminated employee, these losses are calculated as the employee's lost earnings, less any amount that the employee could have earned to mitigate the damages. In addition to contractual losses, tort causes of action can give rise to two other types of damages: (1) compensatory damages for emotional distress and (2) punitive damages. These two additional classes of damages lead to increased liability associated with tort causes of action as compared with contract causes of action. In addition, there is greater uncertainty associated with punitive damages and damages for emotional distress since they are determined by a jury without the benefit of a clear formula. The multimillion dollar awards that have received so much attention are usually the result of substantial awards for punitive damages and emotional distress. For example, a jury awarded a Montana woman, terminated after 28 years of service, $94,170 in

economic damages, $100,000 for emotional distress, and $1.3 million in punitive damages.[1]

In the context of the three exceptions to the wrongful-termination doctrine, only the implied-contract exception is consistently recognized as a contract cause of action. Both the public-policy exception and the implied covenant of good faith have been recognized in different states as tort or contract causes of action. While the public-policy exception has generally been recognized as a tort doctrine, several states have ruled that plaintiffs are limited to contract damages. For example, the Supreme Court in Wisconsin held in *Brockmeyer v. Dun & Bradstreet* [109 Wis. 2d 44, 325 N.W. 2d 834 (1983)] that actions for discharges in contravention of public policy would sound in contract and not in tort. Likewise, the covenant of good faith has been recognized both as a contract and a tort cause of action. The California Supreme Court in the landmark *Foley* decision reversed the previous Appellate court ruling in which the covenant of good faith was recognized as a tort cause of action. In fact, when it has been recognized, the good-faith exception has most often been accepted as a contract cause of action. Given the potential importance of the difference in contract versus tort doctrines, we make this distinction in our characterization of the legal environment.

Broad vs. Narrow. In the case of the public policy exception, the definition of what constitutes a violation of public policy has varied across the state courts. Depending upon how public policy is defined, the public-policy exception can impose greater or lesser restrictions on an employer's behavior. In its narrowest form, public policy has been limited to statutory expressions, i.e., the employee is terminated for refusing to violate a statute or for exercising a statutorily protected right.[2] The public-policy exception has also been interpreted more broadly as in the New Jersey case of *Pierce v. Ortho Pharmaceutical Corp.* [84 N.J. 58, 417 A.2d 505 (1980)], in which the court held that public policy could be expressed by legislation, administrative rules and regulations, judicial decisions, and, in some instances, professional codes of ethics. Given this broader interpretation, the

[1]This judgment, based on the tort of an implied covenant of good faith and fair dealing, was later upheld by the Montana Supreme Court in *Flanigan v. Prudential Federal Savings and Loan* [720 P.2d 257].

[2]The requirement that a terminated employee must show that the public policy that was violated is expressed in some statute may not be as restrictive as it appears. For example, the Arizona Supreme Court in *Wagenseller v. Scottsdale Memorial Hospital* [(147 Ariz. 370, 710 P.2d 1025 (1985)] held that a nurse's termination for her refusal to engage in certain vulgar activities violated the public policy of the state as expressed in statutes against indecent exposure.

employer faces greater risk that an employee can demonstrate that their termination violates some "public policy." In our characterization of the legal environment, we make a distinction between the narrow and broad versions of the public-policy exception.

Appellate versus Supreme Court. The characterization of the legal environment requires the identification of the precedent-setting cases in each state for each of the various exceptions to the employment-at-will doctrine. Depending upon the structure of the state courts, many influential rulings are initially decided by the state's appellate court, prior to confirmation or rejection by the state supreme court. For example, the 1980 appellate court ruling in *Cleary* recognized the covenant of good faith and fair dealing as a tort cause of action in California. Until the ruling was overturned by the state supreme court in the 1988 *Foley* decision, employer behavior was most likely to have been affected by the appellate court decision, even though it had not yet been upheld by the supreme court. Consequently, for purposes of identifying key changes in the legal environment, we consider the recognition of one of the new doctrines by a state appellate court as an indication of a change in the legal environment. In states where there is no appellate court, we identify key decisions only with those handed down by the state supreme court.[3]

Rulings in Dicta. Another issue in identifying the timing of changes in the legal environment concerns rulings *in dicta* by a state court. In these cases, the court states that it is prepared to recognize an exception to the employment-at-will doctrine given the right circumstances but that the facts in the present case do not warrant a ruling in favor of that doctrine. Arkansas is one example where the Supreme Court stated in *MBM Co. v. Counce* [268 Ark. 269, 596 S.W. 2d 681 (1980)], that they recognized the public-policy exception in theory even though the facts of the case did not warrant finding in favor of the plaintiff. This willingness to recognize the new doctrine was later confirmed in the 1988 case of *Sterling Drugs, Inc., v. Oxford* [294 Ark. 239, 743 S.W. 2d 380 (1988)]. Rulings *in dicta* may be made by appellate or supreme courts and can signal a change in the legal environment that is likely to affect employer behavior. Given the uncertainty associated with rulings *in dicta*, we record these decisions as changes in the

[3]In some cases, federal district courts have interpreted previous state court decisions or anticipated future decisions as an indication that the state has or will recognize a particular wrongful-termination doctrine. However, the state courts are not bound by the opinions of the federal courts; hence, we do not count the federal district court cases as precedent-setting decisions. This is one reason why our characterization of the legal environment may differ from other sources.

legal environment only when they are made by the state supreme court.

In addition to the issues just mentioned, there are a number of other finer points of a state's common law that can affect the extent to which a judicially recognized exception creates a new liability for employers. For example, implied contract exceptions may be recognized only in cases where the employee provides some form of consideration in exchange for the express or implied contract. In some states, the courts have delineated situations where state statutes preempt an employee from pursuing common-law remedies. While these characteristics are also important for a complete understanding of the wrongful-termination doctrine, a full characterization of the common law in each state is beyond our scope. We believe that we have identified the important dimensions along which states vary and that these are the characteristics of the legal environment that will affect employer behavior.

Because of the complexities of the legal doctrines themselves and the timing of the changes, many sources do not agree on how to characterize the status of the common law in each state (c.f., Gould, 1986; McCarthy, 1985, 1987; Bureau of National Affairs, 1989; Cathcart and Dichter, 1989).[4] Rather than relying on a single source, we consulted a number of reference sources to identify the major legal decisions in each state. Using this analysis, we prepared a consistent framework for characterizing the changes in the legal environment from state to state and over time.

Table 2.1 presents our characterization of the timing of the adoption of the various legal doctrines for the 50 states and the court recognizing the exception. In the case of the public-policy exception, we delineate narrow and broad versions of the exception and identify tort and contract versions as well. The covenant of good faith exception is characterized by contract and tort exceptions, while we specify a single type of implied contract exception. For this characterization of the legal environment, we have identified the precedent-setting cases as those where (1) an appellate or supreme court recognizes the new legal doctrine, or (2) a supreme court indicates, *in dicta*, a willingness to recognize the doctrine given the correct circumstances. Appendix A contains additional detail regarding our characterization of the legal

[4]The variation among sources applies both to the characterizations by legal scholars as to which states have adopted the various doctrines and to the sources that serve as references for employers.

Table 2.1

Judicially Recognized Exceptions to Employment at Will

State	Implied Contract	Public Policy		Good Faith	
		Narrow	Broad	Contract	Tort
AL	S 87				
AK	S 83	S 86		S 83	
AZ	S 84	S 85		S 85	
AR	S 82	S 80,S 88[C]			
CA	A 72	A 59	S 80	S 88	A 80/S 88
CO	A 84	A 88			
CT	S 84	S 80		A 85	
DE					
FL					
GA					
HI	S 86	S 82	S 82	S 89	
ID	S 77	S 77			
IL	S 87	S 78	S 81		
IN	S 87	S 73			
IA	S 87	S 85			
KS	A 84	A 81	S 88		
KY		S 83			
LA					
ME	S 84				
MD	A 85	A 81			
MA	S 88	S 82		S 77	
MI	S 80	A 76			
MN	S 83	A 86			
MS					
MO	A 83/S 88	A 85			
MT	L 87	S 80		S 83	S 83
NE	S 83	S 87			
NV	S 83	S 84		S 87	S 87
NH		S 74[C]	S 81	S 74	
NJ	S 85	S 80	S 80		
NM	S 80	A 83			
NY	S 82	A 78[C]/A 83			
NC		A 85			
ND	S 86	S 87			
OH	A 82	A 85/S 86			
OK	A 77	S 89			
OR	S 78	S 75			
PA		A 78			
RI		S 88			
SC	S 87	S 85			
SD	S 83	S 84			
TN		S 84			
TX		A 84			
UT	S 89				

Table 2.1—continued

State	Implied Contract	Public Policy		Good Faith	
		Narrow	Broad	Contract	Tort
VT	S 86	S 79	S86		
VA		S 85			
WA	S 77	S 77			
WV	S 86	S 78	S 84		
WI	S 85	A 82[C]			
WY	S 85	S 85			

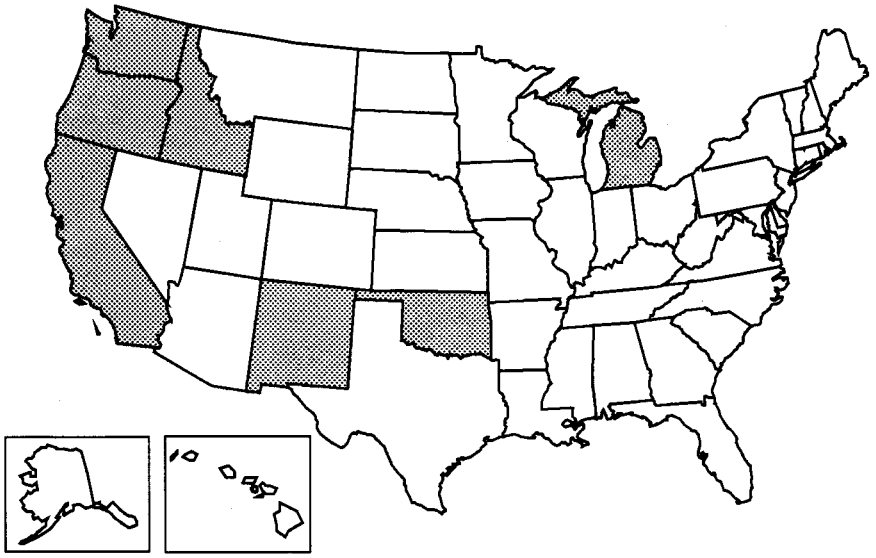
KEY: [C] Contract exception; S = Supreme Court decision, A = Appellate Court decision, L = legislation; year/year = ruling overturned; year, year = ruling modified

environment, referencing the cases associated with the decisions shown in Table 2.1.

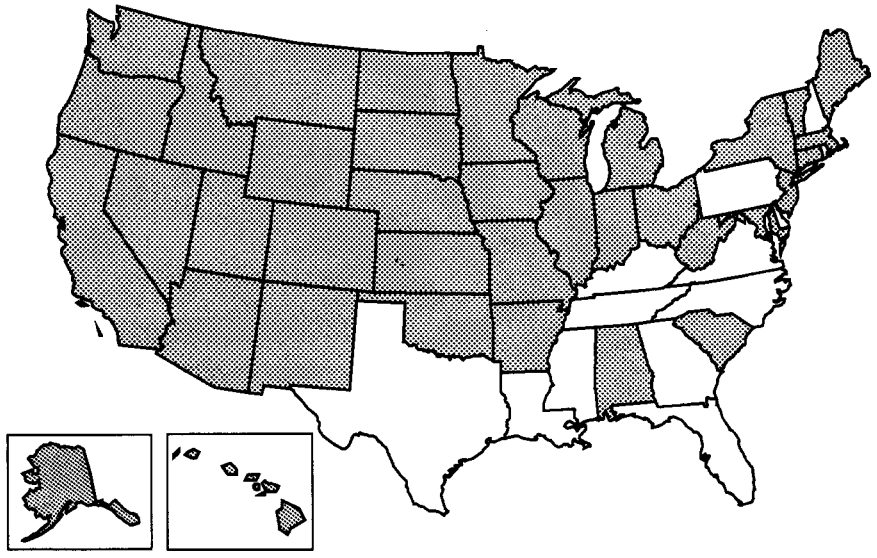
THE CHANGING LEGAL ENVIRONMENT OVER TIME

The information in Table 2.1 chronicles a rapidly changing legal environment. While a number of key decisions occurred before 1980, the pace of change increased dramatically during the 1980s. Consider, for example, the implied-contract exception. Figure 2.1 demonstrates the rapid adoption of this exception to the employment-at-will doctrine during the 1980s. In 1980, only seven states had recognized the implied contract exception, California leading the way with the 1972 *Drzewiecki* decision. Several other Western states, as well as Michigan, soon joined California in recognizing this doctrine. By 1989, 29 other states had followed suit, so that only 14 states, concentrated in the Eastern seaboard and New England, had not recognized the implied-contract exception. The public-policy exception was also adopted with the same speed over the decade, with 16 states recognizing the doctrine in 1980, increasing to 40 states by 1989. Likewise, six of the nine states recognizing the good faith exception did so during the 1980s.

Figure 2.2 demonstrates the broader impact of these changes by illustrating the number of states that recognized one, two, or three new doctrines in 1980 and 1989. At the start of the decade, 13 states had recognized one of the doctrines and five states had adopted two of the new doctrines. Only California had recognized all three exceptions to the employment-at-will rule. By 1989, California was joined by Alaska, Arizona, Connecticut, Idaho, Massachusetts, Montana, and Nevada, all states that recognized the three doctrines. In contrast,

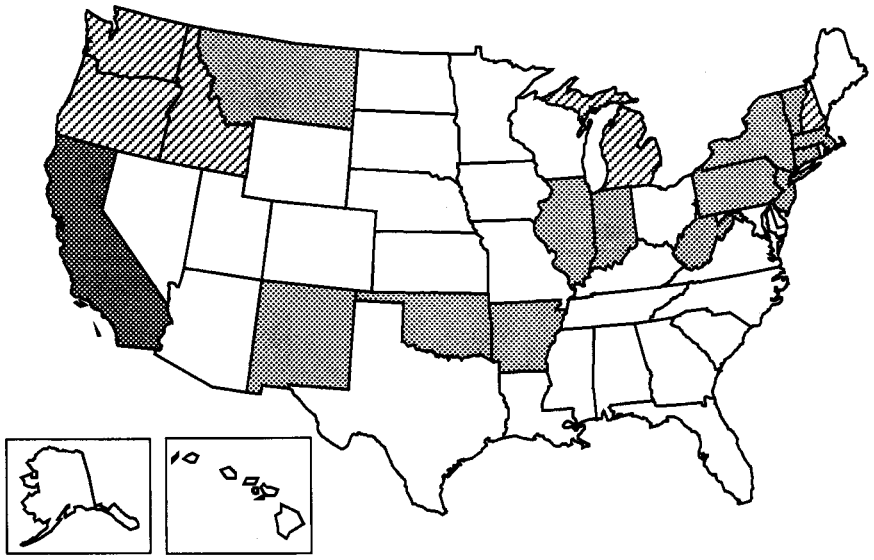


a. States Recognizing in 1980

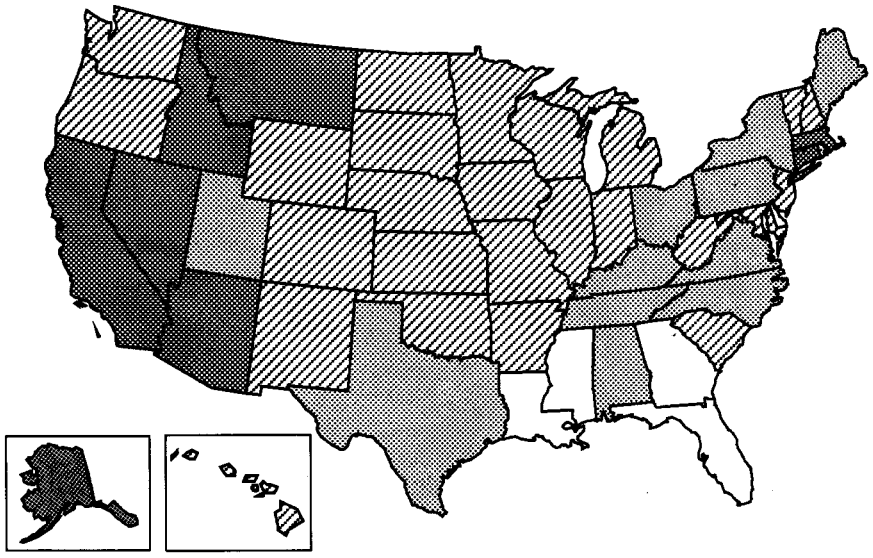


b. States Recognizing in 1989

Fig. 2.1—Recognition of Implied Contract Exceptions



a. States Recognizing in 1980



b. States Recognizing in 1989

One new doctrine Two new doctrines Three new doctrines

Fig. 2.2—Recognition of New Legal Doctrines

only Delaware, Florida, Georgia, Louisiana, and Mississippi remained strict employment-at-will states. Again, there is a distinct regional pattern in the willingness to recognize the new doctrines, with Western states, such as California, taking the lead, and several Southern states failing to adopt any exception to the traditional employment-at-will rule.

Table 2.1 also demonstrates that, despite the broad recognition of the new doctrines, fewer states have adopted the most liberal version of the public-policy exception and fewer still the covenant of good faith and fair dealing tort exception. Furthermore, a number of states have reversed initial decisions recognizing one of the new doctrines, such as New York with the public-policy exception and California with the tort version of the covenant of good faith.

3. EXPLAINING THE CHANGES IN THE LEGAL ENVIRONMENT

The new wrongful-termination doctrines adopted by the state judiciaries over the past decade represent a significant departure from the common law employment-at-will rule which had been in place for almost a century. In 1985, when the Texas Supreme Court overturned an 1888 case that set the precedent for the employment-at-will doctrine and instead recognized the public-policy exception in the case of an employee discharged for refusing to commit an illegal act, the court stated:

> Upon careful consideration of the changes in American society and in the employer/employee relationship during the intervening 97 years since the *East Line & RRR Co. v. Scott* decision, we hold that the situation which led to that decision has changed in certain respects. [*Sabine Pilots, Inc. v. Hauch*, 687 S.W. 2d 733 (1985)]

Although the court does not list those factors that have changed since the initial recognition of the employment-at-will rule, the statements by this court and other courts suggest that the changing legal doctrines are not random events but, rather, are likely to be associated with changes in a variety of underlying social, economic, or political forces. In this section, we explore what factors are associated with the variation from state to state in the pattern and timing of the adoption of the new doctrines. We address this question by using statistical techniques to model the relationship between the probability that a state has one of the new doctrines and that state's characteristics, using data from 1980 to 1987.

This analysis of the factors that explain the changing legal environment serves two purposes. First, we can test a number of hypotheses regarding the factors that have been suggested as explanations for the adoption of the new wrongful-termination doctrines. Similar analyses have demonstrated that changes in the legal environment, whether common law changes or legislative changes, are often associated with changes in economic conditions, social forces, or political ideology. For example, Cone and Dranove (1986) examine the factors associated with a state's adoption of hospital rate setting laws, while Krueger (1991) analyzes the determinants of the introduction of employment protection legislation in state legislatures during the 1980s.

Second, this analysis will serve as a first step in the analysis of the impact of changes in the legal environment on employment outcomes, presented in the next section. If changes in the legal environment are not simply exogenous or predetermined events, then it is important to simultaneously model changes in the legal environment and how the legal environment affects employment outcomes. This approach has been taken in other studies. For example, Heckman (1976) reestimates a model presented by Landes (1968) of the effect of fair-employment legislation on black-white wage ratios, where the existence of a fair-employment law is endogenous. Similarly, Edwards (1978) estimates a simultaneous model of the determinants of compulsory schooling legislation and schooling enrollment rates.

THE SUPPLY AND DEMAND FOR WRONGFUL-TERMINATION DOCTRINES

Although there has been considerable commentary in the literature about the nature and consequences of the new wrongful-termination doctrines, less attention has been paid to possible explanations for the dramatic legal changes that occurred in the 1980s. A few hypotheses have been offered to explain the erosion of the employment-at-will rule in the last decade. One explanation for the increased willingness of the state judiciaries to adopt the wrongful-termination doctrines is the decline in the fraction of the work force that is unionized (Gould, 1986, 1988). Alternatively, the expansion of job protection rights may be the result of the antidiscriminatory movement of the 1960s and 1970s which increased workers' awareness of their right to fair-employment practices (Gould, 1986, 1988). Another explanation is that increased litigiousness has increased the number of employees seeking compensation through the civil liability system for a termination that they believe was unjust. Other events of the 1980s may also be related to the changing legal environment, such as the increased economic dislocation brought about by the recession in the early 1980s. Furthermore, the regional patterns in the timing of the adoption of the new legal doctrines illustrated in Figures 2.1 and 2.2 suggest that there may be spillover effects from one state to another.

These explanations can be viewed from the perspective of a model of supply and demand for new legal doctrines. Demand for new legal doctrines is determined by those who would benefit from the legal changes, for example nonunionized or unemployed workers. Supply is determined by those who would bear the costs of the legal changes, such as employers or the judiciary. Some supply and demand factors may be operating at the national level and may affect all states

equally. Changes in these aggregate variables over time can explain the increased recognition of the wrongful-termination doctrines in the 1980s. Other supply or demand factors may vary substantially *across* states and over time. These factors may explain the variation *across* states in the pattern and timing of adoption of the new legal doctrines. The demand and supply side factors and the variables we use to measure them are listed below.[1]

Declining unionization. In the last decade, there has been an overall decline in the fraction of the work force that is unionized, from around 30 percent in 1975 to less than 20 percent in 1987. The reduction in unionization increases the fraction of workers who do not receive employment protection through their collective bargaining agreements, thereby increasing the demand for common-law remedies to wrongful discharge. Thus, we expect declines in the state's degree of unionization to increase the likelihood that the state has an exception to the employment-at-will doctrine.

Business cycle. The early 1980s witnessed a substantial economic downturn, with the unemployment rate reaching a post-war high in the 1981–1982 period. Some states, such as those in the Midwest, were particularly hard hit by the recession. An increase in the number of unemployed workers increases the number of employees who would benefit from employment protection, as the costs of termination are higher when the probability of finding another job is lower. A rise in the unemployment rate also increases the number of potential litigants, for example middle management, claiming they were wrongfully terminated. Consequently, we would expect to find a positive relationship between changes in a state's unemployment rate and the probability of having a wrongful-termination doctrine.

Increased litigiousness. We use the percentage change in the number of lawyers per capita from 1980 to 1985 as a proxy for the degree of litigiousness in a particular state. We hypothesize that an increase in the lawyer-to-population ratio, as a proxy for increased litigiousness, would increase the demand for wrongful-termination law and thereby increase the likelihood that a state would recognize a new doctrine.

[1]We also included other demand-side and supply-side variables in the model which are not reported here because the variables did not add to the explanatory power of the model. These variables included measures of the characteristics of the work force, such as the percentage of female and average education levels and other measures of the degree of litigiousness, such as the number of federal labor-law cases. The high degree of correlation among these variables may have contributed to their lack of significance.

Increased awareness of workers' rights. In addition to the hypothesized increase in litigiousness, workers have become increasingly aware of their rights in the employment context. Particularly, the advent of civil rights legislation at the federal and state level may have contributed to a growing perception on the part of workers that they can use the civil justice system to pursue claims of unfair treatment by their employers. While it is difficult to measure such attitudes, we include a series of year dummy variables to capture any time effects in the probability of having a new doctrine. We would expect that, over time, the magnitude of these year effects will increase the likelihood for all states of adopting the exceptions to the employment-at-will doctrine.

Ideological factors. Ideological factors may explain the willingness of a state's judiciary to provide increased job protection to workers through the wrongful-termination doctrines. We include two variables in our analysis to capture a state's attitude toward labor and a third variable to measure general ideological differences *across* states and over time. The first is an indicator of whether the state has a right-to-work provision. Such states are likely to be more resistant to adopting new common laws that favor workers over their employers. This variable serves as an indicator that greater weight will be attached to the costs of the new doctrines.

The second measure is the percentage of the work force that is unionized, which indicates a favorable attitude toward labor and therefore a lower expectation of the costs of the new doctrines. However, unions may not favor the new wrongful-termination doctrines, since job security is a common provision in collective bargaining agreements. Consequently, the unionization rate may also capture the cost to unions of the adoption of common-law remedies to unjust dismissal, thereby producing a negative relationship between the extent of unionization and the likelihood of adopting the new doctrines. In addition, we include a third variable measuring whether or not the state has a Republican governor as an indicator that the state is more conservative and therefore more resistant to change. Thus, we expect to find that right-to-work states and states with a Republican governor are less likely to have one of the new legal doctrines, while the effect of the degree of unionization is uncertain.

Other costs of new legal doctrines. The clear regional patterns in the adoption of the new legal doctrines evidenced in Figs. 2.1 and 2.2 suggest that there may be spillover effects from one state to another. As neighboring states or other states adopt the new doctrines, other courts become more willing to "supply" the new doctrines themselves,

since it is less costly to follow the precedent set by other states. One indication of this supply-side effect is that the courts, in their decisions, typically cite the number of other states that have already adopted that doctrine. However, negative effects may eventually set in, as the example set by the leading states fails to convince remaining states to follow suit. This may be due to perceptions on the part of the hold-out states of negative consequences of the new wrongful-termination doctrines. To capture these spillover effects, we measure the percentage of a state's geographic neighbors that have already adopted the new doctrine. We hypothesize that a state will be more likely to have one of the doctrines the higher the percentage of other states that have already adopted the doctrine. In our empirical model, we also allow for the possibility of a nonlinear relationship, so that the spillover effects may eventually be negative.

EMPIRICAL MODEL

Based on this supply and demand framework, our approach is to model the probability that a state in year t recognizes a particular exception to the employment-at-will rule. The empirical model relates the probability of recognition at time t to the characteristics of the state at time t, as well as state-specific characteristics that do not vary over time and aggregate variables that do vary through time. These characteristics measure the hypothesized supply and demand factors that determine the probability that a state has one of the wrongful-termination doctrines. The definitions and sources of the variables are provided in App. B.

The analysis requires that we define the legal doctrines that the model will predict. Given the legal complexities of the wrongful termination, there are numerous ways of categorizing the legal doctrines. For this analysis, we have characterized the legal environment in two ways. The first is based on the three legal doctrines of public policy, implied contract, and good faith, while the second is based on the tort versus contract distinction for the various doctrines. These two characterizations of the legal environment allow us to investigate the impact of different dimensions of the wrongful-termination doctrines, specifically the differences associated with the legal doctrines themselves and the differences associated with the remedies available based on those doctrines.

The first classification uses the three commonly identified wrongful-termination doctrines to define three legal environments: (1) a narrow public-policy exception, (2) an implied-contract or good-faith contract exception, and (3) a broad public-policy or good-faith tort

exception. In this classification, the three legal environments are not mutually exclusive; a state may have two or more of these classes of doctrines at the same time. Furthermore, given the reversal of judicial decisions, a state may have one of these classes of doctrines in one year and then not have it in the next. The three legal environments range from those with the smallest potential impact to those with the greatest potential impact. For example, the narrow public-policy exception applies only when the employee is terminated contrary to some public policy expressed statutorily, thereby making its application to employee discharge quite limited. In 1987, 37 states had recognized this particular doctrine. By grouping the implied contract with the good faith exception that sounds only in contract, we have combined two similar doctrines that generally require the existence of some form of express or implied contract. The existence of a contractual obligation between an employer and an employee may be more common, yet it may also be avoidable through changed procedures on the part of the employer. This type of legal environment also existed in 37 states in 1987. In contrast, in 1987, only nine states could be placed in the third category of broad public-policy and/or good-faith tort. States with this legal environment can be considered to be the most liberal in terms of the wrongful-termination doctrines.

The second classification makes the distinction between legal environments in which there is a contract cause of action available to a terminated employee versus one in which there is a tort cause of action. Again, the two types are not mutually exclusive nor are they irreversible, as a state may have recognized both contract and tort causes of action at any given time and may later reverse these decisions. In this case, the contract cause of action may be associated with any of the three doctrines (public policy [PP], implied contract [IC], or good faith [GF]). The tort cause of action is limited to the PP and GF doctrines, since the IC doctrine does not ever sound in tort. In 1987, 37 states had recognized one of the contract causes of action and 35 states had accepted one of the tort causes of action. Given the differences in the damages that can be recovered under the two causes of action, we believe that the tort-versus-contract distinction is important, particularly when we consider the impact on labor-market outcomes in the next section.

Given these two ways of characterizing the legal environment, we define the dependent variable as an indicator variable that equals 1 when the state has a particular doctrine and 0 when it does not. We use logistic regression to estimate the following model of the

probability of having doctrine d in state s at time t for years 1980 to 1987:

$$\log\left[\frac{p_{dst}}{1 - p_{dst}}\right] = X_{st}\beta + Y_s\gamma + Z_t\alpha + u_{dst}$$

where p_{dst} is the probability, X_{st} is a vector of state specific variables that vary over time, Y_s is a vector of constant state-specific variables, Z_t is a vector of aggregate time-varying variables, and u_{dst} is a random disturbance term. The dependent variable is the logarithm of the odds ratio for state s of having doctrine d at time t. For the period from 1980 to 1987, we observed each of the 50 states. Over this period, the dependent variable may initially be 0 and then become 1 in the year the doctrine is adopted and then will remain 1 until the end of the sample period or until the decision is reversed, in which case the dependent variable again becomes 0. This would be the case for New York, for example, where the narrow public-policy doctrine was recognized in 1978 but overturned in 1983. This model assumes that the supply-and-demand model applies to each state at each time, so that initial favorable decisions may be later reversed.[2]

DESCRIPTIVE FINDINGS

Before examining the results from the logistic analysis, we first present the characteristics of the states based on the status of the legal environment in 1987. Table 3.1 characterizes the states based on the three-way classification of narrow PP, IC, or GF contract, and broad PP or GF tort. For those variables that vary over time, we present the values in 1980 and 1987, and the mean over the 1980–1987 period for states without and states with the various doctrines. Table 3.1 shows that the states exhibit some of the patterns we would expect to see, given our hypotheses. For example, states without the doctrine are more likely to be right-to-work states, and this difference increases as we move from the narrow public-policy category to the broad PP or GF tort category. States with the doctrines also have a higher percentage increase in lawyers per capita and a higher degree of unionization. With the exception of the narrow public-policy

[2]While we prefer the model as presented, an alternative is to model the probability of adopting one of the legal doctrines without allowing for the possible reversals. This model is presented and estimated in App. C both for this first stage and for the second stage of the analysis of employment outcomes, presented in the next section. In both cases, the results are very similar. Consequently, we have chosen to highlight the results of our preferred specification.

Table 3.1

State Characteristics by 1987 Legal Environment Using the Three-Way Legal Classification[a]

		1987 Legal Environment					
		Narrow PP		IC or GF (Contract)		Broad PP or GF (Tort)	
Variable	Year	No	Yes	No	Yes	No	Yes
Right-to-work state	Mean	46.2	37.8	69.2	29.7	46.3	11.1
Change in lawyers per capita (%)	Mean	2.92	3.02	2.86	3.04	2.89	3.44
Neighboring states recognizing doctrine (%)	1980	34.7	35.4	6.4	18.4	6.1	17.0
	1987	72.3	77.0	53.0	72.5	14.5	30.4
	Mean	56.1	54.7	25.8	42.3	9.7	20.2
Union membership (%)	1980	18.9	21.6	17.2	22.2	19.8	25.9
	1987	16.3	19.5	13.6	20.4	17.7	23.3
	Mean	18.1	20.3	15.5	21.2	18.9	23.5
Change in union membership (%)	1980	−0.03	−0.15	0.08	−0.19	−0.99	−0.19
	1987	−0.74	−0.21	−0.75	−0.20	−0.48	−0.27
	Mean	−0.33	−0.31	−0.46	−0.26	−0.32	−0.28
Change in unemployment (%)	1980	−0.91	0.14	0.02	0.10	0.13	−0.17
	1987	−0.31	−0.34	−0.29	−0.35	−0.27	−0.63
	Mean	0.07	0.12	0.11	0.10	0.12	0.03
Republican governor	1980	23.1	43.2	46.2	35.1	39.0	33.3
	1987	53.8	45.9	46.2	48.6	46.3	55.6
	Mean	26.0	42.9	42.3	37.2	36.2	48.6
N		13	37	13	37	41	9

[a]PP stands for public policy, IC for implied contract, GF for good faith.

doctrine, the percentage of neighboring states recognizing the doctrine is higher for states with the doctrine than for those without. The hypothesized relationships are not apparent for the change in the percentage unionized or the change in the unemployment rate. In some cases, states without the doctrine have a greater absolute decline in unionization rates and a larger fall in the unemployment rate. Likewise, in some cases, a larger fraction of the states with the doctrines than without have Republican governors.

Table 3.2 presents similar comparisons using the two-way classification of the legal environment. For states with and without wrongful-termination contract and tort remedies, some of the same patterns are evident. States with tort or contract remedies have a higher in-

Table 3.2

State Characteristics by 1987 Legal Environment Using the Two-Way Legal Classification

Variable	Year	1987 Legal Environment			
		Contract		Tort	
		No	Yes	No	Yes
Right-to-work state	Mean	40.0	40.0	69.2	29.7
Change in lawyers per capita (%)	Mean	2.92	3.03	2.86	3.04
Neighboring states recognizing doctrine (%)	1980	12.8	28.2	31.2	29.6
	1987	58.1	78.9	69.3	72.4
	Mean	31.3	52.5	52.5	49.2
Union membership (%)	1980	19.2	21.6	17.2	22.2
	1987	16.6	19.6	13.6	20.4
	Mean	18.2	20.4	15.5	21.2
Change in union membership (%)	1980	–0.17	–0.09	0.08	–0.18
	1987	–0.75	–0.17	–0.75	–0.20
	Mean	–0.33	–0.31	–0.46	–0.26
Change in unemployment (%)	1980	–0.06	0.14	0.02	0.10
	1987	–0.34	–0.33	–0.29	–0.35
	Mean	0.07	0.12	0.11	0.10
Republican governor	1980	26.6	42.9	46.2	35.1
	1987	60.0	42.9	46.1	48.6
	Mean	30.0	42.1	42.3	37.2
N		13	37	15	35

crease in lawyers per capita and are more unionized. For states with a contract remedy, a higher fraction of neighboring states have also recognized that remedy than have not. However, contrary to our prediction, the same fraction of states without and with the contract remedy have right-to-work laws. In contrast, those states without a tort remedy are more than twice as likely to be right-to-work states. As before, the relationship between the status of the legal doctrine and the change in unionization, the change in the unemployment rate, and the party of the governor is not always consistent with our hypotheses.

These simple comparisons provide some indication of the differences between states based on the status of the legal environment in 1987. However, unlike the point-in-time comparisons in Tables 3.1 and 3.2, the logistic model presented below permits a multivariate analysis of the variation *across* states and over time in the probability of recog-

nizing a particular class of the various wrongful-termination doctrines.

RESULTS FROM THE LOGISTIC MODEL

Tables 3.3 and 3.4 contain the results of the logistic model predicting the status of the legal environment from 1980 to 1987 for the 50 states. The results in Table 3.3 are for the three-way classification of the legal environment based on the legal doctrines recognized, while Table 3.4 presents the results for the two-way classification based on the remedies available. All variables that vary by state and over time have been lagged three periods.[3] This specification allows, for example, for the degree of unionization in 1980 to affect the probability of having a particular legal environment in 1983. This is consistent with a model of decisionmaking in the civil justice system that assumes new legal doctrines would be adopted with a lagged response to changing economic, political, or social conditions. For example, several years will pass between the time a case is filed and when it is subsequently heard before a higher state court.

To illustrate the findings, consider first the results for the likelihood of recognizing the narrow public-policy doctrine found in column 1 of Table 3.3. The coefficients for the year variables measure the difference in the likelihood of recognizing the narrow public-policy exception in that year compared to 1980. The coefficients are positive and increasing through time, indicating a greater likelihood of recognizing the doctrine later in the 1980s. Furthermore, the coefficients from 1984 onward are significantly different from zero. These results are not surprising, given the increased recognition of the doctrine during the 1980s.

The patterns of the other coefficients confirm a number of our earlier hypotheses. Right-to-work states are significantly less likely to recognize the narrow public-policy exception, while a higher percentage change in lawyers per capita increases the likelihood of recognizing the doctrine. The greater the fraction of a state's neighbors that have recognized the public-policy doctrine, the greater the likelihood that the state will also adopt the doctrine. This effect diminishes, however, as the percentage of other states increases, as evidenced by the negative coefficient on the squared variable. As the percentage of the

[3]While the model fit is improved by using the lagged values, the results are similar when either contemporaneous or lagged values are used.

Table 3.3

Predicting the Status of the Legal Environment Using the Three-Way Legal Classification, 1980–1987: Maximum Likelihood Logistic Estimates (coefficient standard errors in parentheses)[a]

Variable	Narrow PP	IC or GF (Contract)	Broad PP or GF (Tort)
Intercept	–3.730*	–0.012	–5.592*
	(0.777)	(0.784)	(1.259)
Year = 1981	0.332	–1.099***	0.361
	(0.600)	(0.653)	(1.072)
Year = 1982	0.662	–0.424	0.869
	(0.563)	(0.605)	(1.023)
Year = 1983	0.694	0.779	1.138
	(0.524)	(0.536)	(0.925)
Year = 1984	1.172**	1.758*	1.741***
	(0.529)	(0.533)	(0.925)
Year = 1985	2.175*	2.398*	1.801***
	(0.620)	(0.604)	(1.020)
Year = 1986	2.498*	2.121*	2.055**
	(0.596)	(0.559)	(0.959)
Year = 1987	2.879*	1.861*	2.106**
	(0.620)	(0.586)	(0.972)
Right-to-work state	–1.314*	–2.051*	–3.334*
	(0.355)	(0.374)	(1.073)
Change in lawyers per capita (%)	45.805*	–27.619***	35.877
	(13.451)	(14.317)	(22.825)
Neighboring states recognizing doctrine (%)[b,c]	0.048*	0.046*	0.047***
	(0.013)	(0.015)	(0.027)
Neighboring states recognizing doctrine squared (%)[b,c]	–0.0007*	–0.0002	–0.0008*
	(0.0001)	(0.0002)	(0.0003)
Neighboring states recognizing (%)[b,c]			0.026
			(0.030)
Neighboring states recognizing squared (%)[b,c]			–0.0004
			(0.0005)
Union membership (%)[b]	0.074*	–0.007	0.064
	(0.026)	(0.025)	(0.039)
Change in union membership (%)[b]	–0.319*	–0.067	–0.562*
	(0.116)	(0.117)	(0.194)
Change in unemployment (%)[b]	0.072	–0.813*	–0.295
	(0.275)	(0.268)	(0.384)
Republican governor[b]	0.279	–0.300	–0.283
	(0.281)	(0.289)	(0.409)
–2 log likelihood	394.69	381.67	206.19
Chi-square	159.02*	163.81*	87.35*
N	400	400	400

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent,**5 percent, ***10 percent.

[b]Variable lagged three years.

[c]The percentage of states recognizing the doctrine refers to public policy (PP) for column 1, implied contract (IC) for column 2, and public policy and good faith (GF) for column 3.

Table 3.4

Predicting the Status of the Legal Environment Using the Two-Way Legal Classification, 1980–1987: Maximum Likelihood Logistic Estimates (coefficient standard errors in parentheses)[a]

Variable	Contract	Tort
Intercept	–0.574	–4.060*
	(0.732)	(0.753)
Year = 1981	–0.799	0.572
	(0.627)	(0.573)
Year = 1982	–0.242	0.667
	(0.581)	(0.542)
Year = 1983	0.731	0.696
	(0.516)	(0.503)
Year = 1984	1.573*	1.054**
	(0.514)	(0.502)
Year = 1985	1.982*	1.734*
	(0.581)	(0.567)
Year = 1986	2.057*	2.082*
	(0.551)	(0.542)
Year = 1987	2.220*	2.647*
	(0.575)	(0.580)
Right-to-work state	–1.641*	–0.644**
	(0.350)	(0.321)
Change in lawyers per capita (%)	–37.529*	44.590*
	(14.154)	(12.958)
Neighboring states recognizing doctrine (%)[b,c]	0.053*	0.027**
	(0.013)	(0.013)
Neighboring states recognized doctrine squared[b,c]	–0.0005*	–0.0005*
	(0.0001)	(0.0001)
Union membership (%)[b]	0.020	0.080*
	(0.024)	(0.025)
Change in union membership (%)[b]	–0.125	–0.223**
	(0.113)	(0.110)
Change in unemployment (%)[b]	–0.567**	0.236
	(0.260)	(0.255)
Republican governor[b] (%)[b]	–0.097	0.146
	(0.290)	(0.263)
–2 log likelihood	397.42	431.75
Chi-square	150.83*	122.13*
N	400	400

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Variable lagged three years.

[c]The percent of states recognizing the doctrine refers to contract doctrines for column 1 and tort doctrines for column 2.

work force that is unionized rises, the probability of recognizing the doctrine increases. Recognition of the narrow public-policy exception is also more likely in states exhibiting the largest decline in unionization. Although the coefficient on the change in the unemployment rate is positive, indicating that a rise in the unemployment rate increases the probability of having the exception, the effect is not statistically different from zero. The party of the state's governor also does not have any significant effect on the probability of recognizing the doctrine.

When we examine the results in Tables 3.3 and 3.4 for the models of the other legal doctrines, or for the existence of the contract or tort remedies, in most cases, we reach similar conclusions. For example, in all cases, right-to-work states are less likely to have a wrongful-termination doctrine, while the party of the governor is never a significant determinant of the legal environment. The pattern of year effects and spillover effects and the positive effect of declining unionization rates are also confirmed for all five models. However, for the model of recognizing the implied-contract or good-faith doctrine, and for the model of recognizing a contract cause of action, we find some counterintuitive results. Contrary to our hypothesis, for these two characterizations of the legal environment, an increase in lawyers per capita, as a proxy for increased litigiousness, decreases the probability that a state will have the doctrine. The significant negative coefficient on the change in the unemployment rate also is against our hypothesis that an economic downturn will increase the probability of adopting a wrongful-termination doctrine. The results are also mixed for the impact of the degree of unionization, which has the expected positive coefficient in all but the implied contract–good faith model, although it is not always statistically different from zero.

To further illustrate the results, we have used the logistic models to predict the probability that a state will have the narrow PP doctrine or a tort remedy under various scenarios. Table 3.5 reports these predicted probabilities for a base case in which all variables are set equal to their respective means (scenario 0), for a less favorable set of scenarios (scenarios A1 through A7), and a more favorable set (scenarios B1 through B7) for recognizing the doctrine. The base case assumes a "typical state" in 1983 with values of all the variables in the model equal to the average over the entire period. The probability of recognizing the narrow PP doctrine under this scenario is 51 percent, while the probability is slightly lower for the tort remedy (43 percent).

Table 3.5

Predictions for the Status of the Legal Environment: Various Scenarios

Scenario	Probability of having (%)	
	Narrow PP	Tort
A1. Base Case, Unfavorable[a]	2.96	4.36
A2. Base Case, Year=1980	34.31	27.44
A3. Base Case, Lower % change in lawyers per capita[b]	39.06	31.98
A4. Base Case, Higher % change in percent union[b]	41.15	36.37
A5. Base Case, Lower % Union[b]	37.24	29.10
A6. Base Case, Right-to-work=1	32.24	33.99
A7. Base Case, % Recognized=0	36.72	34.66
0. Base Case [c]	51.14	43.11
B7. Base Case, % Recognized=60	45.40	30.71
B6. Base Case, Right-to-work=0	63.90	49.50
B5. Base Case, Higher % union[b]	64.30	57.67
B4. Base Case, Lower % change in percent union[b]	60.97	50.07
B3. Base Case, Higher % change in lawyers per capita[b]	52.47	44.39
B2. Base Case, Year = 1987	90.29	84.22
B1. Base Case, Favorable[d]	97.13	91.01

[a]Unfavorable environment simultaneously sets all variables to their values in scenarios A2 through A7.

[b]Variable is changed by one standard deviation from the mean in the direction indicated.

[c]For the base case, all variables in the model are set to their means for the sample and the year is 1983.

[d]Favorable environment simultaneously sets all variables to their values in scenarios B2 through B7.

Under scenarios A2 through A7, shown in the top half of Table 3.5, the variables that had a significant effect in the model are varied one at a time in the direction that is less favorable for a change in the legal environment. By changing only one variable, we demonstrate the marginal effect of that variable on the probability of recognizing the doctrine. For example, scenario A7 assumes that, holding everything else constant, no other neighboring states have recognized the doctrine. The probability declines to 37 percent for the narrow PP doctrine and 35 percent for the tort remedy. Similar declines in the probability are recorded for a state with a right-to-work law, for a lower unionization rate, for a greater increase in the percentage unionized, for a smaller percentage change in lawyers per capita, and for setting

the year to 1980. In the case of the narrow PP doctrine, the largest drop in the probability comes from assuming that the state has a right-to-work law (32 percent), while the probability is lowest for the tort remedy when the year equals 1980 (27 percent). In both cases, the smallest effect is recorded for a change in lawyers per capita. When all of these variables are changed simultaneously, the resulting probability (scenario A1) is less than 5 percent, indicating almost no likelihood of recognizing the doctrine under unfavorable conditions.

Scenarios B7 through B1 in the bottom half of Table 3.5 mirror scenarios A7 through A1 by varying the same variables in a direction that is more favorable for adopting a change in the legal environment. For example, scenario B7 assumes that 60 percent of a state's geographic neighbors have recognized the particular legal doctrine. Because of the nonlinear effect of this variable, the probability actually declines for both the narrow PP and tort doctrines. The model predicts that, while recognition by other states initially has a positive influence on their neighbors, eventually the influence is negative. This result may indicate that the example set by the leading states, perhaps because of perceived negative experience with the new legal doctrines, discourages hold-out states from making similar changes. The remaining B scenarios, by increasing the probability of recognizing the new doctrines compared to the base case, have the opposite effect of their counterpart A scenarios. The greatest impact for both doctrines comes from setting the year equal to 1987, reflecting the increased likelihood of adopting the doctrines over time. Again, the smallest increase in probability comes from a higher growth in lawyers per capita. The final scenario, B1, changes all variables simultaneously, resulting in probabilities of recognizing the legal changes that exceed 90 percent.

Using the results of the estimated coefficients in Tables 3.3 and 3.4, we can also predict the probability that each state, given its characteristics at each time, will have the particular legal environment that was modeled. These predicted probabilities are presented in Table 3.6 for a selected number of states for the five classifications of the legal environment. For example, in 1980, the model predicts that California, which had already adopted the narrow PP doctrine, had a 55 percent probability of adopting the doctrine. In contrast, Florida had only a 5-percent probability. Florida, as one of the few remaining employment-at-will states in 1987, always has very low predicted probabilities compared to states like California, which led the way in adopting the various wrongful-termination doctrines. Florida can be compared with Utah, another state that remained an employment-at-

Table 3.6

Probability of Having Wrongful-Termination Doctrine for Selected States: 1980–1987[a]

	Narrow PP	IC or GF (Contract)	Broad PP or GF (Tort)	Contract	Tort
California:					
1980	55.03[b]	23.75[b]	8.88[b]	22.47[b]	40.32[b]
1981	52.10	48.20	9.35	44.46	41.31
1982	55.37	64.77	11.05	57.23	39.97
1983	70.27	82.39	30.04	76.95	52.50
1984	80.54	88.96	41.86	85.25	64.97
1985	92.07	85.32	31.05	81.56	82.80
1986	95.04	90.23	33.71	86.61	86.43
1987	91.34	94.45	18.60	84.54	81.17
Florida:					
1980	4.46	3.56	0.05	4.03	7.13
1981	4.15	5.66	0.09	5.08	6.61
1982	5.47	8.15	0.12	6.95	7.23
1983	7.87	21.00	0.27	16.68	9.80
1984	13.10	26.34	0.41	22.54	16.24
1985	28.67	29.17	0.36	23.04	28.55
1986	35.16	19.79	0.34	21.68	38.49
1987	43.45	32.49	0.59	38.40	45.77
New York:					
1980	48.50[b]	13.87	6.05	33.39[b]	50.25
1981	71.67	15.66	25.00	35.34	65.25
1982	78.65	34.36[b]	38.53	55.36	64.41
1983	47.49c	55.22	15.61	72.72	37.87
1984	58.99	68.41	21.09	82.07	48.67
1985	42.62	71.78	3.41	83.46	39.52
1986	43.40	65.26	2.26	83.61	44.72
1987	54.82	84.44	4.13	93.41	55.50
Ohio:					
1980	70.30	14.74	7.97	19.38	55.12
1981	32.52	19.69	2.93	22.19	25.13
1982	40.70	21.75[b]	3.23	25.64[b]	31.29
1983	49.71	46.98	5.71	55.26	40.00
1984	60.24	54.97	6.78	63.83	51.58
1985	86.28[b]	57.31	11.22	66.29	75.89[b]
1986	42.59[c]	73.61	2.53	77.54	39.02[c]
1987	49.26	86.30	3.69	89.57	45.15
Utah:					
1980	24.15	5.14	0.29	4.78	27.35
1981	23.91	3.89	0.36	3.57	30.02
1982	34.62	5.44	0.67	5.12	37.26
1983	41.22	15.66	0.95	14.00	45.93
1984	53.95	22.92	1.42	20.92	58.32
1985	78.31	33.04	1.83	26.96	75.21
1986	86.47	41.68	3.66	37.28	81.16
1987	86.68	66.32	3.22	47.98	82.50

Table 3.6—continued

	Narrow PP	IC or GF (Contract)	Broad PP or GF (Tort)	Contract	Tort
Vermont:					
1980	63.41[b]	16.37	7.88	41.27	33.75[b]
1981	58.57	18.14	13.84	27.52	46.71
1982	60.15	29.73	14.34	37.91	44.46
1983	54.28	37.15	8.78	44.52	44.26
1984	64.30	58.03	12.95	62.59	52.78
1985	30.89	85.72	1.25	64.90	78.64
1986	86.54	86.02[b]	15.52[b]	70.39[b]	81.12
1987	90.00	85.81	16.42	76.82	87.55
West Virginia:					
1980	14.16[b]	23.44	0.48	20.60	17.88[b]
1981	31.77	18.35	2.60	16.78	29.89
1982	40.00	21.31	3.04	20.28	36.23
1983	73.62	33.42	21.64	38.57	66.53
1984	76.50	40.40	16.16[b]	44.89	70.02
1985	93.30	62.52	27.91	68.11	87.16
1986	93.63	48.14[b]	27.54	66.19[b]	88.64
1987	95.24	69.45	40.04	83.77	90.77

[a]PP stands for public policy, IC for implied contract, GF for good faith.

[b]Denotes the year of judicial ruling that actually adopted the doctrine.

[c]Denotes the year of judicial ruling reversing the previous adoption of the doctrine.

will state until adopting the implied-contract doctrine in 1989. The predicted probabilities for Utah begin small, but grow substantially over time. This is because, as a Western state, the model would predict that the adoption of the legal doctrines by Utah's neighbors would spill over to that state. The 1989 decision may reflect that type of influence.

The predicted probabilities in Table 3.6 also demonstrate the ability of the logistic models to predict the adoption of a doctrine or the subsequent reversal of a doctrine. Generally, the predicted probabilities are lower prior to the adoption of the doctrine compared to after its adoption, and the reverse is true when a decision is reversed. For example, the implied-contract doctrine was adopted by New York in 1982. For earlier years, the predicted probabilities of having the implied-contract doctrine are less than 20 percent, while the probabilities are over 50 percent after that year. In contrast, the narrow public-policy doctrine was initially accepted in New York in 1978 and reversed in 1983. For the years following the reversal, the probabilities are lower than they were in the earlier years.

IMPLICATIONS FOR EMPLOYER BEHAVIOR

The results of the empirical analysis presented in this section provide evidence for systematic changes in the legal environment brought about by changes in underlying economic, political, and social forces. The logistic analysis confirms a number of our hypotheses about the effects of factors measuring the demand for and supply of new legal doctrines. As expected, the probability of having a legal environment favorable to workers increased over the 1980s. This may be the result of a number of factors, such as increased awareness of worker's rights. We found evidence of spillover effects, because an increase in the percentage of a state's geographic neighbors who have recognized a doctrine increases the likelihood that that state will follow suit. Ideological factors also appear to play a role in determining the status of the legal environment. In every case, right-to-work states, a measure of conservative attitudes toward workers' rights, are significantly less likely to recognize one of the new doctrines. Another measure of attitudes toward labor, the degree of unionization, is generally positively associated with the probability of having one of the wrongful-termination doctrines. We also found that the decline in the degree of unionization had a positive effect on the probability of recognizing one of the doctrines, while the effects of the business cycle and increased litigiousness as measured by the increase in lawyers per capita were not always in the expected direction.

The rapid adoption of the various wrongful-termination doctrines during the 1980s motivates us to focus on this period for our analysis of the impact of changes in the legal environment on employment outcomes. The two methods of characterizing a state's wrongful-termination environment will allow us to investigate the impact of the changes in the legal environment along a number of dimensions. For example, we can consider differences in the effect of recognizing the three legal doctrines, comparing, for example, the impact of the narrow public-policy doctrine versus the tort version of the implied covenant of good faith and fair dealing. This will allow us to investigate whether the type of doctrine has a differential impact on employment outcomes. We can also differentiate states by whether the legal doctrines that have been recognized allow tort or contract causes of action. This will allow us to examine whether tort exceptions, which potentially represent a greater liability to employers, have a greater impact on labor-market outcomes than do contract exceptions.

4. THE ECONOMIC CONSEQUENCES OF WRONGFUL TERMINATION

In this section, we investigate whether or not the swift erosion of employment at will has any significant consequences for the U.S. economy. We begin our investigation of the aggregate economic costs by first reviewing the available evidence on the direct legal costs of wrongful termination. Next, we discuss the possible implications for business behavior and then derive testable empirical hypotheses concerning several labor-market outcomes.

THE DIRECT LEGAL COSTS OF LITIGATION

The evolution of court doctrines granting expanded protection to employees has led to a rapid escalation of legal activity.[1] Even though virtually nonexistent before the 1980s, there are currently 20,000 wrongful-termination cases on court dockets. These suits have been highly concentrated in states that have adopted the most liberal standards. Although general information on case disposition is not readily available, a survey of cases filed in California indicates that the potential cost of these suits is quite high. For cases going to jury trial, plaintiffs were victorious almost 70 percent of the time. On average, jury awards were nearly $700,000. In addition, defense fees were escalating over the entire period. By late 1986, defense lawyer costs could exceed $250,000 in the course of a lengthy wrongful-termination trial.

Of course, these average jury awards overstate the expenses associated with the "typical" case outcome. To begin with, averages are inflated because of the existence of a few huge awards, generally involving particularly egregious (and avoidable) behavior on the part of employers. In actuality, half of all awards in California are less than $177,000. In addition, initial awards are typically reduced by post-trial adjustments. Because of subsequent settlements and rulings during the appeal process, final payments are generally less than half of the original jury awards. From a plaintiff perspective, the value of expected payments is further reduced by the cost of waiting (final payments are typically made about 6 years after the initial filing), the 40-percent contingency fee paid to their lawyers,

[1]This section draws on Dertouzos, Holland, and Ebener (1988).

and the uncertainty associated with a trial (about 30 percent of them receive nothing). Indeed, the majority of employees can expect a payment that, in present value dollars, is the equivalent of a half year of work.

Given the high transaction costs associated with conducting a trial, it is not surprising that the vast majority of wrongful-termination cases settle before reaching a jury. About 95 percent of all cases settle for an average of about $25,000. With legal fees of $15,000 per case, the total average cost of a settlement is $40,000. Since settlements occur more frequently, their aggregate costs are about 2.7 times the total cost of jury trials in wrongful-termination cases.[2]

On an annual basis, these aggregate costs summed to over $50 million for California in 1987. However, it is important to recognize that these direct legal costs are trivial on a per-worker basis. A rough computation suggests that California has about 6 million employment-at-will employees.[3] Thus, the average cost per employee is less than $10. Even if one considers the legal expenses on a per-termination basis, the costs appear to be insignificant. Involuntary terminations typically range between 6 and 12 percent of the labor force. So, the "expected" legal cost is, at the very most, $100 per termination.

THE HIDDEN ECONOMIC COSTS OF UNJUST DISMISSAL

Even using the most liberal assumptions, it does not appear that direct legal costs are important in the aggregate. In fact, these average liabilities and litigation costs are dwarfed in comparison with standard expenses incurred as a result of labor turnover. Such costs include recruiting expenses because of the search, advertising, and interview process. In addition, training costs for firm, industry, or occupation-specific human capital can be substantial. So, what accounts for the prevailing wisdom concerning the impact of unjust dismissal doctrines?

One simple hypothesis is that the public and the business community are misinformed about the true costs of wrongful termination. Certainly, the popular perception is fueled by media accounts of the

[2]Since 95 percent of all cases settle, there are 20 times as many settlements as there are jury trials. Even following post-trial reductions in jury awards, final payments and defense fees cost employers an average of $292,000 per jury trial. Thus, an average trial is nearly five times as costly.

[3]This excludes unionized workers, civil servants, the self-employed, and other employees protected by explicit contracts.

largest jury awards. At the same time, the fear of potential litigation is probably encouraged internally by those likely to benefit from an increased emphasis on avoiding the legal risks. Defense counsel, personnel-management consultants and human-resource executives all have a personal stake in promoting the deployment of preventative measures.

Even if managers had access to accurate information about the true distribution of potential litigation costs, business behavior could be dramatically affected in risk-averse firms. The potential for huge negative outcomes, even if improbable, may be very important even if per-worker liabilities are trivial. Such risk aversion is likely to be more relevant for small businesses that are unable to distribute these potential risks across numerous employees. On the other hand, some insurance companies do offer protection against wrongful-termination liabilities and defense costs. If insurance is available, premiums will reflect the advantages of risk spreading and be based on expected costs that, as we have seen, are not very high.[4]

In assessing the likely consequences of the new doctrines, it is important to recognize that all the costs of unjust dismissal are not incurred by the "firm" or its stockholders. Instead, the individual decisionmakers or personnel managers bear a disproportionate share of the costs. This could be important for several reasons. First, the computations of direct expenses ignore what could be a major cost element associated with litigation, the manager's own time.[5] At the same time, the benefits of a "correct" decision to terminate may not accrue to the decisionmaker. In addition, even if the risks of a dismissal are prudent from a firm, senior management, or stockholder perspective, a middle manager, having fewer opportunities to diversify via a "portfolio" of decisions, may be less willing to take personnel chances. Finally, the threat of litigation implies increased oversight and second-guessing of managers. Such controversies invariably include challenges to the supervisor's previous decisions and overall competence. It may well be in the interest of personnel managers to avoid legal confrontations even if, from the firm's perspective, the dismissal is justified.[6]

[4]In California jury trials, nearly 40 percent of all defendants had some form of insurance against wrongful-termination liabilities. See Dertouzos, Holland, and Ebener (1988). Presumably, risk-averse firms would have strong incentives to acquire such protection.

[5]In interviews, firm managers have stressed the highly emotional and unpleasant nature of challenged termination actions. See Reuter (1988).

[6]In a fascinating study of internal employee appeal systems in three large U.S. companies over the 1980–1983 period, Lewin (1987) found that the supervisors of em-

The aggregate direct costs of wrongful-termination litigation may not reflect potential risks if firms are avoiding litigation by engaging in preventative activities. These activities can be very expensive and need to be considered in any comprehensive accounting of the costs of the evolving employer liabilities. Most directly, firms can avoid the legal threat by not firing workers even when justified by economic conditions or poor job performance. Business might be reluctant to expand employment in response to changing product demand or other exogenous factors which increase the short-run need for labor input. The firm might adjust the employee mix, trading off production efficiency for diminished exposure to liability. Younger workers with short employment histories and unreliable references could be more risky. Older workers, despite their experience, might also be risky because of the higher sums they are awarded by juries.[7] Changes in the utilization of overtime hours, part-time employees, or temporary workers are also possible. Managers might be reluctant to engage in risky ventures such as new product development or market expansion, out of fear of being left with a surplus of workers that can be terminated only at great expense. Firms would be prone not to adopt new technologies that displace labor in favor of capital equipment.

In addition to decisions that affect the utilization of labor, firms can avoid liability by changing the process of decisionmaking. Carefully screening potential employees, conducting extensive interviews, tracking down references, and maintaining rigorous qualifying standards diminish the risks of hiring the wrong person. Of course, this process is costly and could arbitrarily screen out higher risk persons with lots of potential. In addition to changes in hiring practices, firms will formalize the performance review, evaluation, promotion, and compensation process. Human-resource decisionmaking will become centralized, hierarchical, and systematic. Individuals will have less autonomy in personnel matters as internal mechanisms emerge for the purpose of exerting organizational oversight and risk management.

The decision to terminate an employee will no longer come at the discretion of immediate supervisors. Instead, grounds for termination will need to be well-documented and reviewed by senior executives,

ployees filing grievances had significantly slower promotion rates, diminished performance ratings, and higher turnover during the postappeal period. These differences occurred regardless of whether or not the employee won the appeal.

[7]Awards in wrongful-termination suits systematically grow with the age of the plaintiff until the age of 50, at which point compensation declines rapidly because the shorter work life remaining for the very oldest workers. For details, see Dertouzos, Holland, and Ebener (1988).

corporate counsel, and human resource specialists. Some firms will adopt an internal adjudication process for resolving workplace disputes without relying on the legal system. Decisions will be rendered by individuals perceived as having few vested interests in the disposition of the dispute.

The fact that many firms voluntarily provide implicit job guarantees and organize internal mechanisms to protect workers from unjust treatment, even in the absence of legal pressures, suggests that the marginal effects of employee protection might be less significant. For example, many businesses organized institutionalized procedures for ensuring fair treatment of personnel long before the erosion of employment at will. In many corporations, even nonunion employees can air grievances and appeal the decisions of supervisors.[8] Although the 1988 Worker Adjustment and Retraining Notification Act mandates that some employers must provide workers 60 days advance notice of layoffs, recent studies of this legislation's effect suggest that workers are typically aware of impending employment reductions, even without formal notification requirements.[9]

When workforce reductions are inevitable because of changing economic conditions or technological changes, firms frequently attempt to smooth the transition of displaced workers. Although lifetime employment is not feasible when long-run economic survival is at stake, the neoclassical caricature of the ruthless, profit-maximizing firm making instantaneous adjustments to the workforce does not represent reality.[10] Firms are reluctant to lay off workers, preferring to rely on natural attrition, retraining, buyouts, and early retirement to achieve the desired level of employment.[11]

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[8]For detailed case studies of these corporate institutions, see Lewin (1987).

[9]Ehrenberg and Jakubson (1988) found that only 30 percent of the formal worker notifications of future layoffs in N.Y. state were required by law. The rest involved firms which, because they had fewer than 100 workers or anticipated small work-force reductions, were exempt from WARN's reporting criteria. In addition, many of the workers not receiving formal notification were made aware of their probable dislocation via informal channels of communication. They also found that official notification was no more effective than the informal communications in smoothing the postlayoff employment experiences of workers looking for new jobs.

[10]For case studies of some firms' efforts, not entirely successful, to protect their workers in the face of competitive pressures, see Osterman (1990).

[11]In an empirical study of technological change in the newspaper industry, Dertouzos and Quinn (1985) found that firms, regardless of whether or not they were unionized, were quite reluctant to fire printers even though the advent of computerized composition meant that over half the workforce became superfluous. Instead, over 80 percent of the reduction was achieved via voluntary separations, some of which were induced by cash incentives.

Of course, such seemingly altruistic behavior does not imply that firms are not concerned with their long-run profitability. To begin with, there can be little doubt that a firm's treatment of a subset of its employees will affect the morale, loyalty, and productivity of remaining workers. Surely, a history of unfair labor practices will affect the ability to recruit high-quality employees in the future. Also, the reputation that a firm has a voluntary commitment to "fair" employment practices, though not providing an absolute lifetime guarantee, certainly reduces the expected probability that any given employee will lose his or her job. Since workers value such job security, firms will be able to pay lower wage rates in return for less flexibility in reducing the workforce. This has the potential for making both firms and workers better off.[12] Finally, the higher probability of a long job tenure will induce workers to invest in training human capital that is firm-specific in nature.

EMPIRICAL IMPLICATIONS OF UNJUST DISMISSAL LIABILITY

If firms have incentives to adopt job-security provisions voluntarily, then the marginal impact of wrongful-termination doctrines would be reduced. Of course, if the legal system broadens and enforces job-security provisions, and if it increases potential damages associated with noncompliance, employers facing the new unjust-dismissal doctrines will change their behavior. This is the empirical question our study addresses. Before turning to our statistical analysis of state-level employment data, we will derive some testable implications of increasing liability for unjust dismissal.

Long-Run Effects of Employment-Protection Policies

Wrongful-termination liability is but one of several employment protection policies that would increase a firm's labor costs. The requirement for advance notice, the imposition of automatic worker severance pay, the experience rating of unemployment-insurance taxation, and the potential for litigation over unjust dismissal all would in-

[12]The enhanced reputation for dismissals only for good cause can be viewed as an implied contract that increases the expectation that the utilization of labor over time will be greater than the traditional short-run profit-maximizing choice (at a given wage rate). Since worker utility rises as a result, workers are willing to accept a lower wage level. As a result, there exists a locus of efficiency-enhancing wage-employment combinations that increase both the profits of firms and the welfare of workers. See MaCurdy and Pencavel (1986) and Ashenfelter and Brown (1986).

crease the expected cost of termination. Firms would be less likely to fire marginal employees.

The ultimate employment effects, however, will depend upon what firms do to avoid the direct costs of the employment-protection policies. For example, the risk of termination penalties will induce firms to select workers more carefully. Thus, the marginal cost of hiring will also increase. This implies that firms will be reluctant to increase or decrease their workforce rapidly in response to short-term changes in the optimal, profit-maximizing level of labor. Labor turnover will be more costly, but the cost of adjustment might depend upon whether or not the optimal level of employment is rising or falling.

Hiring expenses, the magnitude of anticipated dismissal liabilities, and the increased costs of documentation, review, and performance evaluation will raise firm costs even if terminations do not actually occur. Some of these costs may be fixed, regardless of the size of the work force.[13] Marginally profitable firms may be driven out of business, entry of new companies might be deterred, and large enterprises will have a relative advantage vis-à-vis smaller competitors having a more limited business base over which to spread these new fixed costs and diversify risk. Employment protection will have bigger effects within industries characterized by seasonal fluctuations or volatile output markets. In the aggregate, these new expenses will vary as a function of employment; as a result, most existing firms can be expected, in the long run, to reduce labor utilization in favor of alternative inputs, such as capital.[14]

In addition to the long-run effects on turnover rates and aggregate employment levels, firms can be expected to change their relative utilization of alternative labor. This is because the costs of complying with worker protection policies will disproportionately affect different categories of workers. For example, one might argue that wrongful-termination doctrines provide significant new remedies only for those workers not otherwise protected by Title VII prohibitions against discrimination or by union contracts. Thus, the end of employment-at-will would signal a marginal increase in the relative labor cost of

[13]Establishing a human-resource department, hiring in-house labor counsel, or developing internal adjudication procedures will have some elements of fixed cost.

[14]For a detailed discussion of possible equilibria in the long and short run, see Hamermesh (1990a). He notes: "Only in the unlikely case that complete job security somehow shocks workers into becoming more productive is it possible that the negative conclusion about the average level of employment over the business cycle will be reversed."

white-collar Caucasian males. Employment protection also induces firms to rely more on overtime rather than on new hires during times of expansion. Groups of fixed-term employees seasonally, part-time, or from temporary employment agencies, could also meet transitory demands for labor without increasing exposure to liability.

The Transition to the Long Run

Even if the long-run effects of employment protection are predictable, firms will be unable to adjust their labor force instantaneously. During such a transition period, the employment effects of such factors as wrongful termination will be harder to identify. For example, if wrongful-termination liabilities increase the cost of labor turnover, short-term effects on employment will depend upon whether the economy is in a state of expansion or contraction. When other exogenous factors increase the firm's desired level of labor utilization, the risk of future liability and the use of more complex and, consequently, lengthy screening procedures imply that firms will expand employment less rapidly than otherwise. In such circumstances, new firms will enter the market slowly, and incumbents will initially expand production by using more overtime and temporary employment agencies instead of hiring more workers. In sum, the short-run effects stemming from employment protection are identical to those prevailing in the long run but are temporarily magnified during the transition period because of the slower adjustment of firms.[15]

The outcome is less certain during periods of contraction. As demand for labor diminishes, firms will wish to reduce employment. However, because of employment-protection provisions, rapid labor-force adjustment is prohibitively costly. Thus, firms will more slowly approach the long-run optimum, partially relying on attrition. As a result, increased employer liability implies that the transition period will be characterized by higher employment for protected labor-market segments.

The distinctions between the long- and short-run effects of employment-protection policies have important implications for the design of an appropriate empirical model for testing the aggregate

[15]Analysis of aggregate data suggests that it takes a year for employment to adjust fully to changes in product sales. See Sims (1974). However, the transition period may be much longer if firms rely on attrition to reduce their labor force in response to the imposition of worker protection policies or to a voluntary commitment to job security. For example, Dertouzos and Quinn (1985) use microdata to demonstrate that it took up to 20 years for some newspaper firms to reduce their work forces following the adoption of labor-displacing technologies.

effects of wrongful termination. Statistical models should be flexible enough to accommodate contrasting employment effects that vary as a function of prevailing economic conditions. Of course, empirical analysis is further complicated by firm and industry heterogeneity. That is, at any given time, economic conditions will differ across industries for which employment protection has varying degrees of relevance. If the impact of worker protection policies has more important employment implications for a subset of firms and if exogenous changes in product demand for this industry are countercyclical, then the pattern of aggregate employment outcomes immediately following the adoption of a liberal wrongful-termination doctrine could be misleading.

In addition to delays in adjusting the size and composition of the labor force, the transition to the long-run equilibrium will be affected by the speed with which firms can adopt other human-resource practices in response to the new liability risks. The resulting pattern of employment outcomes will depend upon the nature of the prevailing risks and the solutions available to reduce them. Firms located in jurisdictions with the implied-contract doctrine may be reluctant to terminate current employees immediately following a court ruling. However, by revising employee manuals or adding appropriate language to job application forms, they can increase the possibility of dismissing workers at will. As a result, the employment effect is short-lived. In contrast, the evolution of institutional responses such as internal dispute resolution processes or centralized personnel functions may take much longer.

The dynamics of the transition period will also depend upon the flow of information to personnel decisionmakers. Few members of the business and legal communities will be instantly aware of relevant court rulings or their implications for employment liability. So, the prevailing level of business awareness may be a function of the cumulative effects of press coverage, advice from corporate counsel or human resource consultants, or even word of mouth. Some managers may not recognize the potential damage until they are actually sued for wrongful discharge. Of course, imperfect information may delay the business reaction to court doctrines. In contrast, if managers have been misinformed by distorted media accounts or by advisors who have incentives to exaggerate the liability risks, they might overreact and initially modify behavior before receiving further information.

The length and nature of the transition will depend upon the relative importance of the above factors. In turn, this will vary with firm and

industry characteristics. For example, larger establishments will have better access to human-resource specialists and legal advice and will be more likely to have experienced litigation in the past. They could be more capable of financing the necessary administrative overhead. This suggests that their reaction might be swifter and, perhaps, more effective than that of small businesses. On the other hand, big corporations might well be encumbered by institutional inertia with their complex bureaucracies and multiple lines of communication. If so, the transition may take months or even years.

SUMMARY OF EMPIRICAL IMPLICATIONS

As the previous discussion suggests, wrongful-termination doctrines have a variety of possible effects on employment outcomes, both in the short run and in the long run. In our empirical analysis of state-level employment outcomes, we will examine the following:[16]

- *Effects on the level of aggregate employment.* The risk of liability and the associated human-resource adjustments made to reduce this risk will increase the cost of labor inputs. Although the magnitude of this effect remains an empirical question, it is clear that firms will have incentives to reduce the number of workers. Because of such factors as information lags, adjustment costs, and trends in product demand, however, employment levels may or may not be reduced immediately following a jurisdiction's adoption of a restrictive wrongful-termination doctrine.
- *Effects on the speed of employment adjustment.* In the short run, firms will be reluctant to either expand or contract the size of the labor force rapidly in response to changes in the optimal level of employment. In the long run, effects are less certain. This is because firms may establish systematic and ongoing procedures for screening, reviewing, and evaluating employees that may actually facilitate decisionmaking in the face of market fluctuations.[17]

[16]In exploratory work, we conducted an analysis of the effects of wrongful-termination doctrines on temporary and part-time employment. However, because of the poor quality of the data, we were not confident in the results and have therefore omitted them from the report.

[17]Ironically, wrongful-termination doctrines could even increase the frequency of dismissals. If firms adopt comprehensive review and evaluation processes, accurate information about poor performers will be more readily available. In addition, if criteria for termination become more objective and well known, the need to maintain the viability of the implied contract will obligate firms to behave in a timely and consistent manner.

- *Effects on different industries and firm types.* The effects of wrongful termination are likely to vary from firm to firm. Establishment size, for example, will affect managers' perceptions of risk, the timing and quality of information about potential liabilities, and the ability to finance some of the alternative solutions. Certain industries will also be more vulnerable than others. Unjust dismissal is likely to be a greater issue when product demand is volatile, when employees invest in significant firm-specific human capital (that is valueless to other employers), and when job performance is somewhat subjective.

5. A STATE-LEVEL ANALYSIS OF EMPLOYMENT OUTCOMES

In this section, we examine the hypotheses set out in Sec. 4 by conducting an empirical analysis of state-level employment outcomes. Although the focus is on aggregate employment levels, we allow for potential differences between industrial sectors and firm size. By linking changes in patterns of labor utilization with the adoption of new doctrines, our goal is to provide some insight into the aggregate importance of employment liability.

THE DATA

We analyzed state-level data describing annual employment outcomes between 1980 and 1987.[1] Table 5.1 briefly describes the basic trends

Table 5.1

Employment and Gross State Product, 1980–1986

	State Average (1980–1986)	Sample Range (min.–max.)	Average 1980	Average 1986
Total employment[a]	1,857	169–11,658	1,782	1,955
Percent of total:				
Manufacturing	20.4	2.2–34.4	20.2	17.5
Service	21.1	13.4–44.2	19.1	22.6
Wholesale trade	5.5	1.7–8.5	5.6	5.3
Retail trade	17.3	8.3–22.6	16.9	17.9
Finance and insurance	5.5	3.4–9.6	5.2	5.8
Large-firm share[b]	27.6	9.9–40.7	29.1	26.8
Total gross product[c]	64,329	5,396–452,586	59,511	70,211
Percent of total:				
Manufacturing	20.1	3.0–43.2	20.2	21.2
Service	14.0	6.7–33.9	14.4	15.0
Wholesale trade	6.4	1.9–9.5	6.4	7.1
Retail trade	9.5	4.4–12.9	9.4	10.2
Finance and insurance	14.7	8.7–20.9	15.1	15.0

[a]Total nonagricultural employees, in thousands.

[b]Share of the total that were employed by establishments with 250 or more workers.

[c]Total nonagricultural gross state product in millions of 1982 dollars.

[1]Data sources are described in App. B. For some of the employment and state product measures, data were not readily available after 1986.

and patterns in the level and composition of employment and a measure of output, the gross state product (GSP). The state average for total nonagricultural employment over this period was over 1.9 million, ranging between 169,000 and nearly 12 million. On average, employment levels grew about 1.6 percent annually. Of this total, the manufacturing sector represented about 20 percent of total nonagricultural employment, although this percentage varied widely from state to state. The service and retail trade industries averaged 21.1 and 17.3 percent of total state employment, respectively. For wholesale trade and the finance, insurance, and real estate sector, the percentages are slightly above 5 percent. Again, it is important to note that the industrial mix exhibits significant variation across states. Service industry employment has grown the most. Finally, over 25 percent of all employment is in business establishments having at least 250 workers. This varies considerably from state to state.

THE GENERAL ESTIMATING FRAMEWORK

Our general approach was to estimate a model that assumed that annual employment level in state i during a given year t, E_{it}, had the following functional form:

$$\log(E_{it}) = \beta_0 + \beta_1 \log(GSP_{it}) + \beta_2\left[\log(GSP_{it}) - \log(GSP_{it-1})\right] + \sum_{k=2}^{50} \lambda_k S_{ki} + \sum_{j=1}^{6} \alpha_j Y_{jt} + \delta X_{it} + \gamma W_{it} + u_{it}$$

where

GSP_{it}	=	gross state product, in 1982 dollars, in state i in year t,
S_{ki}	=	a set of state dummy variables,
Y_{jt}	=	a set of year dummy variables,
X_{it}	=	a vector of other possible control variables,
W_{it}	=	variables indicating the presence of wrongful-termination doctrines,
u_{it}	=	random disturbance

The state dummy variables were included to control for a variety of state-specific influences that remain constant over time. Persistent

differences in state demographics, occupational composition, or prevailing workplace traditions are examples of such factors that are unmeasured but likely to be important. The year dummies, representing individual year effects, were included to allow for systematic changes affecting all states, such as the influence of technological innovation, fluctuations in the cost of capital, the influence of international markets, or changes in federal statutes regarding worker rights.

The GSP is included as a measure of aggregate labor demand and is assumed to be predetermined by exogenous factors, such as consumer income, relative prices, and population.[2] This implies that fluctuations in employment that are due to such factors as employment liability will result from changes in input utilization rather than the production level. For example, firms can maintain output and still reduce employment by substituting capital or by increasing the hours or work intensity of remaining workers.

To allow for labor adjustment costs, the change in GSP (in logarithmic form) was included as an explanatory variable. If firms are unable to reduce or expand the work force instantaneously in response to changes in product demand, a transition period will be necessary before firms are able to achieve the "optimal" level of labor. For a given level of production, employment will be lower during periods of growth and greater during periods of decline.[3]

Finally, we tested for the long-run effects of wrongful termination on levels of employment by including predictions of the probability of having different doctrines in a given state at a particular time. These predictions were based on the logistic models reported in Sec. 3. In addition, effects on the ability of firms to adjust their labor forces were analyzed by interacting the predicted probability of employment doctrines with the measure of GSP growth.

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[2]This approach is standard in the literature; see Burgess (1988), Abraham and Houseman (1989a), and Hamermesh (1990b). As Quandt and Rosen (1989) demonstrate, more complicated estimation techniques that treat output as endogenous are not likely to produce superior results. Indeed, our own estimates based on substituting predicted values of GSP (using instrumental variables, such as aggregate daily newspaper circulation, household income, and population) were invariably the same.

[3]Other formulations allowing for more complex patterns of adjustment failed to explain significantly more of the variation in employment; neither did they alter our estimates of the effects of wrongful-termination doctrines. We describe some of these generalizations of the more simple model below.

EFFECTS OF LIABILITY ON AGGREGATE EMPLOYMENT LEVELS

Table 5.2 reports the regression results for the level of total nonagricultural employment. These simple versions allow for shifts in the level of employment that are due to prevailing unjust dismissal doctrines. The models control for fixed differences between states[4] and for trends over time. The level and change in aggregate GSP were included, but this version does not allow for systematic differences in the industrial mix across states.[5] The three alternative specifications differ only in their characterization of the legal environment.

In all three cases, the estimated coefficients for the GSP suggest that, in the long run, employment increases with production, but not in direct proportion. For Model I, the results indicate that a 10-percent increase in production would result in about a 6.6-percent increase in employment.[6] In the short run, firms will be unable to respond immediately to the increase in aggregate demand, and the employment changes are likely to be lower. In fact, the estimated coefficient or elasticity estimate of –0.385 for the measure of GSP growth implies that the increase will only be 2.8 percent during the same calendar year.[7]

Because of cyclical economic influences, the time-trend variables do not display a smooth pattern but do suggest that employment has been rising relative to GSP since 1980. This could reflect demographic developments, changing participation in the labor force by population segments, or evolving production technologies. Empirical evidence presented below indicates that the aggregate trend may be due to changes in the industrial mix of the U.S. economy.

In all three specifications, well over 99.9 percent of the sample variation in the measure of total employment can be explained by the in-

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[4]Unless otherwise stated, all estimated models include state dichotomous variables. Most of the 50 coefficient estimates were significantly different from zero. Not allowing for fixed effects invariably increased the magnitude of the coefficient for GSP to about 1.0 and led to instability in the estimates of other effects, including those for the legal environment.

[5]Using this simple version facilitates interpretation of results. As documented below, introducing a variety of complexities does not alter the nature of the estimates.

[6]This result is consistent with several alternative explanations, including economies of scale, increased reliance on overtime or work intensity with output expansion, or relative inelasticity of labor supply.

[7]The short-run elasticity, defined as the percentage change in employment divided by the percentage change in current year GSP, is computed as 0.663 –0.385 = 0.278.

Table 5.2

Effects of Liability on Total Employment (coefficient standard errors in parentheses)[a]

Independent Variables	Model I	Model II	Model III
Log (GSP)	0.663*	0.673*	0.644*
	(0.020)	(0.020)	(0.020)
Log (GSP growth)	–0.385*	–0.390*	–0.383*
	(0.037)	(0.037)	(0.037)
Time trends:			
1981	0.004	0.003	0.004
	(0.004)	(0.004)	(0.004)
1982	–0.013*	–0.014*	–0.013*
	(0.004)	(0.004)	(0.004)
1983	–0.001	–0.004	–0.001
	(0.005)	(0.004)	(0.005)
1984	0.018*	0.012**	0.017*
	(0.006)	(0.006)	(0.006)
1985	0.018*	0.006	0.016**
	(0.007)	(0.007)	(0.008)
1986	0.018*	0.006	0.016**
	(0.008)	(0.008)	(0.008)
1987	0.032*	0.019**	0.031*
	(0.009)	(0.009)	(0.010)
Court doctrine[b]			
Tort	–0.029*	—	–0.025**
	(0.011)		(0.012)
Contract	–0.018***	—	–0.014
	(0.011)		(0.011)
Broad PP or GF (tort)	—	–0.021***	–0.011
		(0.012)	(0.012)
IC or GF (contract)	—	–0.014	—
		(0.010)	
Narrow PP	—	0.002	—
		(0.009)	
R-squared	0.999717	0.999715	0.999717

[a]Asterisks indicate that the value is different from zero at the following significance levels: * 1 percent, ** 5 percent, *** 10 percent.

[b]Predictions based on logistic models of the status of the law using uncensored data.

cluded explanatory variables. Even after purging the variation explained by the fixed state effects and the time trends, over 80 percent of the remaining variance is explained by the GSP and court doctrine measures. The differences between the models' explanatory power are not significant, but the tort-contract distinction between jurisdictions (Model I) appears to be slightly more important than differences

based on the good faith, implied contract, and public policy causes of action.

In the first set of results, predicted values for the probability of tort and contract doctrines were based on the statistical models described in Sec. 3.[8] The coefficient estimates indicate that aggregate employment averages 2.9 percent lower in years following a state's recognition of tort damages for wrongful termination. This estimate is significantly different from zero at the one percent level.[9] For states recognizing contract damages, the effect is 1.8 percent, though imprecision in the estimate makes one less confident that this is statistically significant. These estimates can be viewed as incremental effects, so that states recognizing both tort and contract causes of action will have about 4.7 percent lower employment.[10]

In Model II, the doctrinal distinctions were based on whether or not the state jurisdiction recognized the good-faith tort or broad public policy, implied contract or good-faith contract, or narrow public-policy exceptions to employment at will. This characterization did not distinguish between tort and contract causes of action. Note that, although qualitative results were similar, the estimated effects were less significant, and the overall explanatory power of the model was lower. Although the low significance of the individual estimates precludes strong conclusions, states with the good-faith tort or broad public-policy doctrine appear to have about 2.1 percent lower employment. Employment in years subsequent to the adoption of implied-contract exceptions falls by an average of 1.4 percent. The narrow public-policy distinction did not have a significant effect.

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[8]These results were based on logistic models of the probability of a doctrine existing in a state during a particular year. We found that estimates based on the actual, rather than predicted, values for the court doctrine were quite different. See Table C.3 in App. C. As we argued earlier, the preferred methodology, given the simultaneous determination of employment outcomes and wrongful-termination doctrines, is the two-stage estimation procedure we used to obtain the results reported in Table 5.2.

[9]The use of predicted rather than actual values for the status of the tort law means that the reported standard errors are slightly biased in a downward direction. However, our calculations indicate that the bias is, at most, 30 percent. This adjustment would not alter the significance of relevant coefficients significantly. In addition, efficiency gains from a GLS estimation technique that controls for heteroscedasticity and autocorrelation serve to reduce standard errors by even more than 30 percent. Considering both effects, the reported significance in Table 5.2 understates the statistical precision of the estimates.

[10]Strictly speaking, the percentage difference is not exactly equal to the coefficient in a logarithmic model. As Kennedy (1981) demonstrates, for any coefficient estimate b, the expected percentage difference is given by exp[b $-$ 0.5 var(b)], where var(b) is the estimated variance of the coefficient. For changes smaller than 0.1, the coefficient estimate is a close enough approximation.

Model III combines the significant doctrinal distinctions of the other versions. The results are consistent with those of Model I. Although the states recognizing the covenant of good faith and fair dealing may have a slightly lower employment level, it appears that the availability of tort damages is the driving factor behind the change in business behavior.

We generalized these models in a variety of ways but found that the basic results were unchanged. A variable measuring the percentage of unionization was insignificant, as were levels of GSP lagged for more than a single period.[11] We allowed the speed of adjustment to vary as a function of whether the economy was experiencing an expansion or contraction, was changing over time, or was affected by the degree of unionization. The interaction terms were insignificant in each case. Finally, we found that wrongful-termination doctrines did not significantly affect the speed of adjustment. For aggregate employment, interactions between predicted measures of doctrine probabilities and the growth in GSP were invariably insignificant.

As further tests of robustness, we tried to replicate the results using a variety of alternative models and econometric methodologies. For example, we obtained similar results using court doctrine predictions based on models of changes, rather than the status, in court doctrines.[12] For these models, tort doctrines were associated with a 5-percent fall in employment following their adoption. In addition, we estimated a "difference" model that evaluated the change in employment between 1980 and 1987 as a function of the changes in explanatory variables over that same period of time.[13] Again, all coefficient estimates were very similar. For example, prevailing tort doctrines are associated with a 6.2 percent decline in employment.[14]

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[11]This suggests that most labor-market adjustments occur within a year following an exogenous change in the optimal level of labor.

[12]See Table C.3 in App. C.

[13]An expression for employment changes can be derived explicitly from the basic model of employment levels by lagging 7 years and subtracting 1980 from 1987 levels. Therefore, coefficient estimates, if the model is specified correctly, should yield identical results, at least in the limit. As is well known, the convergence of results is an excellent specification test. See Plosser, Schwert, and White (1982). As indicated in Table C.4 of App. C, coefficient estimates were remarkably similar, providing strong evidence that potential specification biases are unlikely to have affected our results.

[14]Our results were also not sensitive to some of the underlying statistical assumptions. Correcting for first-order autocorrelation (see Table C.5 in App. C.) and heteroscedasticity in the residuals, and allowing for the possible endogeneity of GSP did not alter any of the estimates significantly. Finally, the coefficients did not appear to be sensitive to the exclusion of outliers.

Adjusting for Industrial Composition

Even though our estimates of doctrinal effects on employment levels are stable with respect to alternative specifications, we remained concerned that our aggregate analysis could well obscure small-scale differences between firms and industries.[15] To examine this possibility, we first extended our basic framework to control for differences in industrial composition over time and from state to state. In regressions reported in Table 5.3, we included measures of the levels and growth in the industry-specific GSPs for four groups: services; retail trade; wholesale trade; and the financial sector, which includes banking, insurance, and real estate industries. The manufacturing, construction, and transportation industries remain absorbed in the total GSP measure.

The results strongly indicate significant differences between industrial sectors. For example, long-run employment in the service, wholesale trade and retail trade industries is more responsive to changes in GSP than are other industries that are absorbed in the total GSP measure. This result can be attributed to the labor intensity and, perhaps, the absence of pronounced scale economies in these industries. In contrast, the financial sector has the lowest labor intensity of all the industrial sectors. Thus, it is not surprising to find that expansions in this group's GSP have a smaller effect on aggregate employment. Adjustment speed appears to be different in the wholesale trade and financial sectors. For the wholesale trade industry, a large percentage of the increase in employment does not occur until the second year. In contrast, the financial sector appears to adjust more rapidly than other industry groups.

The estimated effects of the wrongful-termination doctrines are quite consistent with the results obtained from the specification that did not control for differences in the industrial mix. The recognition of the tort cause of action for unjust dismissal appears to be associated with between a 3- and 4-percent drop in employment compared with jurisdictions in which businesses retain unrestricted rights to fire workers at will. As before, the recognition of contract and the covenant of good faith and fair dealing without punitive damages has a smaller, barely discernible effect on firm decisionmaking.

[15]For example, Hamermesh (1989) discusses some of the aggregation biases that could occur if there are fixed or marginally decreasing costs of adjustment.

Table 5.3

Employment Effects of Employer Liability: Controlling for Industry Effects (coefficient standard errors in parentheses)[a]

	Model I[b]	Model II[c]
Log (gross state product):		
Total GSP	0.346*	0.354*
	(0.057)	(0.056)
Services	0.147*	0.134*
	(0.048)	(0.046)
Retail trade	0.091***	0.092***
	(0.050)	(0.049)
Wholesale trade	0.125*	0.146*
	(0.029)	(0.028)
Finance and insurance	–0.084*	–0.078*
	(0.023)	(0.029)
Log (growth in GSP):		
Total GSP growth	–0.222*	–0.199*
	(0.055)	(0.050)
Services growth	–0.025	–0.037
	(0.067)	(0.066)
Retail trade growth	–0.005	0.050
	(0.067)	(0.065)
Wholesale trade growth	–0.107*	–0.118*
	(0.037)	(0.036)
Finance and insurance growth	0.102*	0.074*
	(0.024)	(0.024)
Time trends:		
1982	–0.011***	–0.006
	(0.006)	(0.004)
1983	–0.009	–0.022*
	(0.008)	(0.066)
1984	0.011	–0.002
	(0.009)	(0.007)
1985	0.006	–0.001
	(0.010)	(0.009)
1986	–0.001	–0.012
	(0.012)	(0.010)
Court Doctrine:		
Tort	–0.031*	–0.042*
	(0.011)	(0.008)
Contract	–0.018***	0.002
	(0.010)	(0.009)
Broad PP or GF (Tort)	–0.009	0.001
	(0.011)	(0.014)
R-squared	0.99984	0.99985

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent; **5 percent; and ***10 percent.

[b]Court doctrine predictions based on logistic models of the status in the law using uncensored data.

[c]Court doctrine predictions based on logistic models of changes in the status of the law using censored data.

Although the aggregate model does correct for differences in the industrial mix, even more flexibility can be introduced by estimating separate models for each sector. This methodology allows for the distinct possibility that wrongful-termination doctrines could have varying effects on different industrial sectors.[16] Table 5.4 reports separate estimates for nonmanufacturing, manufacturing, services, retail trade, wholesale trade, and the financial sector.

There appear to be important distinctions between industrial sectors in the degree of labor responsiveness to changes in production. Employment in the nonmanufacturing sectors, particularly for services, retail trade, and wholesale trade, is more elastic than in the manufacturing sector. In the absence of legal restrictions on the ability to dismiss employees, the nonmanufacturing sector, particularly services, appears to have the highest adjustment costs. Firms in these industries have a delayed response to changes in output, with much of the employment adjustments occurring in a subsequent calendar year. Time trends are quite different across sectors. The manufacturing and wholesale trade sectors have experienced significant declines in labor utilization, even after controlling for changes in industry-specific output levels. In contrast, the service and financial sectors dramatically increased employment between 1980 and 1986.

The changes in tort doctrine also appear to have had quite different effects across industry sectors. The long-run effects of the new doctrines appear to be most pronounced in the nonmanufacturing sectors, with particularly large employment declines in the service and financial groups. The marginal effects of the tort doctrine on long-run employment levels are 5.5 and 7.2 percent for the services and financial sectors, respectively. For the retail industry, the cumulative effect of both contract and tort doctrines is significant. For wholesale trade, the effect is somewhat smaller and not statistically distinguishable from zero. For the more highly unionized, blue collar manufacturing sector, the data do not support the conclusion that wrongful-termination doctrines have had a significant effect.

[16]Using quarterly data for the U.S. economy, Hamermesh (1990b) provides some evidence that adjustment speed in the nonmanufacturing sector has been declining over time. He partially attributes this to the influence of wrongful-termination doctrines that are likely to have a bigger impact for workers not already protected by labor unions. Of course, our own analysis of state-level data has the advantage of being able to control for the significant cross-sectional differences between jurisdictions in the timing and extent of the departure from employment-at-will doctrines.

Table 5.4

Employment Effects of Employer Liability: Industry Comparisons (coefficient standard errors in parentheses)[a]

	Non-Mfg.	Mfg.	Service	Retail	Wholesale	Finance
Log (GSP)	0.794*	0.507*	0.704*	0.740*	0.800*	0.512*
	(0.018)	(0.025)	(0.028)	(0.018)	(0.022)	(0.041)
Log (GSP growth)	–0.267*	–0.078	–0.278*	–0.047	–0.090**	0.054
	(0.050)	(0.097)	(0.074)	(0.047)	(0.045)	(0.103)
Time trends:						
1981	0.002	–0.011**	0.012*	0.013*	0.005	0.006
	(0.003)	(0.006)	(0.004)	(0.003)	(0.004)	(0.007)
1982	–0.002	–0.050*	0.030*	0.020*	–0.016*	0.011
	(0.003)	(0.007)	(0.005)	(0.003)	(0.004)	(0.008)
1983	0.010**	–0.091*	0.056*	0.019*	–0.026*	0.034*
	(0.004)	(0.009)	(0.005)	(0.005)	(0.005)	(0.010)
1984	0.028*	–0.101*	0.089*	0.036*	–0.059*	0.072*
	(0.005)	(0.012)	(0.007)	(0.006)	(0.007)	(0.012)
1985	0.038*	–0.128*	0.116*	0.048*	–0.090*	0.116*
	(0.006)	(0.013)	(0.009)	(0.007)	(0.009)	(0.016)
1986	0.043*	–0.154*	0.134*	0.046*	–0.120*	0.146*
	(0.007)	(0.014)	(0.010)	(0.008)	(0.011)	(0.018)
Doctrine[b]						
Tort	–0.029*	0.014	–0.055*	–0.013	–0.017	–0.072*
	(0.009)	(0.019)	(0.013)	(0.010)	(0.014)	(0.025)
Contract	–0.008	–0.027	–0.049*	–0.025*	–0.006	–0.002
	(0.009)	(0.018)	(0.011)	(0.009)	(0.013)	(0.022)
Tort-growth interaction	–0.293*	0.167	0.057	–0.268*	0.060	–0.507*
	(0.112)	(0.111)	(0.057)	(0.085)	(0.094)	(0.230)
R-squared	0.99980	0.99952	0.99975	0.99985	0.99976	0.99919

[a]Asterisks indicate that the value is different from zero in the following significance levels: *1 percent, **5percent, ***10 percent.

[b]Predictions based on logistic models of the status of the law using uncensored data.

Interestingly, the empirical findings from disaggregated data suggest that the court doctrines may have also had some effects on the adjustment speed of firms. The interaction between the predicted probability of tort and the measure of GSP growth was negative and significant for the nonmanufacturing sector. This effect seems to be concentrated in the retail and financial sectors. The estimates imply that, while adjustment speed in these sectors is generally quite rapid, employment changes are significantly delayed in certain states following the adoption of tort versions of unjust dismissal doctrines.

Qualitatively, these results are stable with respect to alternative models. Wrongful-termination doctrines appear to have a significant negative effect on employment, especially in the nonmanufacturing,

service, retail, and financial sectors of the economy. This result is entirely consistent with the observation that a large number of wrongful-termination legal cases involve such firms as department stores and banks.[17] Although there is some evidence that adjustment speed is also affected, we will not have complete confidence in making this distinction without further empirical scrutiny. To begin with, the results on adjustment speed were somewhat sensitive to the use of alternative modeling assumptions.[18] In addition, because GSP has been generally increasing for all industry sectors, the tort-growth interaction term could have been affected by patterns in the reaction of business to the liabilities over time. As discussed earlier, employment reactions might differ over time as firms receive additional information and adopt human resource strategies in response. Theoretically, one might test and control for such patterns, but, as a practical matter, it was not feasible in the current study.[19]

ESTABLISHMENT SIZE AND THE EFFECTS OF WRONGFUL TERMINATION

As suggested earlier, wrongful termination could have distributional consequences for different types of firms. In addition to industry-related distinctions, establishment size could be a relevant factor affecting the importance of the emerging doctrines for the cost of doing business. On one hand, small firms may not have the scale necessary to adopt preventative measures in the face of the new liability threats.[20] The fixed costs of establishing in-house counsel, a human resource department, or formal grievance-adjudication procedures may be well beyond the financial capabilities of all but the largest enterprises. In addition, businesses having a small workforce

[17]See Dertouzos, Holland, and Ebener (1988) for a discussion of the distribution of court cases.

[18]For example, in Table C.6 of App. C, we replicate these results using predictions based on logistic models of changes in the law using censored rather than uncensored observations. Although all other results were quite similar, the tort-growth interaction term was no longer significant for the financial industry.

[19]We made several futile attempts to sort out the dynamics of the business response by introducing lagged values for the doctrines and interacting these with the growth measure as well. At the same time, we attempted to control for changes in response speed that might have affected all firms, regardless of their location. See Table C.7 in App. C. These efforts did not change the basic result that employment was lower because of employment liability, but they also did not provide any additional interpretable, empirical insights concerning the pattern of change over time.

[20]Of course, the correlation with firm and establishment size is not perfect. Many large businesses, such as banks or retailers, consist of multiple branches, franchises, or outlets.

will be unable to diversify risk across employees or may not have experience with how to deal with liability issues. On the other hand, big corporations inherently have more separation between upper management and the day-to-day operations of workplace relationships. The resulting divergence of incentives between those making personnel decisions and those bearing the liability risks of those decisions means that changing doctrines makes costly institutional change necessary. Lastly, information flows could be quite different for large and small businesses.

To examine these possibilities, we analyzed the distribution of employment between establishments having greater or fewer than 250 employees.[21] The regression results reported in Table 5.5 indicate that there are significant differences in the size composition of establishments belonging to various industrial sectors. Long-run changes in the GSP of manufacturing and service industries appear to favor the growth of employment in establishments having at least 250 employees.[22] In contrast, states having greater retail and wholesale trade, and production from the financial, insurance, and real estate sectors, have relatively more employment in smaller establishments. The difference between the long- and short-run equilibrium appears to be less important for small establishments, suggesting that they may be able to react to a changing economic environment more quickly. In a large corporation, the speed of communication between personnel, production, and sales managers could slow the process, as could the diverging incentives of each department. Finally, it is interesting to note that the relative growth of employment in large establishments has been lower. This could reflect entry of new firms and/or the relative growth in industries (such as services and retail trade) that have relatively few establishments with 250 or more workers.

On the surface, employment at large establishments has declined relative to that at enterprises with fewer than 250 workers in those states recognizing the tort wrongful-termination doctrine. For large

[21]This distinction was arbitrary. Alternative definitions of large versus small gave the same results.

[22]As we will discuss below, the interpretation of these results is not straightforward. This is because particular establishments, as they expand and contract their employment, will change their size classification. So, part of the relatively large elasticity of employment for the large category occurs because small establishments become large ones when GSP grows.

Table 5.5

Employment Effects of Liability on Small Versus Large Establishments (coefficient standard errors in parentheses)[a]

	Establishment Size	
	>250 Employees	<250 Employees
Log (gross state product):		
Total GSP	0.811*	–0.062
	(0.190)	(0.056)
Manufacturing	0.231*	0.082*
	(0.054)	(0.016)
Services	0.240*	0.221*
	(0.093)	(0.047)
Retail trade	–0.319*	0.271*
	(0.156)	(0.046)
Wholesale trade	0.182*	0.243*
	(0.029)	(0.029)
Finance and insurance	–0.268*	0.018
	(0.071)	(0.022)
Log (growth in GSP):		
Total GSP growth	–0.663*	–0.092***
	(0.161)	(0.047)
Manufacturing growth	–0.110	0.010
	(0.078)	(0.024)
Services growth	–0.110	0.075
	(0.217)	(0.063)
Retail trade growth	0.049	0.021
	(0.189)	(0.059)
Wholesale trade growth	0.131	–0.219*
	(0.125)	(0.038)
Finance and insurance growth	0.342*	0.036
	(0.071)	(0.022)
Time trends:		
1981	–0.024**	–0.003
	(0.012)	(0.004)
1982	–0.041**	–0.001
	(0.006)	(0.005)
1983	–0.056*	–0.041*
	(0.022)	(0.007)
1984	–0.053*	–0.009
	(0.009)	(0.008)
1985	–0.076*	–0.012
	(0.026)	(0.008)
1986	–0.087*	–0.023*
	(0.031)	(0.010)

Table 5.5—continued

	Establishment Size	
	>250 Employees	<250 Employees
Court doctrine[b]		
Tort	–0.076*	–0.038*
	(0.030)	(0.009)
Contract	–0.052***	0.008
	(0.027)	(0.009)
R-squared	0.99907	0.99986

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Court doctrine predictions based on logistic models of the status in the law using uncensored data.

establishments, the decline is 7.6 percent. For small businesses, the decline is half as much. However, this comparison does not control for the changing size distribution that would occur given an overall decline in employment for all establishment size categories. That is, if employment fell by 5 percent for all firms, many firms with slightly greater than 250 employees would, after the adoption of wrongful-termination doctrines, now have fewer employees. Thus, they would now appear in the small establishment category. Given the size distribution of firms that prevailed between 1980 and 1986, we estimate that a 5-percent decline in employment would probably cause an average of about 50 establishments per state to fall to the small-establishment category.[23] This would represent a 1.1 percent addition to this size class and a 2.6 percent decline in the total employment of larger firms. This 3.7 percent swing resulting from changing size classifications could fully account for the wedge that exists between the employment levels for large and small establishments following the adoption of a tort doctrine. This suggests that the evolving employment doctrines are completely neutral in their effects on small and large business. Note, however, that the cumulative effect of contract and tort causes of action sum to almost 13 percent in the case of larger enterprises. In comparison, the total

[23]Given the distribution of establishment size, we calculated that an average state had about 50 establishments with between 250 and 263 employees. A 5-percent employment decline would cause all firms to fall below the cut-off point of 250. These 50 establishments would add approximately 12,160 employees to the small-establishment category (their average size would drop from 256 to just over 243). On average, large establishments employed 459,572 workers in a state, while small establishments employed 1,058,557. Thus, the 12,160 shift represents 1.1 and 2.6 percent of small and large-establishment employment, respectively.

effect of both doctrines is estimated to be only 3 percent for small enterprises. The intercategory flow of firms probably cannot account for such a large wedge. Thus, we conclude that small firms have not experienced a greater employment effect than their counterparts that have more than 250 workers. If anything, their share of total employment may have risen in states adopting common-law exceptions to employment at will.

6. CONCLUSIONS

Our analysis provides evidence that wrongful-termination liability creates substantial costs beyond those directly attributable to lawsuits. This conclusion is based upon an analysis of labor-market outcomes following changes in states' wrongful-termination doctrines. We find that firms alter their use of labor significantly, suggesting that these other costs are much larger than the cost of defending lawsuits, including attorney fees, jury awards, and settlement payments. The remainder of this section summarizes our main results and discusses the issues they raise for further research.

SUMMARY OF RESULTS

Our econometric analysis of state-level employment outcomes provides strong evidence that wrongful-termination doctrines have significantly affected business decsionmaking. We observed that, after states adopt the most liberal tort versions of the covenant of good faith and fair dealing and the broad public-policy exceptions to employment at will, the following labor-market changes occur:

- Aggregate employment drops by 2 to 5 percent. This result was insensitive to the use of alternative models, statistical assumptions, and econometric methodologies.
- Employment reductions are even higher in some nonmanufacturing industries, particularly the service sector, the retail trade, and the financial, insurance, and real estate group. This difference could stem from a variety of factors. Possible explanations include less frequent union protection, higher expected damage claims by dismissed employees due to greater levels of skills that are not transferable to other firms, systematic differences in management organization, and differences in the availability of objective criteria for evaluating job performance.
- Business adjustment to changes in labor demand might be slower in certain industries following the adoption of wrongful-termination doctrines. These findings are not as robust as those for aggregate employment levels; even at the extreme values, these

effects are small compared with the long-term decline in employment levels.[1]

- The decline in employment appears to be greater for larger businesses, i.e., those having more than 250 workers. This suggests that most costs associated with wrongful termination are not fixed (that is, the same regardless of the number of employees) but, rather, vary on a per-employee basis.

These results indicate that the threat of wrongful termination suits changes firms' human-resource practices in a manner that increases the costs of doing business. Moreover, these costs affect all employees, not merely those terminated. In effect, firms have responded to increased wrongful-termination liability by treating labor as more expensive. How much more expensive? To put this cost in perspective, we can use a measure from the general literature on labor demand: A 3-percent decline in aggregate employment is consistent with a 10-percent wage increase.[2] This measure suggests that the nonlegal costs of wrongful termination doctrines are quite large. These costs dwarf the litigation costs of wrongful-termination suits (as outlined in Sec. 4). In fact, the indirect costs are on the order of 100 times greater than the direct legal costs of these new liabilities.[3]

Given the small size of the direct legal costs, the magnitude of the indirect costs may be surprising to some. It suggests that firms may be adopting new human-resource practices in order to avoid wrongful-termination lawsuits.

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[1]For example, we can compute the average deficits (during periods of expansion) and surpluses (during periods of contraction) implied by the estimated coefficient on the interaction between tort and GSP growth for nonmanufacturing employment. The coefficient of -0.293 implies that about one-third of the employment adjustment in response to a GSP change is deferred to the following calendar year. On average, this implied a 1.1 percent employment deficit during expansions (with a standard deviation of 0.8). For contractions, employment levels during the first year were about 0.7 percent higher than they would have been had adjustment speed not been slowed because of wrongful termination. The standard deviation of this estimate was 0.6.

[2]See Hamermesh (1986) for a summary of the empirical literature on aggregate labor demand relationships. As reported, labor-demand wage elasticities range between -0.15 and -0.45, averaging about –0.3. This suggests that a 10-percent increase in the wage rate would reduce employment by approximately 3 percent.

[3]It is very interesting to note, however, that the direct legal costs associated with wrongful-termination suits are, on a per-worker basis, about twice those associated with worker-protection regulations that existed in West Germany (see Buechtemann, forthcoming). Although no convincing documentation exists, some observers argue that these latter regulations are the cause of firm inflexibility, high unemployment, and declines in international competitiveness.

FURTHER QUESTIONS

The magnitude of employer response raises two crucial questions that must be answered before we can assess the net effects of wrongful-termination liability. First, why are firms responding this way? The large employment effect is consistent with three plausible alternative hypotheses:

- Our accounting of direct legal expenses excludes other costs, the value of managers' time, and the stress associated with legal action. These latter costs could be significant and particularly onerous for the managers involved. A more complete accounting of these other direct costs would narrow the gap between the cost of lawsuits and the indirect costs associated with avoiding litigation.
- Case outcomes are highly uncertain, and damage awards are quite unpredictable.[4] If firms or managers making decisions on behalf of the firms are risk averse, the threat of litigation could well induce avoidance behavior that costs far more in the aggregate than the average or expected liability for legally contested cases. This is especially true if those making management decisions bear the consequences of legal activity directly but are able to spread the costs of avoiding litigation much more widely across the firm and its stockholders.
- Personnel managers may be reacting to perceived rather than actual legal risks. To the extent that business attitudes are influenced by a selected flow of information via media reports of newsworthy jury awards, the perceived risk might be inflated. Surely, human-resource specialists and labor lawyers would have few incentives to downplay the reported risks.

Second, what are the benefits of the new doctrines and are they commensurate with the costs? Whether or not the recent changes in wrongful-termination law are desirable depends upon whether compensating benefits accrue to employees, firms, or society at large. Clearly, some workers will benefit from enhanced job security. In addition, the legal system might provide some compensation (and

[4]The importance of punitive damages in provoking these large responses suggests that a proposed Uniform Employment Termination Act, if adopted by Congress, would reduce the consequences of wrongful termination for business. Current versions of the legislation, drafted by a committee of the National Conference of Commissions on Uniform State Laws, adopt a good-cause standard requiring that terminations be based on poor employee performance or the good-faith exercise of business judgment in setting economic goals. Proposed remedies abolish tort actions, such as defamation and the intentional infliction of emotional distress, and limit maximum compensatory damages (up to five years' pay).

future deterrence) in isolated cases of egregious employer behavior. Firms could benefit, as well, from these doctrines. For example, the new liability may provide a pretext for exerting stricter top-level control over mid-level managers' employment decisions. Such control, which might otherwise meet resistance from these managers, could make mid-level decisions more efficient by aligning them more closely with broader corporate goals.

As we noted in Sec. 4, firms may already have incentives to adopt job-security provisions and mechanisms to protect employees against mistreatment. If so, what role can the legal system play in enforcing justice in the workplace? One might argue that it provides a "backup" in cases where middle managers make arbitrary termination decisions that contradict corporate interests. Thus, though the legal system may increase the uncertainty associated with terminating an employee, it actually clarifies the contractual nature of the employee-employer relationship. This, in turn, has the effect of promoting a long-term relationship between firms and workers in which each is more likely to invest in the other.

Social benefits may follow as well. In the absence of employer liability, firms may not bear the full social cost of their decision to terminate an employee, shifting part of this burden onto society. For example, if workers develop knowledge and skills that are not transferable to other firms, then the loss of these abilities may not be considered by the employer when making the termination decision.[5] Society therefore absorbs part of this loss. Furthermore, if a worker is unemployed for any length of time, subsidies, such as unemployment insurance, are only partially funded by the previous employer. Potential liabilities raise the cost of termination for individual firms and, theoretically, can make this cost more consistent with the social costs, thereby inducing more efficient decisionmaking.[6]

Any evaluation of unjust dismissal restrictions will require additional case-study analysis of individual firms and microeconomic data describing the internal decisionmaking processes of corporate management. Aggregate information alone does not allow us to identify the source of the implied cost increases or judge their desirability. Even if we were able to document the particular behavioral responses, any evaluation of these changes would depend

[5]Hamermesh (1987) develops this point theoretically and provides some evidence that the sunk costs of firm-specific human capital can be worth thousands of dollars, thereby driving a large wedge between the private and social costs of dismissal.

[6]Ehrenberg and Jakubson (1988) cite this as a potential justification for recent statutory provisions that are meant to discourage large-scale layoffs of workers.

on whether or not firms already have sufficient incentives to provide "optimal" amounts of job security. If they do not, one must then determine whether the resulting changes are too big, too small, or the right kind.

Appendix A
WRONGFUL-TERMINATION CASES BY STATE

This appendix contains the citations for the precedent-setting cases that correspond to the characterization of the legal environment shown in Table 2.1. For each state, we list the year of the ruling, the court that made the ruling, the particular exception recognized, and the name and citation of the case.

Table A.1

Wrongful Termination Cases

ST	YR	Court	Law	Case
AL	87	S	IC	Hoffman-LaRoche, Inc. v. Campbell (512 S.2d 725)
AK	86	S	PP-N	Knight v. American Guard & Alert, Inc. (714 P.2d 788)
	83	S	IC	Eales v. Tanana Valley Medical-Surgical Group Inc. (663 P.2d 958)
	83	S	GF-C	Mitford v. de Lasala (666 P.2d 1000)
AZ	85	S	PP-N	Wagenseller v. Scottsdale Memorial Hosp. (710 P.2d 1025)
	84	S	IC	Leikvold v. Valley View Community Hospital (141 Ariz. 544, 688 P.2d 170)
	85	S	GF-C	Wagenseller v. Scottsdale Memorial Hosp. (710 P.2d 1025)
AR	80	S*	PP-N	MBM Co. v. Counce (596 S.W.2d 681)
	88	S	PP-C	Sterling Drugs, Inc. v. Oxford (743 S.W.2d 380)
	82	S*	IC	Griffen v. Erickson (277 Ark. 433, 642 S.W.2d 308)
CA	59	A	PP-N	Petermann v. International Bhd. of Teamsters (174 Cal. App. 2d 184, 344 P.2d 25)
	80	S	PP-B	Tameny v. Atlantic Richfield Co. (164 Cal. Rptr. 839, 610 P.2d 1330)
	72	A	IC	Drzewiecki v. H & R Block, Inc. (24 Cal. App. 3d 695, 101 Cal. Rptr. 169)
	80	A	GF-T	Cleary v. American Airlines (111 Cal. App. 3d 443, 168 Cal Rptr 722)
	88	S	GF-C	Foley v. Interactive Data Corp. (47 Cal. 3d 654, 254 Cal. Rptr. 211, 765 P.2d 373)

Table A.1—continued

ST	YR	Court	Law	Case
CO	88	A	PP-N	Cronk v. Inter-mountain Rural Electric Assn. (765 P.2d 619)
	84	A	IC	Salimi v. Farmers Insurance Group (684 P.2d 264)
CT	80	S	PP-N	Sheets v. Teddy's Frosted Foods (179 Conn .471, 427 A.2d 385)
	84	S	IC	Magnan v. Anaconda Indus. (193 Conn. 558, 479 A.2d 781)
	85	A	GF-C	Cook v. Alexander & Alexander of Conn. (40 Conn. App. 246, 488 A.2d 1295)
HI	82	S	PP-B	Parnar v. Americana Hotels (Hawaii, 1982, 652 P.2d 625)
	86	S	IC	Kinoshita v. Canadian Pac. Airlines, Ltd. (724 P.2d 100)
ID	77	S	PP-N	Jackson v. Minidoka Irrigation Dist. (98 Idaho 330, 563 P.2d 54)
	77	S	IC	Jackson v. Minidoka Irrigation Dist. (98 Idaho 330, 563 P.2d 54)
	89	S	GF-C	Metcalf v. Intermountain Gas Co. (778 P.2d 744)
IL	78	S	PP-N	Kelsay v. Motorola, Inc. (1978, 74 Ill. 2d 172, 384 N.E.2d 353)
	81	S	PP-B	Palmateer v. International Harvester Co. (85 Ill. 2d 124, 421 N.W.2d 876)
	87	S	IC	Duldulao v. St. Mary of Nazareth Hosp. Center (115 Ill. 2d 482, 505 N.E.2d 314)
IN	73	S	PP-N	Frampton v. Cental Indiana Gas Co. (1973, 260 Ind 249, 297 N.E.2d 425)
	87	S	IC	Romack v. Public Service Co. of Indiana (511 N.E.2d 1024)
IA	85	S*	PP-N	Northrup v. Farmland Indus., Inc. (372 N.W.2d 193)
	87	S	IC	Young v. Cedar County Work Activity Ctr., Inc. (418 N.E.2d 844)
KS	81	A	PP-N	Murphy v. City of Topeka-Shawnee County Dep't (6 Kan. App. 2d 488, 630 P.2d 186)
	88	S	PP-B	Palmer v. Brown (752 P.2d 685)
	84	A	IC	Allegri v. Providence-St. Margaret Health Ctr (Kan. Ct. App., 684 P.2d 1031)
KY	83	S	PP-N	Firestone Textile Co. v. Meadows (666 S.W.2d 730)
ME	84	S	IC	Larrabee v. Penobscot Frozen Foods, Inc. (486 A.2d 97)
MD	81	A	PP-N	Adler v. American Standard Corp. (290 Md. 615, 432 A.2d 464)

Table A.1—continued

ST	YR	Court	Law	Case
	85	A	IC	Staggs v. Blue Cross of Maryland, Inc. (61 Md. App. 381, 486 A.2d 798)
MA	82	S	PP-N	Cort v. Bristol Meyers Co. (385 Mass. 300, 431 N.E.2d 908)
	88	S	IC	Jackson v. Action for Boston Comm. Dev., Inc. (403 Mass. 8, 525 N.E.2d 411)
	77	S	GF-C	Fortune v. National Cash Register Co. (373 Mass. 96, 364 N.E.2d 1251)
MI	76	A	PP-N	Sventko v. Kroger Co. (69 Mich. App. 644, 245 N.W. 2d 151)
	80	S	IC	Toussaint v. Blue Cross & Blue Shield of Mich. (408 Mich. 579, 292 N.W. 2d 880)
MN	86	A	PP-N	Phipps v. Clark Oil & Ref. Co. (396 N.W.2d 588, Minn. Ct. App.)
	83	S	IC	Pine River State Bank v. Mettille (333 N.W.2d 622)
MO	85	A	PP-N	Boyle v. Vista Eyewear, Inc. (Mo. Ct. App., 700 S.W.2d 859, 878)
	83	A	IC	Arie v. Intertherm, Inc. (Mo. Ct. App. 1983, 648 S.W.2d 142)
MT	80*	S	PP-N	Keneally v. Orgain (186 Mont. 1, 606 P.2d 127)
	87	L	IC	Wrongful Discharge From Employment Act (Mont. Code Ann. §39–2–901–39–2–905)
	83	S	GF-T	Gates v. Life of Montana Ins. Co. (668 P.2d 213)
NE	87	S	PP-N	Ambroz v. Cornhusker Square Ltd. (416 N.W.2d 510)
	83	S	IC	Morriss v. Lutheran Medical Center (215 Neb. 677, 340 N.W.2d 388)
NV	84	S	PP-N	Hansen v. Harrah's (675 P.2d 394)
	83	S	IC	Southwest Gas Corp. v. Ahmad (99 Nev. 594, 668 P.2d 261)
	87	S	GF-T	K-Mart Corp. v. Ponsock (732 P.2d 1364)
NH	74	S	PP-C	Monge v. Beebe Rubber Co. (114 N.H. 130, 316 A.2d 549)
	81	S	PP-B	Cloutier v. Great Atlantic & Pacific Tea Co. (121 N.H. 915, 436 A.2d 1140)
	74	S	GF-C	Monge v. Beebe Rubber Co. (114 N.H. 130, 316 A.2d 549)
NJ	80	S	PP-B	Peirce v. Ortho Pharmaceutical Corp. (84 N.J. 58, 417 A.2d 505)
	85	S	IC	Wolley v. Hoffmann-La Roche, Inc. (99 N.J. 284, 491 A.2d 1257)

Table A.1—continued

ST	YR	Court	Law	Case
NM	83	A	PP-N	Vigil v. Arzola (102 N.M. 682, 699 P.2d 613)
	80	S	IC	Forrester v. Parker (93 N.M. 781, 606 P.2d 191)
NY	78	A	PP-N-C	Chin v. American Telephone & Telegraph, Co. (96 Misc. 2d 1070, 410 N.Y.S.2d 737)
	83	S	PP-R	Murphy v. American Home Productions Corp. (58 N.Y.2d 293, 448 N.E.2d 86)
	82	S	IC	Weiner v. McGraw Hill Inc. (443 N.E.2d 441, 457 N.Y.S.2d 193)
NC	85	A	PP-N	Sides v. Duke Hospital (74 N.C. App. 331, 328 S.E.2d 818)
ND	87	S	PP-N	Krein v. Marion Manor Nursing Home (415 N.W.2d 793)
	86	S*	IC	Bailey v. Perkins Restaurants, Inc. (398 N.W.2d 120)
OH	85	A	PP-N	Goodspeed v. Airborne Express, Inc. (121 L.R.R.M. 3216, BNA)
	86	S	PP-R	Phung v. Wast Management, Inc. (23 Ohio St. 3d 100, 491 N.E.2d 1114)
	82	A	IC	West v. Roadway Express (115 L.R.R.M. 4553, BNA)
OK	89	S	PP-N	Burk v. K-Mart Corp. (770 P.2d 24)
	87	A	IC	Hinson v. Cameron (742 P.2d 549)
OR	75	S	PP-N	Nees v. Hocks (272 Or. 210, 536 P.2d 512)
	78	S	IC	Yartzoff v. Democrat-Harald Publishing Co. (281 Or. 651, 576 P.2d 356)
PA	78	A	PP-N	Reuther v. Fowler & Williams, Inc. (255 Pa. Super. 28, 386 A.2d 119)
RI	88	S*	PP-N	Volino v. General Dynamics (539 A.2d 531)
SC	85	S	PP-N	Ludwick v. This Minute of Carolina, Inc. (337 S.E.2d 213)
	87	S	IC	Small v. Springs Indus., Inc. (357 S.E.2d 452)
SC	84	S*	PP-N	Trombollo v. Dunn (342 N.W.2d 23)
	83	S	IC	Osterkamp v. Alkota Mfg., Inc. (332 N.W.2d 275)
SC	84	S	PP-N	Clanton v. Cain-Sloan Co. (677 S.W.2d 441)
TX	84	A	PP-N	Sabine Pilots, Inc. v. Hauch (672 S.W.2d 322, Ct. App. 1984)

Table A.1—continued

ST	YR	Court	Law	Case
UT	89	S	IC	Berube v. Fashion Centre Ltd. (771 P.2d 1033, 1043)
VT	79	S*	PP-N	Jones v. Keough (409 A.2d 581)
	86	S	PP-B	Payne v. Rozendaal (520 A.2d 586)
	86	S	IC	Benoir v. Ethan Allen, Inc. (514 A.2d 716)
VA	85	S	PP-N	Bowman v. State Bank of Keysville (331 S.E.2d 797)
WA	77	S*	PP-N	Roberts v. Atlantic Richfield Co. (88 Wash. 2d 887, 568 P.2d 764)
	77	S	IC	Roberts v. Atlantic Richfield Co. (88 Wash. 2d 887, 568 P.2d 764)
WV	78	S	PP-N	Harless v. First National Bank in Fairmont (162 W.Va. 116, 246 S.E.2d 270, 271 1978)
	84	S	PP-B	Cordle v. General Hugh Mercer Corp. (325 S.E.2d 111)
	86	S	IC	Cook v. Heck's, Inc. (342 S.E.2d 453, 459)
WI	82	A	PP-C	Brockmeyer v. Dun & Bradstreet (109 Wis. 2d 44, 325 N.W.2d 70)
	85	S	IC	Ferraro v. Keolsch (124 Wis. 2d 154, 368 N.W.2d 666)
WY	85	S*	PP-C	Allen v. Safeway Stores, Inc. (699 P.2d 277)
	85	S	IC	Mobil Coal Producing, Inc. v. Parks (704 P.2d 702)

S = Supreme Court
A = Appellate Court
* = Ruling *in dicta*
IC = Implied-Contract Doctrine
PP-N = Narrow Public-Policy Doctrine
PP-B = Broad Public-Policy Doctrine
GF-C = Good-Faith Contract Doctrine
GF-T = Good-Faith Tort Doctrine

Appendix B
DATA SOURCES

The state-specific data used in this analysis come from a number of different sources. For the logistic analysis presented in Sec. 2, the data cover the 1980 to 1987 period. Since some variables are lagged three years, the data actually begin in 1977. The dependent variable is the status of the law as shown in Table 2.1 and further detailed in App. A. The characterization of the legal environment is also used to calculate the percentage of a state's neighbors that have already recognized the doctrine, with neighbors defined as states sharing a common border. The existence of a right-to-work law in 1980 is based on data found in Troy and Sheflin, *U.S. Union Source Book*, 1985. The right-to-work variable equals 1 if the state had a right to work law in 1980 and equals 0 otherwise. The *Statistical Abstract of the United States* was the source for the data on the number of lawyers per capita in 1980 and 1985, which we used to calculate the average annual percentage change in the lawyer-to-population ratio of the state over the 1980 to 1985 period. The *Statistical Abstract* was also the source for the data on the political party of the state's governor from 1977 to 1987. The state unemployment rate measures the percentage of the civilian labor force that is unemployed as reported in various issues of *Geographic Profile of Employment and Unemployment*. The unionization rates for 1980 to 1982 were based on data reported in the *U.S. Union Source Book*, while the data for the later years were based on tabulations from the 1983–1987 Current Population Surveys.

The analysis in Sec. 3 also uses data by state for the 1980 to 1987 period. The data on aggregate state employment and employment by industry are prepared by the Bureau of Labor Statistics (BLS) and reported in various issues of *Employment and Earnings*. Data on total gross state product (GSP) and GSP by industry are prepared by the Bureau of Economic Analysis and reported in various issues of the *Survey of Current Business*. The distribution of employees by establishment size (less than 250 employees and greater than 250 employees) is reported in various issues of *County Business Patterns*.

Appendix C
ADDITIONAL ECONOMETRIC RESULTS

In addition to the empirical results described in the main body of this report, we performed additional econometric tests. These supplementary analyses tested the validity of our models and many of the underlying statistical assumptions. In addition, the use of alternative methodologies enabled us to evaluate the sensitivity of our empirical estimates. As Tables C.1 through C.7 will document, the basic econometric results were remarkably robust.

In Tables C.1 and C.2, we report the coefficient estimates and standard errors from a series of logistic regressions predicting the adoption of wrongful-termination doctrines between 1980 and 1987. These results were based on a censored sample that excluded observations subsequent to the adoption of a particular doctrine. Thus, the estimated relationships represent the conditional probabilities of a jurisdiction's adopting a doctrine if it had not already done so. As indicated, prevailing attitudes toward worker rights, changes in unionization, changes in unemployment rates, and legal doctrines in contiguous states all appear to influence the adoption of the different doctrines. As described in Sec. 3, cumulative probabilities based on these models are quite similar to those based on logistic regressions of the status of the law using uncensored observations.

In Table C.3, we compare the estimated effects of tort and contract doctines using alternative methodologies. First, we treat the doctrine as exogenous and set the value of the indicator variable equal to one when the jurisdiction has adopted the doctrine, zero otherwise. As detailed earlier, estimates based on the actual status of the doctrine would suffer from simultaneous equation biases if measures of economic conditions affected by the doctrine also played an important role in the adoption of the doctrine. The importance of such a bias is apparent in the positive estimated effect of tort doctrines on aggregate employment. In contrast, the estimated effects using predictions based upon logistic regressions indicate that the tort doctrines have reduced employment. The cumulative effects of the tort and contract doctrines sum to –4.6 percent, regardless of which logistic predictions are used.

Table C.1

Predicting the Adoption of Wrongful-Termination Doctrines, 1980–1987: Maximum Likelihood Logistic Estimates (coefficient standard errors in parentheses)[a]

Variable	Narrow PP	IC or GF (Contract)	Broad PP or GF (Tort)
Intercept	–4.035*	–1.553	–5.609*
	(1.075)	(1.088)	(1.959)
Year = 1980	0.830***	0.566	0.177
	(0.482)	(0.459)	(0.984)
Right-to-work state	–0.542	–1.199**	–1.262
	(0.527)	(0.550)	(1.311)
Change in lawyers per capita (%)	19.452	–5.068	14.564
	(19.959)	(17.822)	(38.978)
Neighboring states recog. doctrine[b,c] (%)	0.050**	0.038***	0.009
	(0.022)	(0.022)	(0.044)
Neighboring states recog. doctrine squared[b,c] (%)	–0.0006*	–0.0002	–0.0004
	(0.0002)	(0.0003)	(0.0005)
Neighboring states recog. doctrine[b,c] (%)			0.011
			(0.059)
Neighboring states recog. doctrine squared[b,c] (%)			–0.0001
			(0.0009)
Union[b] (%)	0.062	–0.009	0.097
	(0.042)	(0.038)	(0.071)
Change in union membership[b] (%)	–0.247	–0.292***	–0.503
	(0.179)	(0.176)	(0.343)
Change in unemployment[b] (%)	0.819*	–0.047	–0.301
	(0.291)	(0.261)	(0.446)
Repub. governor[b]	0.187	–0.078	–0.287
	(0.452)	(0.424)	(0.804)
–2 log likelihood	171.43	193.75	72.80
Chi-square	37.22*	21.12**	11.42
N	228	267	361

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Variable lagged three years.

[c]The percentage of states recognizing the doctrine refers to public policy (PP) for column 1, implied contract (IC) for column 2, and public policy (PP) and good faith for column 3.

Table C.2

Predicting the Adoption of Wrongful Termination Doctrines, 1980–1987: Maximum Likelihood Logistic Estimates (coefficient standard errors in parentheses)[a]

Variable	Contract	Tort
Intercept	–2.029***	–4.190*
	(1.102)	(1.085)
Year = 1980	0.646	1.028**
	(0.445)	(0.478)
Right-to-work state	–0.783	–0.108
	(0.554)	(0.510)
Change in lawyers per capita (%)	–15.739	23.323
	(18.492)	(20.373)
Neighboring states recog. doctrine[b,c] (%)	0.021	0.037***
	(0.020)	(0.022)
Neighboring states recog. doctrine squared[b,c] (%)	–0.0001	–0.0004***
	(0.0002)	(0.0003)
Union[b] (%)	0.024	0.046
	(0.037)	(0.039)
Change in union membership[b] (%)	–0.344**	–0.131
	(0.172)	(0.173)
Change in unemployment[b] (%)	0.019	0.824*
	(0.255)	(0.288)
Repub. governor[b]	–0.089	0.054
	(0.423)	(0.445)
–2 log likelihood	195.31	177.26
Chi-square	18.04**	26.61*
N	262	243

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Variable lagged three years.

[c]The percentage of states recognizing the doctrine refers to contract doctrines for column 1 and tort doctrines for column 2.

Table C.4 performs a specification test by examining the changes between 1981 and 1987 rather than the levels of employment in a particular year. The differenced model has the same structure as the models in Sec. 5 and should yield similar estimates as long as the equations are well-specified. In fact, a comparison of coefficients is a well-known specification test.[1] The coefficients are quite similar to those obtained from estimating the level model.

[1]See Plosser, Schwert, and White (1982).

Table C.3

Comparisons of Econometric Methodology (coefficient standard errors in parentheses)[a]

	Tort Doctrine	Contract Doctrine
Laws exogenous[b]	0.013*	0.004
	(.004)	(0.004)
Predicted status of laws[c]	–0.028*	–0.018***
	(0.011)	(0.011)
Predicted changes in laws[d]	–0.050*	0.004
	(0.008)	(0.004)

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Dichotomous variables equal to one if the doctrines actually prevailed in a given year, zero otherwise.

[c]Court doctrine predictions based on logistic models of the status of the law using uncensored data.

[d]Court doctrine predictions based on logistic models of changes in the status of the law using censored data.

In Table C.5, we present estimates for models of aggregate and nonmanufacturing employment after correcting for first-order autocorrelation. Using regressions of residuals on lagged residuals, we estimated the autocorrelation parameters to be 0.813 and 0.722 respectively. The model was rerun after making the standard correction of subtracting lagged values of all variables (premultiplied by the autocorrelation parameter). As the table documents, estimated coefficients are similar. For the court doctrines measures, the coefficients drop slightly, though the standard errors are small enough so that their significance is retained.

Table C.6 replicates the analysis of industry-specific employment effects that is described in Sec. 5. In this set of regressions, however, estimates are based on court-doctrine predictions of changes in the law using censored observations instead of the logistic predictions of the status of the law. For the most part, these estimates of tort effects are similar. The strongest employment effects appear to be in the service, wholesale trade, and financial sectors. In addition, adjustment speed in the retail sector appears to have been reduced. However, the tort-growth interaction term is no longer significant for the financial, insurance, and real estate sectors. This sensitivity makes us less confident in our results on adjustment speed.

Table C.4

Model Specification Tests: Changes in Employment, 1981–1987 (coefficient standard errors in parentheses)[a]

	Model I[b]	Model II[c]
Intercept (time trend)	0.050*	0.049**
	(0.022)	(0.025)
Change in log (GSP)	0.621*	0.592*
	(0.057)	(0.060)
Change in log (GSP Growth)	–0.308*	–0.298*
	(0.129)	(0.123)
Court doctrine[b]		
Tort	–0.062**	–0.070*
	(0.030)	(0.029)
Contract	–0.011	0.008
	(0.024)	(0.023)
R-squared	0.8002	0.8025

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Court doctrine predictions based on logistic models of the status of the law using uncensored data.

[c]Court doctrine predictions based on logistic models of the changes in the law using censored data.

Lastly, we were concerned that systematic trends in labor-adjustment speed could bias our estimates of the effects of wrongful termination doctrines. Thus, we included a time-trend variable (taking on a value between 0 and 7, depending on the year), which we interacted with the measure of GSP growth. For nonmanufacturing in general and the retail and wholesale trade sectors in particular, there appears to have been a trend toward slower adjustment speed, even in states not affected by wrongful termination.[2] However, the tort-growth interaction term still suggests that adjustment speed in the retail and finance industries has been affected for establishments located in jurisdictions having the most restrictive tort doctines.

[2]One might argue that business practices in all states have been affected, especially since many corporations have establishments in several jurisdictions. It would not be surprising to find that corporations adopt standard human resource practices across all subsidiaries based on the most stringent circumstances facing individual establishments.

Table C.5

Correcting for Autocorrelation (coefficient standard errors in parentheses)[a]

	All Industries	Nonmanufacturing
Log (GSP)	0.668*	0.755*
	(0.031)	(0.029)
Log (GSP growth)	–0.315*	–0.403*
	(0.028)	(0.029)
Time trends:		
1982	–0.013*	–0.003
	(0.003)	(0.003)
1983	–0.004	0.013*
	(0.005)	(0.003)
1984	0.013***	0.034*
	(0.007)	(0.006)
1985	0.013	0.044*
	(0.009)	(0.007)
1986	0.012	0.048*
	(0.010)	(0.009)
1987	0.024*	0.061*
	(0.010)	(0.007)
Court doctrine[b]		
Tort	–0.017*	–0.023*
	(0.006)	(0.007)
Contract	–0.004	–0.001
	(0.007)	(0.007)
Autocorrelation parameter	0.813	0.722
R-squared	0.99687	0.99950

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Court doctrine predictions based on logistic models of the status of the law using uncensored data.

Table C.6

Industry Employment Effects (coefficient standard errors in parentheses)[a]

	Non-Mfg.	Mfg.	Service	Retail	Wholesale	Finance
Doctrine[b]						
Tort	–0.040*	–0.026***	–0.046*	–0.007	–0.024*	–0.115*
	(0.007)	(0.015)	(0.012)	(0.008)	(0.011)	(0.018)
Contract	0.004	–0.007	0.001	0.004	–0.002	0.025
	(0.008)	(0.016)	(0.010)	(0.008)	(0.011)	(0.019)
Tort-growth	–0.254*	0.205	0.060	–0.348*	0.094	–0.012
interaction	(0.111)	(0.126)	(0.191)	(0.101)	(0.097)	(0.221)

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Predictions based on logistic models of changes in the law using censored data.

Table C.7

Specification Tests: Allowing for Trends in the Speed of Adjustment (coefficient standard errors in parentheses)[a]

	Non-Mfg.	Mfg.	Service	Retail	Wholesale	Finance
Model I[b]						
Tort	–0.029*	–0.026***	–0.055*	–0.013	–0.017	–0.072*
	(0.009)	(0.015)	(0.013)	(0.010)	(0.014)	(0.025)
Contract	–0.008	–0.007	–0.049*	–0.025*	–0.006	0.002
	(0.009)	(0.016)	(0.011)	(0.009)	(0.013)	(0.022)
Tort-growth	–0.293*	0.205	0.057	–0.268*	0.060	–0.507**
interaction	(0.112)	(0.126)	(0.057)	(0.085)	(0.094)	(0.230)
Model II[c]						
Tort	–0.033*	–0.027***	–0.055*	–0.016***	–0.017	–0.072*
	(0.010)	(0.019)	(0.013)	(0.009)	(0.013)	(0.025)
Contract	–0.011	–0.008	–0.049*	–0.025*	–0.005	–0.009
	(0.009)	(0.016)	(0.011)	(0.009)	(0.013)	(0.023)
Tort-growth	–0.153*	0.218	0.061	–0.196**	0.100	–0.518**
interaction	(0.127)	(0.135)	(0.166)	(0.082)	(0.094)	(0.233)
Time-growth	–0.044**	–0.008	–0.008	–0.109*	–0.060*	0.011
interaction	(0.019)	(0.029)	(0.034)	(0.021)	(0.023)	(0.034)

[a]Asterisks indicate that the value is different from zero at the following significance levels: *1 percent, **5 percent, ***10 percent.

[b]Predictions based on logistic models of change in the law using censored data.

[c]Model II is identical except for the addition of a variable allowing for a time trend in the speed of adjustment.

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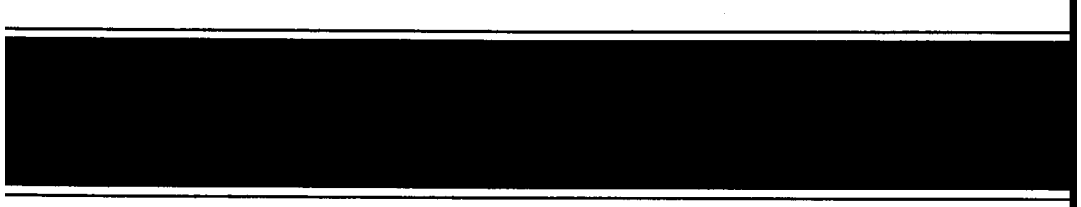
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