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Chapter Authors: Alison Morantz

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# Opting Out of Workers' Compensation in Texas

## A Survey of Large, Multistate Nonsubscribers

Alison Morantz

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### 8.1 Introduction

The “great compromise” of workers’ compensation, whereby workers injured on the job relinquished the right to sue their employers in exchange for no-fault occupational-injury insurance, was one of the major tort reforms of the twentieth century. Every U.S. state adopted a workers’ compensation law between 1910 and 1948.<sup>1</sup> To this day, the program remains the primary conduit of cash benefits, medical care, and rehabilitation services for workers disabled by work-related injuries and illnesses.<sup>2</sup> Although details such as the level and duration of benefits vary widely across states, the hallmark of the program is its near universality. In most U.S. states, every company is required to purchase workers’ compensation insurance, whether through a private insurance carrier, a state insurance fund, or self-insurance.<sup>3</sup> It is an open question whether the transition from a negligence-based tort system to a no-fault strict liability system enhances workplace safety, let

Alison Morantz is associate professor of law and the John A. Wilson Distinguished Faculty Scholar at Stanford Law School.

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1. See Fishback and Kantor (1998a).

2. See Krueger and Burton (1990).

3. A handful of states with compulsory laws provide exemptions for very small firms with fewer than five employees. See Shields and Campbell (2002) for a discussion. Railroad workers are also exempted from the workers’ compensation system and are instead covered by a tort-based compensation system under the Federal Employers’ Liability Act (FELA). See Transportation Research Board (1994) for a discussion.

alone allocative efficiency.<sup>4</sup> Yet given the virtual ubiquity of the workers' compensation system, it is not surprising that most empirical scholars have taken the program's existence for granted, and focused their inquiry on how different aspects of regulatory design (such as waiting periods, benefit levels, experience rating, and provider choice) affect employers' and employees' incentives, and in turn, the frequency, duration, and cost of claims.

This chapter explores an issue that has received almost no attention in prior literature: the consequences of converting workers' compensation from a compulsory system to a voluntary one. Until the early 1970s, many state laws *were* elective.<sup>5</sup> In 1972, the National Commission on State Workmen's Compensation Laws recommended that workers' compensation be compulsory rather than elective, and by the mid-1970s, nearly all states amended their laws to make participation mandatory.<sup>6</sup> After South Carolina passed such an amendment in 1997, Texas became the only state in the United States with a truly voluntary program.<sup>7</sup> To this day, a substantial number of so-called "nonsubscribing" firms decline to offer workers' compensation coverage in Texas.<sup>8</sup> In 2008, for example, about 33 percent of Texas firms—which jointly employed a quarter of Texas's workforce—were nonsubscribers.<sup>9</sup> Although very small firms (those with one to four employees) have always been the most likely to forgo participation in the traditional workers' compensation system, increasing numbers of "very large" employ-

4. Although a shift to workers' compensation systems apparently lowered the nonmotor vehicle machine death rate from 1900 to 1940, given the difficulty of measuring accident prevention costs, one cannot conclude from these findings alone that the latter system is more efficient. See Chelius (1976) for a more detailed discussion. Schwartz (1994) notes that from an economic perspective, it is unclear whether tort or workers' compensation systems provide better incentives for workplace safety. Fishback (1987) finds that in the coal mining industry, fatal accident rates *rose* with the shift to workers' compensation in the early twentieth century.

5. See Shields and Campbell (2002). The New York Court of Appeals' famous opinion in *Ives v. South Buffalo Railway Company*, 94 N.E. 431 (N.Y. 1911), which struck down a compulsory workers' compensation statute under the state constitution, encouraged many other states to pass elective laws, while "keeping benefits low and so restricting employers' legal defenses that most employers would 'freely' elect to join the new system" (Howard 2002, 33). The Supreme Court's ruling in *Mountain Timber Co. v. Washington*, 243 U.S. 219 (1917), upholding the constitutionality of a compulsory law, finally put such constitutional concerns to rest. Interestingly, however, it was not until nearly half a century later that some states made their workers' compensation statutes compulsory.

6. See Shields and Campbell (2002). See also National Commission on State Workmen's Compensation Laws (1972).

7. Although workers' compensation coverage is generally voluntary for *private* Texas employers, it is mandatory for employees of public employers (Texas Labor Code § 406.022), and for private-sector employees hired to perform work on public construction projects (Texas Labor Code § 406.096).

8. New Jersey is the only other state that technically does not require firms to carry workers' compensation coverage. However, given the restrictive nature of the statute, no firms in New Jersey have so far chosen to opt out. See Shields and Campbell (2002).

9. Workers' Compensation Research Group (2008, 5).

ers (those with 500 or more employees in Texas) have followed suit.<sup>10</sup> Indeed, since the mid-1990s, this is the only firm type for which nonsubscription has been steadily increasing. As of 2008, approximately 26 percent of all very large firms operating in Texas declined to provide workers' compensation coverage.<sup>11</sup>

The rise of the nonsubscription phenomenon in Texas raises important questions about the rationale for—and consequences of—the mandatory regime that governs the remainder of the country. Virtually all historians agree that the adoption of workers' compensation laws was endorsed not only by workers and insurers, but by employers as well.<sup>12</sup> Economic historians Fishback and Kantor, for example, have emphasized the gains to employers of reducing uncertainty in accident costs and demonstrated employers' capacity to offset much of the increased costs of the program through reduced wages.<sup>13</sup> If workers' compensation laws received broad-based employer support at the time of their passage, why have so many Texas employers chosen to forgo the benefits of the “great compromise” and expose themselves to tort liability? Surprisingly, this question has received almost no prior scholarly attention.

This chapter offers a first glimpse at the real-world consequences of nonsubscription from the perspective of large, multistate companies. The study design is straightforward. After identifying the population of large, multistate companies operating in Texas that have opted out of workers' compensation, I invited each to participate in a confidential phone survey. Most firms (89 percent) that were identified agreed to participate. The survey covered four major content areas: the characteristics of the company; the process of becoming a nonsubscriber; the characteristics of the benefit plan offered in lieu of workers' compensation; and the perceived consequences of nonsubscription.

The survey results contain a number of interesting findings. First, the typical risk management environment and panoply of employee benefits offered by participating firms differ markedly across industries. For example, although the majority of all firms offer employee wellness programs, manufacturing firms are considerably less likely than other firms to hire consultants and/or third-party administrators (TPA) to help administer their plans. The prevalence of unions, and the percentage of firms offering group health coverage, disability coverage, and/or life insurance to all workers also vary by industry.

Nevertheless, respondents were virtually unanimous in stating that their main motivation for becoming nonsubscribers was the desire to achieve

10. *Ibid.*, 8.

11. *Ibid.*

12. See, for example, Fishback and Kantor (1998a, 1998b); and Howard (2002).

13. Fishback and Kantor (1998a).

cost savings. The majority of respondents (except for manufacturing firms) hired a consulting firm and/or consulted with other nonsubscribers during the nonsubscription process.

The occupational injury plans that firms offered in lieu of workers' compensation were also remarkably similar. In some respects—for example, the typical absence of any waiting period prior to the receipt of wage-replacement benefits, and the absence of any cap on weekly benefits—such plans were more generous than workers' compensation. Yet in other respects—for example, the commonplace twenty-four-hour reporting deadlines, absence of employee choice over medical providers, absence of any permanent partial or permanent total disability coverage, and prevalent caps on total benefits—such plans appeared less favorable to employees. Moreover, presumably in an effort to curb tort liability, a very high fraction (about 85 percent) of nonsubscriber plans channeled disputes to mandatory arbitration. Not only did virtually all companies deem their programs to be a success and report cost savings, but most were pleasantly surprised by the magnitude of these savings, which reportedly exceeded (on average) 50 percent across all industries.

Finally, although the majority of respondents reported little or no trouble with litigation, costly claims (exceeding \$500,000) were the most common among manufacturing firms and companies that became nonsubscribers in the early 1990s. Retailers were the least likely to report having paid any costly claims. As one might expect, firms with mandatory arbitration were also much less likely to have paid out half-million-dollar claims. Although about a quarter of all respondents reported settling some claims outside of the nonsubscription plan, this practice was especially common among firms that required mandatory arbitration.

The remainder of the chapter proceeds as follows. Section 8.2 introduces the Texas workers' compensation system and nonsubscribing sector. Section 8.3 reviews prior literature on workers' compensation, highlighting several strands of scholarship that are especially pertinent to Texas nonsubscription. Section 8.4 describes the design and methodology of the survey. Section 8.5 presents the results. Section 8.6 reviews the main conclusions and suggests promising areas for future research. The detailed survey findings, as well as an appendix listing the survey questions, can be found at the end of the chapter.

## **8.2 Overview of Texas Workers' Compensation System and the Nonsubscription Alternative**

In order to grasp the key features of nonsubscription, it is helpful first to understand the basic structure of the workers' compensation program in Texas. Except for its elective nature, Texas' workers' compensation statute is similar to those that govern other U.S. jurisdictions. To receive benefits,

employees must report injuries within thirty days of the date that the injury occurred.<sup>14</sup> As in most states, the statute provides for full medical benefits (with no copays, time limits, or monetary caps), and wage replacement benefits are untaxed.<sup>15</sup> Texas also allows employees to select their treating physician, unless their employer has taken advantage of recent legislation enabling firms to join Certified Workers' Compensation Networks.<sup>16</sup> Employees suffering from temporary total, permanent total, or permanent partial disabilities receive 70 to 75 percent of their weekly wage, tax-free<sup>17</sup>—a relatively generous reimbursement rate by national standards.<sup>18</sup> Like about half of U.S. states, Texas's statute imposes a seven-day waiting period prior to the receipt of any wage replacement benefits, although the first week's benefits can be claimed retroactively if the absence persists for at least fourteen days.<sup>19</sup>

Although the basic statutory features of Texas's workers' compensation system resemble those of other states, trends in the frequency and cost of claims have been surprisingly variable in recent years. As recently as 2001, Texas had among the highest costs per claim (including medical payments per claim) among a group of fourteen states analyzed in a “benchmark-

14. Office of Injured Employee Counsel of the State of Texas. If an employee sustains an occupational disease, however, the “date of injury” is the date on which the employee knew or should have known that the disease was related to his/her employment (Texas Labor Code § 408.007). In practice, therefore, an occupational disease may be reported *more* than thirty days after the date on which it was contracted.

15. See International Association of Industrial Accident Boards and Commissions, and Workers Compensation Research Institute (2009, 21–27), which refers to laws in effect as of July 1, 2008.

16. *Ibid.*, 25. For an overview of the network program, see Health and Workers' Compensation Division. If the employee is not in a Workers' Compensation Health Care Network, (s)he may choose any doctor willing to treat his/her injury. See Office of Injured Employee Counsel of the State of Texas.

17. Employees earning less than \$8.50/hour receive 75 percent of lost wages during the first twenty-six weeks of disability, and 70 percent of lost wages thereafter. All other employees receive wage replacement benefits at a rate of 70 percent of lost wages (Texas Labor Code § 408.103).

18. See International Association of Industrial Accident Boards and Commissions, and Workers Compensation Research Institute (2009, 29–47). Until October 1, 2006, Texas' maximum benefit amounts were relatively low by national standards. Since that date, however, the maximum rates have been increased by about 15 percent (to \$773 for temporary total and permanent total disability, and \$541 for permanent partial disability). See Division of Workers' Compensation (2009). Although these maximum rates are close to the middle of the national distribution, the maximum periods applicable to most injury types (104 weeks for temporary total disability, 401 for unlisted permanent total disabilities, and 300 weeks for permanent partial disability) remain relatively short by national standards (as of July 1, 2008). See International Association of Industrial Accident Boards and Commissions, and Workers' Compensation Research Institute (2009, 29–47).

19. The Texas legislature reduced the length of the “retroactive period” on September 1, 2005 (Texas Labor Code § 408.082) from twenty-eight days to fourteen days. Prior to the change, Texas had one of the longest “retroactive periods” in the country, but now has a “retroactive period” in the middle of the national distribution. See International Association of Industrial Accident Boards and Commissions, and Workers' Compensation Research Institute (2009, 76–78).

ing” study conducted by the Workers’ Compensation Research Institute (WCRI).<sup>20</sup> The percentages of claims involving over a week of lost time, permanent partial disabilities, and/or lump-sum payments were also usually high. Beginning in approximately 2002, however, these trends underwent a striking reversal. A confluence of systemic trends—such as falling rates of medical care utilization, fee schedule decreases that took effect in 2003, and shortening duration of temporary disabilities—led to a decline in both medical costs and indemnity payments per claim.<sup>21</sup> By the middle of the decade, average costs in Texas were far more typical of the group as a whole. For example, among *all* claims arising in 2004 (and evaluated as of 2007), average total cost per claim was only 6.3 percent above the fourteen-state median; and among those claims involving more than a week of lost time, average per-claim cost was 7.7 percent *below* the median.<sup>22</sup> Although WCRI’s detailed analysis of more recent claims (such as those arising in 2006 and evaluated as of 2007) revealed somewhat different patterns, overall, the cost structure of Texas’ workers’ compensation system has remained fairly typical of the group as a whole.<sup>23</sup>

Given these recent trends, using Texas nonsubscribers’ experiences to predict the likely effects of nonsubscription in other states is no simple matter. For example, if Texas’ unusually high costs prior to 2002 were driven by the very peculiarities of its regulatory regime that later became targets for statutory reform, then the state may have provided a uniquely hospitable (and profitable) environment for nonsubscription during the pre-reform era.<sup>24</sup> Nevertheless, since Texas remains the only available “laboratory” in which nonsubscription can be examined, understanding large nonsubscribers’ own views of the “nonsubscription experience” in a granular fashion—including *which* programmatic features they have chose to include in their “home-grown” plans, and which aspects they have viewed as particularly problematic or beneficial—is a useful first step toward understanding the consequences of an elective regime.

Although nonsubscribers have probably existed in Texas ever since the passage of the first workers’ compensation statute in 1913, data on such firms was not collected in a systematic fashion for most of the twentieth century.<sup>25</sup> Not until the early 1990s, in fact, did the Texas Workers’ Compens-

20. See Eccleston et al. (2009, 3).

21. *Ibid.*

22. *Ibid.*, 77.

23. *Ibid.*, 11, 15, 17.

24. Recent changes in the regulatory environment have also probably complicated the ability of participants to discern the underlying drivers of trends in costs per claim. For example, although firms that opted out prior to 2002 may have attributed any and all subsequent cost savings to the adoption of the nonsubscription plan, it is possible that they would have accrued at least some of these savings even if they had remained in the workers’ compensation system. For this reason, estimates of cost savings reported by nonsubscribers that opted out just prior to or during the period of declining costs (i.e., from around 2000 to 2002) should be viewed with particular caution. (See table 8.5).

25. Shields and Campbell (2002).

sation Research Center and Texas Department of Insurance (TDI) begin commissioning periodic surveys to shed light on the prevalence and attributes of nonsubscribers. Administered to firms of all types (and in some cases, their employees) every one to three years, these surveys (the “TDI Surveys”) were much more abbreviated than the survey used for the present study. However, since they were administered to a broad cross-section of firms, it is helpful to review their key findings.

First of all, the surveys reveal that by most measures, nonsubscription has become increasingly prevalent over the past fifteen years. The first TDI Survey, conducted in 1993, estimated that 44 percent of employers in Texas were nonsubscribers and 20 percent of workers were employed by nonsubscribing firms.<sup>26</sup> Although the 2008 survey found that the percentage of nonsubscribing firms had fallen to 33 percent, the percentage of workers employed by nonsubscribers had *risen* to 25 percent.<sup>27</sup> This puzzling trend is explained by the fact that rates of nonsubscription have increased dramatically (from 14 percent to 26 percent) among very large firms (those employing 500 or more employees), despite the general decline in nonsubscription rates among Texas employers since 1996.<sup>28</sup> Interestingly, once a firm chooses to become a nonsubscriber, it is likely to remain so: only 5 percent of subscribers surveyed in 2001 reported having been nonsubscribers at an earlier point in time.<sup>29</sup>

A second important finding is the frequency with which nonsubscribers—especially large ones—offer occupational injury benefit plans (“non-subscription plans”) to their employees, even though they are not legally obligated to do so. In 2008, for example, an estimated 83 percent of large firms offered occupational benefits plans to their workers.<sup>30</sup> Since large firms employ a disproportionate number of workers, the estimated proportion of injured employees employed by nonsubscribers who received occupational benefits was 86 percent.<sup>31</sup>

26. *Ibid.*

27. Workers' Compensation Research Group (2008, 6–7).

28. *Ibid.*, 8.

29. Shields and Campbell (2002, 18).

30. Workers' Compensation Research Group (2008, 24). The fact that the prevalence of non-subscription plans in 2008 was reportedly *lower* among large firms than among medium-sized firms in 2008—a pattern that was reversed in 2006—is puzzling. See Workers' Compensation Research Group (2006). Although it is possible that the prevalence of such plans among large firms has declined in the last several years, this curious finding could also be explained by reporting error, sampling error, and/or changes in the way firms are categorized across survey years. In addition, a prominent stakeholder (who requested anonymity) suggested that the true figure is higher than 83 percent because many nonsubscribers that do not “officially” offer occupational-injury insurance nevertheless provide benefits to their injured workers on an informal basis (telephone interview, October 13, 2009). Using publicly available data, I could neither verify nor disprove this claim.

31. Workers' Compensation Research Group (2008, 24). Once again, it is puzzling that the prevalence figures reported for 2008—although still very high—are lower than for previous years. It is uncertain whether such trends are genuine or simply reflect reporting error, sampling error, and/or inconsistency of definitions across survey years.

Finally, nonsubscribing firms appear to be more satisfied with their risk-management programs than are firms that subscribe to workers' compensation. For example, nonsubscribers in 2008 reported higher satisfaction with the "adequacy/equity of occupational benefits paid to workers" (62 percent v. 53 percent); "overall satisfaction" (69 percent v. 61 percent); "whether the plan is a good value for the company" (69 percent v. 56 percent); and "ability to manage medical and wage replacement costs" (68 percent v. 50 percent). These disparities were even more pronounced among firms with at least 100 employees, with 84 percent of nonsubscribers describing themselves as "extremely" or "somewhat" satisfied with their risk-management programs, as opposed to just 59 percent of workers' compensation subscribers.<sup>32</sup>

The TDI's 1997 survey of nonsubscribers' injured employees—the most recent employee survey available—contains several important findings. First, most workers received substantial medical care and wage-replacement benefits.<sup>33</sup> For example, over 80 percent of respondents were reimbursed for full medical costs for as long as was medically necessary, as well as wage-replacement benefits for their time out of work.<sup>34</sup> Although 58 percent reportedly earned less than their full salaries (as would also have been the case under workers' compensation), 62 percent received wage-replacement benefits for the entire duration of their lost work time. Moreover, unlike the seven-day waiting period required under workers' compensation, injured employees typically begin receiving benefits on their first day of lost work.<sup>35</sup> Although 74 percent of respondents were sent to designated health-care providers or selected physicians from a preapproved list, almost two-thirds said that they could switch doctors if they were dissatisfied. A similar proportion (68 percent) said they "were treated fairly" by their employer after sustaining an injury, with more than half indicating that their employer in some way assisted their return to work.<sup>36</sup> Overall, when asked to rate their satisfaction with medical treatment on a scale of 1 to 5 (with 5 being "extremely satisfied" and 1 being "not satisfied"), 63 percent reported satisfaction levels of 4 or higher.<sup>37</sup>

Yet a significant minority did face considerable obstacles under nonsubscription. For example, among workers who lost more than one year of

32. *Ibid.*, 16–18.

33. Since 91 percent of sampled employees worked for firms with fifty or more employees, the results of the survey should be construed as typical only for this employer size class. Workers' Compensation Research Group (1997, 6–7).

34. *Ibid.*, 15.

35. Workers' Compensation Research Group (2004, 30) notes that 75 percent of nonsubscriber plans have no waiting period for receipt of wage replacement benefits. See Butler (1996).

36. Workers' Compensation Research Group (2008, 23). The 56 percent was calculated by summing the percentage who gave their employer's support a "4" or "5" rating on a 5-point scale.

37. *Ibid.*

work, only 42 percent received wage-replacement benefits for the full duration of their disability.<sup>38</sup> About one-seventh of respondents (14 percent and 16 percent, respectively) also reported difficulties in obtaining medical treatment or wage-replacement checks from their employer or insurance carrier.<sup>39</sup> Finally, 46 percent of injured workers said they “suffered financial hardship” as a result of their on-the-job injury, and this proportion rose slightly (to 52 percent) among workers who had been severely injured. Possibly for the aforementioned reasons, almost one-fifth (18 percent) of respondents rated their “satisfaction with medical treatment” as a 1 or 2 (the lowest ratings) on a 5-point scale.<sup>40</sup>

Several other trends in the employee survey are worthy of note. First, only 35 percent of respondents said they knew about their employer’s nonsubscriber status at the time of hiring, although 65 percent did learn of it before their injury occurred. Secondly, although the Texas Labor Code requires employers to post a notice indicating whether or not they carry workers’ compensation coverage, only 55 percent of respondents reported having seen such a notice.<sup>41</sup> Finally, reported rates of attorney involvement were remarkably low; only 13 percent of respondents hired an attorney and only 9 percent filed a lawsuit in the wake of an injury.<sup>42</sup>

Although the preceding findings are suggestive, the TDI Surveys must be interpreted with caution. The employee satisfaction surveys, in particular, are more than a decade out of date and are based only on employees of nonsubscribers. Without an appropriate “control group” of employees whose injuries are treated under workers’ compensation, there is no way to determine whether workers are better or worse off under a nonsubscription regime. Secondly, since most of the results are pooled, they rarely reveal whether (and how) outcomes differ by company size.

Nevertheless, these surveys do bring several interesting patterns to light. First and foremost, most nonsubscribers did *not* ask employees to shoulder the costs of injuries that were noncompensable under a traditional (tort) standard of employer negligence. Rather, most nonsubscribers offered some form of “no-fault” insurance coverage for all occupational injuries. Second, at least in their basic attributes, the nonsubscription plans offered by large nonsubscribers resembled the benefits provided under workers’ compensation, typically including both medical and wage-replacement components. Finally, although most workers were unaware that they were ineligible for workers’ compensation when hired, the majority seemed fairly satisfied with their coverage and treatment following an injury (although again, it

38. See table 8.4 for summary of maximum durations under Texas workers’ compensation regime.

39. Workers’ Compensation Research Group (2008, 23).

40. *Ibid.*

41. *Ibid.* See Texas Labor Code § 406.005.

42. *Ibid.*

is unknown whether they would have fared better or worse under workers' compensation).

The survey used for the present study is both narrower and "deeper" than those administered by TDI. On one hand, the population from which the sample is drawn includes *only* large, multistate companies, and only risk management executives (not their injured employees) were interviewed. On the other hand, the survey contains more extensive and granular questions about each firm's motivation for opting out of workers' compensation, the characteristics of its occupational injury plan, and its experience with non-subscription.

### 8.3 Key Issues in Workers' Compensation Research

Richard Butler is the only prior scholar to have compared trends among subscribing and nonsubscribing firms in Texas. Using aggregate company-level data, Butler (1996) compared fatality rates, nonfatal claims rates, injury durations, and rates of chronic injuries (i.e., sprains and strains) across subscribing and nonsubscribing firms. The data did not allow him to control for cross-firm (let alone cross-claimant) disparities in risk, and the period analyzed (1992 to 1994) predated the influx of most large, multistate companies into the nonsubscribing sector.<sup>43</sup> Nevertheless, Butler's findings are suggestive. He reported that fatal injury rates were no higher among non-subscribers than among other firms, which he interpreted as evidence that "real" safety levels were probably quite similar. Yet he did find differences in several other outcome variables, which he attributed to two different forms of moral hazard. The fact that nonsubscribers experienced slightly higher *nonfatal* injury rates, he suggested, was probably explained by the fact that most nonsubscriber plans provided first-day wage-replacement benefits, as opposed to the seven-day waiting period applicable under workers' compensation. Meanwhile, nonsubscribers' lower average claim duration, and lower average frequency of chronic conditions, likely stemmed from the fact that nonsubscriber plans (unlike statutory workers' compensation) did not compensate employees for permanent partial disabilities.<sup>44</sup> Although Butler attempted to compare per-claim cost differences across sectors, his projections were based on projected rather than actual cost data.<sup>45</sup> Notwithstanding the inherent limitations of the data available for analysis, Butler's study

43. Butler (1996, 405, 407).

44. *Ibid.*, 412, 426.

45. Rather than using real cost data, Butler's "expected indemnity" cost index calculation of cost differences simply takes the industry-wide aggregate differences in frequencies calculated earlier as given, further assuming that benefits are comparable across sectors, and then makes projected cost calculations on that basis. Similarly, his calculations of legal expenses are not based on data for all claims, since TDI only records cost figures for claims that exceed \$5,000. Although he also culls settlement award data from legal reporting services for 1993 and 1994, Butler notes that the available data are likely to be incomplete. See Butler (1996, 429).

underscored the disparate incentives faced by workers in the subscribing and nonsubscribing sectors, and suggested that such disparities could have detectable effects on the frequency, distribution, severity, and duration of claims.

With the exception of Butler's study, all other empirical research on workers' compensation has taken the program's existence for granted and focused on how different elements of statutory design affect key outcomes.<sup>46</sup> Consequently, most prior work does not speak directly to the issue examined here: the impact of forfeiting state regulation. Nevertheless, since many non-subscribers do offer occupational benefit plans whose provisions resemble those of workers' compensation, several recurring themes addressed in prior scholarship merit a brief summary.

The first key issue with which prior scholarship has grappled is the pervasive and dizzyingly complex ways in which changes in systemic design encourage moral hazard. With "risk-bearing" moral hazard, generous occupational injury plans incentivize employees to take fewer precautions on the job, thereby lowering real (and reported) safety levels. Meanwhile, when benefits rise, "claims-reporting" moral hazard encourages employees to file claims even if they were injured off the job (or were not injured at all). By parallel logic, reducing the share of occupational-injury costs borne by an employer—for example, by lowering benefit levels or eliminating experience rating—weakens employers' incentives to invest in safety-enhancing work practices or technologies. Health care providers, in turn, may charge higher fees or order more procedures if treating workers' compensation patients is more remunerative than Medicare and/or group health insurance. In short, because changes in systemic design alter the behavior of industry stakeholders in myriad ways, discerning the true effects of any given policy intervention poses difficult challenges.

The empirical literature on moral hazard effects in the workers' compensation system is vast and multifaceted. Nearly all studies have found that increasing benefits and/or lowering waiting periods increases the frequency, cost, and/or duration of claims, apparently confirming the presence of risk-bearing and/or claims-reporting moral hazard.<sup>47</sup> The claims-reporting form

46. The only exceptions of which I am aware are two historical studies of the passage of workers' compensation laws in the early nineteenth century. See Chelius (1976) and Fishback (1987).

47. See Chelius (1982); Worrall and Appel (1982); Butler and Worrall (1983); Ruser (1985); Worrall and Butler (1985); Butler and Worrall (1985, 1988); Ehrenberg (1988); Kniesner and Leeth (1989); Krueger (1990b); Butler and Worrall (1991); Ruser (1991); Butler (1994); Meyer, Vicusi, and Durbin (1995); Kaestner and Carroll (1997); Bolduc et al. (2002); Waehrer and Miller (2003); Neuhauser and Raphael (2004). Krueger (1990a) finds that higher benefits are not associated with higher injury claims among female current population survey (CPS) respondents. Krueger and Burton (1990) find costs to be less responsive to benefit levels than previous estimates, and in some cases not significantly different from unit elastic. Lakdawalla, Reville, and Seabury (2007) find that the level of benefits offered by the employer did not affect respondents' likelihood of filing a claim in National Longitudinal Survey of Youth (NLSY)

of moral hazard, which one study suggested is larger in magnitude,<sup>48</sup> seems especially pronounced for injuries that are hard to diagnose, such as muscle strains and back injuries.<sup>49</sup> Empirical research has also lent credence to the hypothesis that firms bearing a greater proportion of the cost of injuries invest more in safety. For example, although increasing wage-replacement benefits seems to improve “real” safety levels,<sup>50</sup> the effect is attenuated in experience-rated firms, whose insurance premiums already (by definition) reward safe work practices.<sup>51</sup> Similarly, employees of self-insured firms return to work more quickly than other workers, presumably because a prolonged absence is more costly to their employers.<sup>52</sup> Although studies of medical care providers have found that medical costs for similar injuries are generally higher in workers’ compensation than in group health, the underlying causal mechanism remains a fertile subject of debate.<sup>53</sup> Several authors have speculated that price-discriminating medical providers charge workers’ compensation patients more than group health patients for the same care,<sup>54</sup> but one recent study found that the disparity is driven instead by higher utilization rates and the use of more costly providers.<sup>55</sup>

A second salient theme explored in prior scholarship is the impact of systemic design on the incidence of occupational injury costs. If labor markets are relatively well-functioning, the cost to employers of providing workers’ compensation should be at least partially offset by lower wages (although the magnitude of such an offset will depend on the size of compensating wage differentials and the degree of workers’ compensation experience rating). Although nearly all studies have confirmed the existence of a wage-benefit

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data). In a related vein, Smith (1990) interprets the fact that a disproportionate number of workers’ compensation claims for sprains and strains are filed on Mondays (a disparity that does not exist for harder-to-conceal injuries like cuts and lacerations) as evidence that workers are “post-dating” weekend back injuries and strains to obtain workers’ compensation coverage. A more recent empirical study, however, has disputed the existence of this so-called “Monday effect.” See Card and McCall (1996).

48. Butler and Worrall (1991).

49. See Smith (1990); Butler and Worrall (1985); Worrall and Butler (1985); Biddle (2001); Waehrer and Miller (2003); Johnson, Baldwin, and Butler (1998); and Bolduc et al. (2002).

50. See Chelius (1982); Moore and Viscusi (1992); Kniesner and Leeth (1989); and Kaestner and Carroll (1997). But Fishback (1987, 306) finds that the adoption of workers’ compensation in the mining industry in the early 1900s increased rates of fatal injuries, presumably because of the rise in moral hazard associated with rising compensation.

51. The theory—which these studies seem to support—is that the firm’s enhanced incentives to improve workplace safety lowers the frequency of injuries, thereby dampening the moral hazard effects triggered by higher benefits levels. See Ruser (1991); Worrall and Butler (1988); and Ruser (1985).

52. See Krueger (1990b).

53. See Fields and Venezian (1991); Baker and Krueger (1993); Roberts and Zonia (1994); and Durbin, Corro, and Helvacian (1996).

54. See Fields and Venezian (1991) and Baker and Krueger (1993). Roberts and Zonia (1994) find that health care providers successfully circumvented fee schedules by doing more in less time and exploiting textual ambiguities.

55. See Durbin, Corro, and Helvacian (1996).

trade-off, estimates of its magnitude vary by industry, region, and historical era. The implication seems to be that although workers are sufficiently well-informed to exchange at least some proportion of their wages for the insurance benefits that the system provides, variations in systemic design and labor market conditions can affect the content of the implicit bargain.<sup>56</sup>

Finally, although many scholars have tackled the question of ultimate policy interest—the effects of systemic design changes on occupational safety and health—identification of “real” safety effects remains fraught with methodological challenges. In part, this is because of the sheer complexity of incentives facing industry stakeholders, the scarcity of disaggregated data on workers’ compensation in the public domain, and the fact that so many dimensions of workers’ compensation regimes differ across state lines. Probably the single most important obstacle, however, is the paucity of truly exogenous safety metrics that are invulnerable to changes in over- or underreporting. For example, an increase in benefit levels can be expected to simultaneously increase claims-reporting moral hazard (which increases reported claims but does not affect real safety); risk-taking moral hazard (which increases reported claims and lowers real safety); and employer investments in safety (which lower reported claims and increase real safety). The net effect of such a change on occupational safety is therefore not only theoretically indeterminate, but also typically unobservable, since the only safety metric usually available to researchers is the frequency of reported claims. Thus, although the literature on the effect of systemic design on occupational injury claims is immense, studies that purport to distinguish “true” safety effects from over- (or under-) reporting are scarce.

Those few studies that have sought to discern the effects of systemic design on “true” safety levels contain mixed findings. For example, two studies have linked an increase in workers’ compensation benefits to a decline in occupational fatalities and to a decline in injury severity, respectively.<sup>57</sup> Similarly, a historical study found that the passage of workers’ compensation laws in the early nineteenth century reduced occupational fatalities.<sup>58</sup> However, a historical analysis of the introduction of workers’ compensation laws in coal mining, relying on more granular and precise data, found that fatal accidents *rose* with the introduction of workers’ compensation.<sup>59</sup> Studies on the effects of provider choice (permitting employees to choose their own physician) were equally equivocal: although one found that state-enforced limits on provider choice did not lower the frequency of nonfatal injuries,<sup>60</sup> another found that limiting injured workers’ control over their providers

56. See Kaestner and Carroll (1997); Moore and Viscusi (1989); Viscusi and Moore (1987); Meng and Smith (1999); Ehrenberg (1988); Arnould and Nichols (1983).

57. See Moore and Viscusi (1989); See also Chelius (1982).

58. See Chelius (1976).

59. See Fishback (1987).

60. See Boden and Ruser (2003).

lowered costs and shortened the time spent out of work, although it also reduced employee satisfaction.<sup>61</sup>

By uncovering the characteristics, motivations, and experiences of an important group of large nonsubscribers, the present study builds on past literature by providing a more sustained glimpse inside the “black box” of nonsubscription in Texas. Identifying systemic design features that corporate risk managers have chosen to forgo in a free-market system suggests which characteristics of state regulation employers perceive as the most costly or inefficient. More broadly, understanding the consequences of nonsubscription from the perspective of participating firms is an important first step in understanding the costs and benefits of an elective statutory regime.

#### 8.4 Survey Design and Methodology

Since nonsubscribers are an extremely heterogeneous group—ranging from “mom and pop” shops to multinational retail chains—I sought at the outset to limit the study criteria in a manner that would be advantageous from a research design perspective. First of all, I adopted a minimum size restriction. Large firms are the only group for which nonsubscription rates have increased (and dramatically so) in recent years, making them particularly interesting and important from a policy perspective.<sup>62</sup> Moreover, risk management executives at large companies are more likely to be full-time professionals with prior experience in the risk management field, whose responsibilities include the periodic review of occupational-injury insurance costs and trends in injury claims. In contrast, their counterparts at smaller companies are more likely to be “jacks-of-all-trades” with little background in risk management who devote much of their time to unrelated managerial tasks. Restricting the sample to large firms, therefore, maximized the chances that survey respondents would be well-informed about the costs and benefits of nonsubscription.

Secondly, I restricted the sample to firms that operate in a sizable number of U.S. states besides Texas. This “minimum dispersion” restriction was chosen because many of the survey questions, whether explicitly or implicitly, asked respondents to draw comparisons between their experience under statutory workers’ compensation and their experience in Texas as nonsubscribers. Although it is fair to presume that all risk managers of large nonsubscribers have at least a rudimentary familiarity with the workers’ compensation system, executives that oversee such programs in many other

61. See Neumark, Barth, and Victor (2007).

62. According to Texas Department of Insurance survey data, the participation rate among companies with 500+ employees nearly doubled from 1996 to 2008 (from 14 percent to 26 percent). In contrast, the percentage of nonsubscribers declined in all other employer size classes during the same time period. See Workers’ Compensation Research Group (2008, 8).

states are in the best position to make credible and nuanced comparisons between the nonsubscription and workers' compensation regimes.

In order to include a diverse mix of companies, I did not impose uniform size and dispersion thresholds across the entire population of large, multi-state nonsubscribers. For example, while a retail chain or commercial bank with fewer than 100 locations would not generally be considered "large," even the largest manufacturing firms typically operate (at most) only a few dozen facilities. Therefore, imposing uniform thresholds would have meant either excluding all large manufacturing firms (by choosing a high threshold) or including many smaller retailers (by choosing a low threshold). I divided the population into six groupings—manufacturing firms; restaurant chains; other retail chains (such as department stores, gas stations, and "big-box" retailers); hotel chains; transportation companies; and other services companies (such as assisted living facilities, nursing homes, and banks)—and selected separate minimum thresholds for each group in such a way that only the largest and most geographically dispersed firms in each grouping were included. Table 8.1 presents the minimum size thresholds (as defined by number of employees and number of locations) and minimum dispersion thresholds (as defined by number of states of operation) for each grouping. Although all of the firms identified would generally be considered large, multistate corporations, the population as a whole was still reasonably het-

**Table 8.1 Industry categorizations and thresholds**

Industry	Minimum thresholds (Number of)			Number of firms identified	Number of firms surveyed
	Employees	Locations	States		
Manufacturing	4,000	30	13	8	7
Retail				31	28
Restaurants	7,500	100	12	(10)	(8)
Nonrestaurant retail <sup>a</sup>	11,000	325	9	(21)	(20)
Services				22	19
Hotels	10,000	40	10	(4)	—
Transportation	2,800	11	7	(4)	—
Other services <sup>b</sup>	5,000	100	20	(14)	—
Total				61	54

*Notes:* Total number of firms identified (based on the thresholds above): 61. Total number of firms surveyed: 54 (89% response rate). This table presents the minimum requirements for inclusion in this survey of large, multistate firms that nonsubscribed from the Texas workers' compensation system. Firms were identified through the assistance of industry stakeholders and through the analysis of a list of nonsubscribers maintained by the Division of Workers' Compensation at the Texas Department of Insurance. All industry subgroups reported above contain at least two firms that participated in the survey. Fields marked with "—" are intentionally left blank in order to preserve the anonymity of survey participants and their responses. Values in parentheses indicate number of firms belonging to subgroups of industries.

<sup>a</sup>Includes big-box retailers, department stores, gas stations, and supermarkets.

<sup>b</sup>Includes assisted living facilities, banks, health care providers, and property management firms.

erogeneous with regard to the minimum number of employees, number of facilities, geographic dispersion, and industrial attributes.

Since there is no comprehensive listing of Texas nonsubscribers in the public domain, identifying the population of nonsubscribers that met the study criteria was no simple task. I used a two-stage strategy. First, I identified key industry stakeholders and other well-informed individuals, and secured their assistance in identifying and recruiting potential participants.<sup>63</sup> By the end of this process, I had identified forty-seven firms meeting the study criteria. Next, I culled through the list of nonsubscribers maintained by the Texas Department of Insurance. Although the list is notoriously incomplete and outdated, listing only about 7,500 establishments (less than 5 percent of the estimated population), it nevertheless yielded an additional fourteen names.<sup>64</sup> Once the final list had been compiled, I contacted the risk manager of each company by e-mail and/or phone—sometimes independently, and sometimes after an introduction by another stakeholder—to personally introduce myself, describe the survey, and request his/her participation. Of the sixty-one companies that were identified as meeting the survey criteria, fifty-four (about 89 percent) agreed to participate under strict confidentiality provisions, although several declined to answer a few survey questions.<sup>65</sup>

Table 8.1 describes the distribution of the population identified. The retail sector comprised about half of the study population and includes restaurants, department stores, big-box retailers, gas stations, and supermarkets. (Special thresholds were imposed for restaurants because they tend to be slightly more geographically dispersed, yet have fewer total locations, than other retailers.) Comprising about a third of the population, the services group included a diverse admixture of hotels, transportation companies, assisted living facilities, banks, health care providers, and property management companies. (Once again, special thresholds were imposed for two sub-

63. The organizations with whom I spoke included the Texas Alliance of Nonsubscribers (generally known as the “Alliance”); another industry organization that requested anonymity; and a consulting firm, PartnerSource, that specializes in assisting firms to become nonsubscribers.

64. See Texas Non-Subscribers Download File. Although a query on to <http://www.tracer2.com/> indicates that there were 439,614 employers doing business in 2009, and the 2008 TDI survey found that about 33 percent of Texas employers were nonsubscribers (Workers’ Compensation Research Group 2008, 6–7), the most recent Texas Non-Subscribers Download File contains only 7,549 entries. Therefore, it appears that only about 5 percent of nonsubscribers are included in the list.

65. As should be evident from the earlier description, the process of identifying firms was not foolproof. Therefore, the true number of qualifying firms may exceed sixty-one. For example, any firm that was not identified by any stakeholder, and did not comply with state reporting requirements, would probably not have come to light. Moreover, it is possible that even some nonsubscribers that *were* listed in the Texas Non-Subscribers Download File were not identified because they were listed through a subsidiary, holding company, or other related corporate entity whose identity was not readily apparent. For these reasons, it is possible that there are a few large, multistate nonsubscribers that met the study criteria but eluded detection.

groups, hotels and transportation firms, to account for their slightly different industrial characteristics.) Manufacturing, at about one-eighth of the study population, included relatively low thresholds for both employment and minimum number of locations.

The survey covered four general content areas: (a) corporate characteristics (including the respondent's employee benefit profile and risk management environment); (b) the nonsubscription process (including the motivations for and timing of the firm's opt-out decision); (c) the nonsubscription plan (reporting deadlines, benefit levels, time limits, and so forth); and (d) the nonsubscription experience. Although following a loose script (see the appendix), the phone survey was administered in a flexible, responsive manner, and typically took between fifteen and thirty minutes to complete. All fifty-four participating firms were surveyed between March and July of 2009.

I chose not to emulate the TDI Surveys by presenting respondents with a "laundry list" of responses from which to choose, and/or asking them to rate their experience along a fixed numeric scale. Rather, questions that were not purely factual in nature—for example, questions that asked respondents to describe the nonsubscription process, or to opine on the benefits and drawbacks of nonsubscription—were posed in an open-ended and somewhat individualized fashion, and ambiguous responses were clarified through follow-up questions. This approach has its drawbacks. For example, some respondents may have forgotten to mention aspects of their experience that more specific prompting could have elicited, and minor variations in the way that questions were phrased and/or ordered conceivably could have affected the quality or quantity of responses. However, I felt that a more rigidly structured survey design—for example, adhering carefully to a script and/or asking respondents to weight or rank the relative importance of a predetermined list of factors—could inadvertently "frame" the manner in which respondents viewed their own experiences, and make them hesitant to editorialize on issues that fell outside the technical confines of the survey. Given the importance of eliciting information about aspects of nonsubscribers' experiences that I did *not* anticipate, I decided that on balance, the benefits of a more open-ended, unstructured survey design outweighed its drawbacks.

Because I did not administer a similar survey to firms that *did* subscribe to workers' compensation in Texas, I could not rule out the possibility that large, multistate firms that opted out of Texas' workers' compensation differed systematically, yet unobservably, from those that did not. For example, as compared to large Texas firms included in an online database maintained by the Texas Workforce Commission (TWC), the study participants seemed to employ more workers, operate more facilities, and report higher total sales within Texas. The magnitude of such disparities varied by industry and ranged anywhere from 10 percent to 200 percent. The survey respondents also appeared to be more heavily concentrated in the retail sector—and

less concentrated in services—than the firms in the TWC sample. However, because of the poor quality of the TWC data and the difficulty of making credible apples-to-apples comparisons, such apparent differences could be statistical artifacts.<sup>66</sup> In short, self-selection by large, multistate firms into the nonsubscription sector remained a theoretical possibility whose real-world importance I could not reliably determine.

However, even if such selection bias did exist, it would not negate the import of the study. To the extent that Texas resembles a “natural experiment,” the form of treatment that it represents is *not* the abolishment of the workers’ compensation system, or the random assignment of firms across the workers’ compensation and nonsubscription sectors. Rather, the “treatment” at issue is the replacement of a mandatory (universal) system with an elective one. Thus, even if the sole effect of an elective statute were to permit a group of “well-positioned” companies (i.e., the subset for which it is advantageous) to self-select into the nonsubscribing sector, the decision-making processes and experiences of this group would remain a subject of scholarly interest.

## 8.5 Results

The survey results, presented in tables 8.2 through 8.6, address five different areas: the basic characteristics of the firm and its employee benefit

66. Comparing the study participants to a credibly “similar” group of subscribers was fraught with empirical difficulties. Since the Texas Department of Insurance does not maintain data on companies that subscribe to workers’ compensation in Texas, the only publicly-available source of such data appeared to be the TWC database. The TWC database lists the name, industry, number of employees (in ranges), and approximate annual sales figures (reported in ranges) of companies operating in Texas. (See the “Employer Search” on the Standardized Occupational Components for Research and Analysis of Trends in Employment System for the Texas Workforce Commission, at <http://socrates.cdr.state.tx.us/>.) However, the database was limited in several critical respects. First, it did not distinguish multistate companies from companies that operate exclusively within Texas. Since all of the survey participants operated in multiple states, one might expect them to be larger, on average, than a comparison group including many single-state firms. (In this sense, they are not truly comparable to the firms contained in the TWC sample.) Secondly, although all information in the TWC database was recorded at the individual facility level, careful scrutiny revealed many facilities of large companies to be missing from the database. (Indeed, some large companies were missing entirely.) Therefore, the company-wide figures calculated from the TWC database—derived by summing across all facilities—underestimated the true values for many workers’ compensation subscribers. Finally, the TWC database reported only *ranges* of numerical values, including a top category comprising all firms above a certain cutoff (e.g., “1,000 or more employees”). Since I did not know the distribution of firms above the top size cutoff, I had little choice but to use this cutoff for purposes of the estimates. (In other words, if a facility was recorded as having “1,000 or more employees,” I simply coded that facility as employing 1,000 workers.) In short, because of the poor quality and insufficient granularity of the TWC data, it was not possible to make reliable apples-to-apples comparisons between large, multistate non-subscribers and large, multistate firms that subscribed to workers’ compensation. All of the problems observed in the TWC data would be expected to *downwardly* bias the estimates of workforce, sales, and number of locations, and could—at least in theory—have fully explained the observed disparities.

program, the process of becoming a nonsubscriber, the provisions of the nonsubscription plan, the firm's overall experience with nonsubscription, and legal issues and concerns. In addition to aggregate figures, I present separate results for each of the three major industry groupings (manufacturing, retail, and services), and for each of the two time periods in which firms first opted out of workers' compensation (1990 to 1994 and 1997 to 2009). Although each major industry (and subindustry) grouping contains at least two firms that participated in the survey, I do not report how the participants are distributed within the subgroups that comprised the services sector in order to preserve the anonymity of all respondents and the confidentiality of their survey responses.

As table 8.2 reveals, the sample exhibits significant heterogeneity across industries and cohorts. For example, the mean numbers of employees and claims were more than twice as large in the retail sector as in the other two industries. Manufacturing firms also tended to be less geographically dispersed and higher in union density than other firms. Although union density and geographic dispersion varied only modestly by date of nonsubscription, mean employment (and claims) levels were about twice as large among the early (1990 to 1994) cohort, suggesting that some of the very largest companies were the first to opt out.

Risk management characteristics were fairly similar across groups: at least half of respondents in all sectors and across both cohorts employed PartnerSource (a Dallas-based consulting firm and insurance agency that caters to Texas nonsubscribers); used a third-party administrator (TPA) to process claims; and self-insured and/or purchased high-deductible insurance plans in other (i.e., workers' compensation) jurisdictions. Since these forms of outsourcing and self-insurance are common among large companies, their predominance among the study participants is not surprising. Interestingly, however, both trends were markedly less common among manufacturing firms and among the earlier cohort.

Information on employee benefits also revealed interesting disparities. One half of manufacturing firms offered in-house first-aid clinics, as compared to only about a third of retail and services companies. Although almost three-quarters of all companies offered employee wellness programs, their prevalence was once again the highest (83 percent) among manufacturing firms. There was also considerable cross-industry variation in the provision of group health insurance, disability coverage, and life insurance. Whereas most manufacturing firms (86 percent) provided such benefits to their entire workforce, a significantly smaller majority (68 to 74 percent) of services firms, and only a minority (29 to 43 percent) of retail firms did so. Members of the later cohort were more likely to offer all types of benefits.

Table 8.3 sheds light on the *process* of nonsubscription by examining companies' reported motivations for nonsubscribing, the timing of their decisions, and the form(s) of outside assistance, if any, that they received.

**Table 8.2** Sample description

	Across all firms	By industry			By date of nonsubscription <sup>a</sup>		Response rate
		Manuf.	Retail	Services	1990–1994	1997–2009	
% Firms identified <sup>b</sup>	61	13%	51%	36%	[unknown]	[unknown]	54/61
% Firms surveyed <sup>c</sup>	54	—	—	—	19%	81%	
Basic firm characteristics							
Average number of employees							
Nationwide	65,585	28,686	92,929	38,884	110,800	55,309	54/54
In Texas	6,742	4,634	9,359	3,662	12,565	5,419	54/54
Average number of claims per year	3,866	1,640	5,210	2,545	5,989	3,495	47/54
% Covering at least 40 states	52%	14%	57%	58%	50%	52%	54/54
% with any union facilities	39%	83%	25%	47%	44%	38%	51/54
% With union facilities in Texas	16%	50%	7%	18%	11%	17%	51/54
Risk management profile							
Uses third-party administrator for nonsubscription claims	81%	50%	79%	94%	67%	84%	51/54
Uses PartnerSource <sup>d</sup>	78%	50%	85%	78%	50%	85%	51/54
Workers' comp. plan characteristics outside Texas (in at least one state)							
High-deductible plan	90%	100%	90%	88%	100%	89%	42/54
Self-insured	74%	67%	79%	68%	89%	70%	53/54
Conventional workers' compensation plan	4%	0%	0%	11%	0%	5%	49/54
Employee benefits profile							
Offers wellness program	74%	83%	74%	71%	67%	76%	50/54
Uses in-house first-aid clinics	35%	50%	29%	35%	33%	35%	52/54



**Table 8.3** Process of nonsubscription

	Across all firms (%)	By industry			By date of nonsubscription			Response rate
		Manuf. (%)	Retail (%)	Services (%)	1990-1994 (%)	1997-2009 (%)		
Reasons for nonsubscription (all that apply)							53/54	
Cost savings	89	86	89	89	100	86		
Better care for employees	47	43	52	42	56	45		
Control medical providers	25	14	22	20	44	23		
Control program benefits	25	29	30	16	33	23		
Faster return to work	9	0	4	21	0	11		
Reduce litigation	6	0	7	5	33	0		
Faster closing of claims	2	0	4	0	0	2		
Types of assistance received (all that apply)							[variable]	
Consulted with PartnerSource	65	25	67	73	0	72	43/54	
Consulted informally with other nonsubscriber(s)	62	50	78	40	50	63	42/54	
Consulted with third-party administrator(s)	33	0	39	33	0	37	42/54	
Consulted with outside attorney(s)	14	0	8	27	40	11	43/54	
Consulted with other(s) <sup>a</sup>	17	25	22	7	25	16	42/54	
Timing of nonsubscription (all that apply)							42/54	
As soon as preparations complete	36	60	35	29	25	37		
Convenient date/no particular reason	21	20	17	29	50	18		
Renewal date with workers' compensation insurance or third-party administrator	19	0	17	29	0	21		
At start of fiscal year	12	0	17	7	0	13		
At start of firm-specific business cycle	12	0	17	7	25	11		
As soon as firm learned about it	5	0	4	5	0	5		
Following firm acquisition	5	40	0	0	0	5		
Changed other policies or practices at the time of nonsubscription	32	57	27	29	22	34	50/54	

*Notes:* This table presents results from a survey of fifty-four large, multistate firms that opted out of workers' compensation in Texas. Unless otherwise specified, percentages represent the fraction of all firms within the applicable column that answered the question and met the specified criterion. (In other words, firms that declined to respond and/or did not know the answer are excluded.) The "Response Rate" column indicates the number of firms that responded to each question.

<sup>a</sup>Other entities with whom respondents reportedly consulted included independent consultants (3 respondents), the Texas Association of Responsible Nonsubscribers (TXANS) (2 respondents), the state of Texas (1 respondent), a risk management services firm (1 respondent), and a professor from a Texas university (1 respondent).

By far the single most common reason for becoming a nonsubscriber, cited by 89 percent of the entire sample (and at least 85 percent of each industry and cohort), was the desire to achieve cost savings. About half of respondents (47 percent of the entire group and 42 to 56 percent of each industry and cohort) also mentioned the desire to take better care of injured workers, and about a quarter (with some variation by industry and cohort) cited the desire for greater control over medical providers and program benefits. Although about a fifth of services companies described expediting employees' return to work as an important goal, and a third of the earlier cohort saw nonsubscription as a means to reduce litigation, few of the other respondents expressed these views.

The types of outside assistance received during the nonsubscription process varied significantly by both industry and cohort. Overall, manufacturing firms received relatively little outside assistance. One-half of respondents in this sector consulted with other companies; a quarter consulted with PartnerSource and/or "other" entities; and none consulted with TPAs or outside attorneys.<sup>67</sup> On the other hand, the majority of retail firms consulted with PartnerSource (67 percent) and other nonsubscribers (78 percent), and significant minorities (39 percent and 22 percent, respectively) consulted with TPAs and/or "other" entities. Services firms displayed an intermediate pattern: while 74 percent consulted with PartnerSource, significant minorities (40 percent, 33 percent, and 27 percent, respectively) consulted with other nonsubscribers, TPAs, and/or outside attorneys. These patterns also varied markedly by cohort. Whereas a majority of late-cohort members consulted with PartnerSource and/or other nonsubscribers, early-cohort members sought less assistance overall, and usually confined their consultations to other nonsubscribers (50 percent) and/or outside attorneys (40 percent).<sup>68</sup>

The timing of nonsubscription shows a fair degree of uniformity across industries and cohorts. Across all groups, a majority of respondents suggested that the start date was relatively arbitrary—for example, the program began "as soon as preparations were complete," "as soon as they learned about it," at a "convenient" date, or on a date chosen for "no particular reason." Only a third of the respondents changed other policies or practices at the time that they adopted their nonsubscription plans. However, several interesting cross-group disparities did come to light. For example, manufacturing firms—as well as retail firms and members of the later cohort—were more likely to harmonize the start date of nonsubscription with a significant corporate milestone (such as the renewal date of an insurance policy or TPA

67. The "other" entities with whom the survey respondents reportedly consulted included independent consultants, the Texas Association of Responsible Nonsubscribers (TXANS), the state of Texas, a risk management services firm, and a professor from a Texas university.

68. The absence of any early-cohort firms that consulted with PartnerSource during the initial nonsubscription process is at least partly explained by the fact that the firm was not founded until 1994.

contract), or with the start of the fiscal year or business cycle. Manufacturing was also the only industry in which a majority of firms (57 percent) changed other policies coincident with nonsubscription, and in which a substantial proportion (40 percent) adopted nonsubscription plans in the wake of a corporate acquisition.

Table 8.4, summarizing the attributes of the respondents' nonsubscription plans, reveals that the benefits typically offered were in some respects more generous, and in other respects less generous, than the workers' compensation regime. On one hand, across all industries and cohorts, the majority of nonsubscribers imposed no maximum dollar amount on weekly wage-replacement benefits, as opposed to the statutory maximum of \$712 under workers' compensation. (Although wage-replacement rates were also nominally higher in most nonsubscription plans, because such benefits are taxable income—unlike under workers' compensation—rates of wage replacement were similar in after-tax dollars.) Also in marked contrast to workers' compensation, most nonsubscribers offered first-day wage-replacement coverage. Even among those nonsubscribers that did impose waiting periods, they were significantly shorter in duration (three to five days) than under workers' compensation (seven days). Finally, although most nonsubscription plans limited the duration of wage-replacement benefits for temporary total disability, the average time limit (except for manufacturing) exceeded the 104-week limit applicable under workers' compensation.

On the other hand, several common features of nonsubscription plans appeared less advantageous to employees than workers' compensation. Regardless of industry or cohort, most firms imposed an end-of-shift or twenty-four-hour reporting deadline, unlike the thirty-day deadline for reporting workers' compensation claims.<sup>69</sup> Most companies also declined to provide permanent partial and/or permanent total disability benefits (although manufacturing and early-cohort firms were slightly more likely to do so than other respondents)<sup>70</sup>; and the majority limited the receipt of medical benefits to about two years (although the average time limit varied across industries and a significant minority of manufacturing and early-cohort firms imposed no time limits at all). Although most nonsubscription plans

69. One prominent stakeholder (who requested anonymity) indicated that some nonsubscribers make exceptions, on a case-by-case basis, to their twenty-four-hour (or end-of-shift) reporting policies (Telephone interview, October 13, 2009). However, since survey participants were not specifically asked whether (and if so, how often) they granted such exceptions, it was not possible to verify this claim.

70. One prominent stakeholder (who requested anonymity) claimed that nonsubscribers occasionally provide injured workers with lump-sum settlements—including payments made outside the plan—that are, in effect, intended to compensate them for permanent disabilities, notwithstanding the fact that such injuries are technically outside the plan's scope of coverage (telephone interview, October 13, 2009). If this is correct, then the apparent absence of permanent-disability coverage in nonsubscription plans could be misleading, at least for some firms. However, since this question was not posed to the survey participants, this hypothesis could not be verified.

**Table 8.4** Nonsubscription plan characteristics

	Across all firms	By industry			By date of nonsubscription			Response rate	Texas WC statute
		Manuf.	Retail		1990-1994	1997-2009			
			Services						
Reporting deadline for injuries									
24 hours/next day	48%	14%	57%	47%	70%		54/54	30 days	
End of shift	39%	57%	32%	42%	20%	43%			
2-3 days	4%	0%	4%	5%	0%	5%			
1 year	2%	0%	4%	0%	0%	2%			
Don't know	7%	29%	4%	5%	10%	7%			
Time limit on medical care									
% with limit	90%	60%	95%	93%	78%	94%	40/54	No limit	
Limit in weeks (if applicable)	107	80	107	113	111	106	35/54		
Wage-replacement benefits									
% with waiting period	21%	17%	21%	21%	33%	18%	53/54		
Avg. waiting period in days (if applicable)	4	3	5	3	4	4	11/54	7 days	
Wage-replacement rate	88%	84%	89%	87%	88%	88%	52/54	70-75% <sup>b</sup>	
% with maximum weekly dollar amount	18%	40%	19%	11%	33%	15%	49/54		
Maximum weekly \$ amount (if applicable) <sup>a</sup>	\$778	\$700	\$860	\$650	\$933	\$700	9/54	\$773 <sup>c</sup>	
% with time limit on wage benefits	94%	100%	100%	84%	89%	95%	51/54	104 (temp.)	
Time limit in weeks (if applicable)	115	96	120	115	143	110	47/54	401 (perm.)	
Covers permanent partial/total disabilities	4%	17%	0%	6%	11%	3%	48/54	Yes	
Offers capped dismemberment benefit	92%	100%	92%	89%	78%	95%	51/54	70% of wage <sup>d</sup>	
Mean \$ cap in thousands (if cap is known)	\$231	\$100	\$200	\$302	\$350	\$214	39/54		
Offers capped death benefit	92%	100%	92%	89%	78%	95%	51/54	75% of wage	
Mean \$ cap in thousands (if cap is known)	\$231	\$100	\$200	\$302	\$350	\$214	39/54		
Directs medical care	98%	100%	100%	94%	100%	98%	52/54	No <sup>e</sup>	
Method(s) of claim dispute resolution (all that apply)								Benefits review conference, arbitration <sup>f</sup>	
Mandatory arbitration	85%	50%	89%	89%	50%	91%	52/54		
Internal committee	70%	50%	68%	79%	71%	70%	50/54		
Mediation	10%	17%	0%	21%	0%	11%	52/54		

(continued)

**Table 8.4** (continued)

	Across all firms	By industry			By date of nonsubscription			Response rate	Texas WC statute
		Manuf.	Retail	Services	1990–1994	1997–2009			
Limit on total benefits (in thousands, where applicable)									
% with no limit	13%	0%	11%	21%	44%	7%	52/54	No limit	
% with per-person limit only	60%	100%	59%	47%	44%	63%	52/54		
Average per-person limit (for this group)	\$283	\$367	\$231	\$303	\$375	\$268	28/54		
% with per-person and per-event limits	27%	0%	30%	32%	11%	30%	52/54		
Average per-person limit (for this group)	\$393	n.a.	\$256	\$575	\$250	\$404	14/54		
Average per-event limit (for this group)	\$2,007	n.a.	\$625	\$404	\$500	\$2,123	14/54		
Excess liability deductible under nonsubscription plan in thousands	\$2,381	\$625	\$3,288	\$1,612	\$3,700	\$2,084	49/54		
Firm response when benefit time limit is reached (all that apply)							46/54		
Would settle	59%	40%	60%	63%	67%	57%			
Never happened	40%	40%	35%	50%	11%	47%			
Alternate policy picks-up	30%	80%	24%	25%	44%	27%			
Benefits end	30%	20%	20%	50%	11%	35%	[47/54]		

*Notes:* This table presents results from a survey of fifty-four large, multistate firms that opted out of workers' compensation in Texas. Unless otherwise specified, percentages represent the fraction of all firms within the column that answered the question and met the specified criterion. (In other words, firms that declined to respond and/or did not know the answer are excluded.) The "Response Rate" column indicates the number of firms that responded to each question. Response rates vary due to some respondents' unfamiliarity with detailed attributes of their nonsubscription plans. Characteristics of Texas' workers' compensation statute are reported in the right column. Excess Liability Deductible under Nonsubscription Plan refers to the amount at which excess liability coverage begins to cover a claim. n.a. = not applicable.

<sup>a</sup>May be restricted by time limits and/or maximum medical improvement (MMI).

<sup>b</sup>Employees that earn less than \$8.50/hour receive wage replacement benefits at a rate of 75 percent of his/her lost wages for the first twenty-six weeks of disability and 70 percent of lost wages thereafter. All other employees receive wage replacement at 70 percent of his/her lost wages (Texas Labor Code § 408.103).

<sup>c</sup>Although in theory the wage replacement rate is 70 to 75 percent, the proportion may be much lower for higher-income workers, because the wage level is capped at the State Average Weekly Wage (SAWW) (Texas Labor Code § 408.061). In 2006, the method for calculating the SAWW was revised, resulting in a significant increase in the maximum weekly benefit, so that fewer workers have been limited by the statutory cap. See Eccleston et al. (2009, 19).

<sup>d</sup>Subject to a maximum of 70 percent of the state average weekly wage, for up to 401 weeks.

<sup>e</sup>The employee can choose his/her own medical provider unless the employer belongs to a workers' compensation medical network.

<sup>f</sup>The employee can opt for a contested case hearing in lieu of arbitration. If desired, appeals and requests for judicial review can be filed with the Appeals Panel and the State County Court, respectively (Texas Labor Code § 410).

mimicked the statutory regime in offering both death and dismemberment benefits, such benefits were capped at anywhere from \$100,000 (the average for manufacturing firms) to \$302,000 (the average for services firms). In contrast to the choice of provider permitted (with rare exceptions<sup>71</sup>) under Texas workers' compensation, most firms also directed injured employees' medical care.

Interestingly, although most respondents described control over providers as a key benefit of nonsubscription, they did not all offer the same rationale for this view. Some firms stressed the benefits that (allegedly) accrued to employees in the form of higher-quality care. For example, one retail company emphasized that the capacity to direct an employee to a nonworkers' compensation specialist meant that the worker could be treated "as a person, not a claim." On the other hand, other respondents viewed limitations on provider choice as a way to reduce fraudulent claims and/or moral hazard among health care providers. For example, one restaurant claimed that under nonsubscription employees learned that "they couldn't game the system" as they allegedly did under workers' compensation, and one services firm observed that under nonsubscription, the company could avoid the "knife-happy physicians" to which workers' compensation attorneys reportedly steered employees.

Presumably in an effort to limit their exposure to tort liability, the overwhelming majority of all firms (85 percent) used mandatory arbitration provisions, although half of manufacturing firms and of early-cohort firms did not. Finally, most respondents imposed per-person and/or per-event caps on the total amount of benefits that any employee could receive (although 21 percent of services firms and 44 percent of early-cohort firms did not).

Table 8.4 reveals another interesting cross-industry disparity. Average excess liability deductibles (the amount at which excess liability coverage begins to cover a claim) were much lower in manufacturing than in other industries. Moreover, manufacturing firms were much more likely than others to report that when a benefit time limit was reached for a given claim, an alternate policy (such as group health care and long-term disability coverage) would kick in. It could be that manufacturing workers are at higher risk of experiencing catastrophic injuries, in which case one would expect firms in this sector both to purchase more excess liability coverage and to offer their workers greater insurance against long-term disability. Available data seems to lend credence to this hypothesis.<sup>72</sup> In contrast, the majority of

71. Employers that belong to a Workers' Compensation medical network can direct medical care under the auspices of that network (Texas Insurance Code § 1305).

72. Based on national data from the Bureau of Labor Statistics, manufacturing companies do in fact exhibit higher rates of serious injuries than companies in the retail and services sectors. For injuries requiring days away from work—the most severe category of nonfatal occupational injuries and illnesses—manufacturing companies in 2007 reported an injury and illness rate of 1.3 per 100 full-time workers, as compared to 1.2 for retail companies and 1.1 for companies

retail and services firms reported that they would try to reach a settlement if a plan-imposed time limit on benefits was reached.

Table 8.5 summarizes respondents' reported experiences with nonsubscription. For this section of the survey, each risk manager was initially asked whether (s)he deemed the program to be a success. Regardless of industry or cohort, virtually all respondents (94 percent) said yes. Of the remaining three companies—all of which belonged to the late cohort—one transportation company said that its experience with nonsubscription had been "hit or miss," depending on the quality of the TPA; one retail company said it was "too soon to tell" because it had opted out so recently; and the third, a services company, said that it could not make informed comparisons because the TPA handled most aspects of its program. With minor variations across industries, most respondents claimed to be tracking the success of their nonsubscription programs using data, although only about three-quarters reportedly calculated and compared costs per claim.

Respondents' opinions regarding the benefits, drawbacks, and surprises of nonsubscription displayed a remarkable degree of uniformity across industries and cohorts. Across all groups, benefits and positive surprises were cited much more frequently than drawbacks and negative surprises. Virtually all respondents (98 percent) cited cost savings as a benefit of nonsubscription, and most (86 percent) cited the magnitude of cost savings as a positive surprise. The average reported cost savings for all groups exceeded 50 percent. This was the case not only for the sample as a whole, but also for the subgroup of respondents that opted out before 2000 or after 2006, well before (or after) the three-year period (2002 to 2004) in which per-claim costs fell substantially within the Texas workers' compensation system.<sup>73</sup> A substantial majority of respondents also cited greater control over medical providers and/or benefits, and higher-quality medical care for injured employees, as advantages. The most commonly-cited drawback—tort liability—was mentioned by half of all respondents (albeit somewhat less frequently by retail firms and early-cohort members).

Notwithstanding such commonalities, the data did reveal interesting cross-group disparities in the perceived benefits, drawbacks, and surprises of nonsubscription. For example, a disproportionate fraction of retail companies cited greater control over program benefits (61 percent) and less litigation (36 percent) as advantages, whereas manufacturing firms were more likely to emphasize faster return to work (86 percent), access to better doctors (71 percent), better safety outcomes (57 percent), and faster medical care (43 percent). (The services sector fell in between in these two extremes.)

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in the services industry (as industries are defined in this chapter). See "Table 1. Incidence rates of nonfatal occupational injuries and illnesses by selected industries and case types, 2007," available at <http://www.bls.gov/news.release/osh.t01.htm>.

73. See discussion of Eccleston et al. (2009, 7–8).

**Table 8.5 Experience with nonsubscription (relative to workers' compensation)**

	Across all firms (%)	By industry			By date of nonsubscription			Response rate
		Manuf. (%)	Retail (%)	Services (%)	1990-1994 (%)	1997-2009 (%)		
Considers nonsubscription to be successful								
Yes	94	100	96	89	100	93	54/54	
Uncertain (too soon to tell and/or don't track outcomes)	4	0	4	5	0	5		
Hit-or-miss, depending on third-party administrator	2	0	0	5	0	2		
Tracks success of nonsubscription with data	91	86	100	79	90	91	54/54	
Tracks cost per claim (among firms that track data)	76	83	72	79	75	76	45/54	
Benefits							54/54	
Cost savings	98	100	96	100	100	98		
Estimated % cost savings (only if exists and % was given)	58	62	60	54	63	58	[38/54]	
Estimated % Savings if opted out before 2000 or after 2006 <sup>a</sup>	53	57	56	43	63	45	[15/24]	
More control over medical providers/benefits	74	71	82	63	80	73		
Employees receive better care	64	86	64	56	70	63		
More control over program benefits	50	14	61	47	50	50		
Employees return to work faster	46	86	32	53	60	43		
Access to better doctors	46	71	32	58	30	50		
Better safety outcomes	35	57	32	32	30	36		
Fewer injury claims filed	28	43	29	21	20	30		
Less litigation	22	14	36	5	20	23		
Faster medical care	19	43	7	26	20	18		
Faster claim closing	17	14	21	11	10	18		
Less ambiguity in processing of claims	15	0	18	16	10	16		
Faster injury reporting	13	33	7	16	10	14		
Access better doctors through higher doctor pay	9	14	11	5	10	9		
Can keep closer tabs on each claim	2	0	0	5	0	2		
Reported any positive surprises	39	29	46	32	40	39	53/54	
Among firms citing positive surprises:								
Magnitude of cost savings	86	100	77	100	100	82		
Infrequent internal appeals/lawsuits	24	0	38	0	25	24		
Lack of employee backlash	14	50	15	0	0	18		
Ease of administration	5	0	8	0	0	6		
Ability to recover from third parties	5	0	8	0	25	0		

(continued)

**Table 8.5** (continued)

	Across all firms (%)	By industry			By date of nonsubscription			Response rate
		Manuf. (%)	Retail (%)	Services (%)	1990–1994 (%)	1997–2009 (%)	1997–2009 (%)	
Drawbacks								54/54
Tort liability	50	57	43	58	30		55	
Burden of educating workforce	30	0	36	32	40		27	
General administrative time and hassle	19	14	25	11	20		18	
Burden of educating management	15	14	18	11	10		16	
Resistance from management	4	14	0	5	0		5	
Burden of finding suitable medical providers	4	14	4	0	0		5	
Employees lose benefits for late reporting	2	0	4	0	10		0	
Arbitration can be unfair to employees	2	14	0	0	0		2	
Employee doubts about quality of care	2	0	4	0	0		2	
Burden of directly supervising medical care	2	0	4	0	0		2	
More claims are shifted to group health	2	0	4	0	10		0	
Reported any negative surprises	11	0	11	16	0		14	53/54
Among firms citing negative surprises:								
Large arbitration awards	50	n.a.	33	67	n.a.		50	
High frequency of frivolous lawsuits	33	n.a.	33	33	n.a.		33	
Too few third-party administrators from which to choose	17	n.a.	33	0	n.a.		17	
High frequency of internal appeals/lawsuits	17	n.a.	0	33	n.a.		17	
Nonsubscription affected safety practices outside Texas	21	29	25	12	20		21	52/54
Expressed desire to opt out in other states	26	29	29	21	10		30	54/54
Knows of a former large, multistate nonsubscriber that returned to the workers' compensation system	0	0	0	0	0		0	54/54

*Notes:* This table presents results from a survey of fifty-four large, multistate firms that opted out of workers' compensation in Texas. Unless otherwise specified, percentages represent the fraction of all firms within the applicable column that answered the question and met the specified criterion. (In other words, firms that declined to respond and/or did not know the answer are excluded.) The "Response Rate" column indicates the number of firms that responded to each question. n.a. = not applicable.

<sup>a</sup>Because average costs per claim under Texas workers' compensation fell markedly from 2002 to 2004, this line reports estimated cost savings *only* among firms that answered this question and did *not* opt out between 2000 and 2006. When only firms that opted out between 2002 and 2004 were excluded, the percentages were even closer to those for the entire sample. (The "across all firms" percentages were identical, and those for individual industries and cohorts differed by no more than 6 percentage points.)

Manufacturing was also the only sector in which a substantial fraction (50 percent) of firms cited the lack of employee backlash as a positive surprise (which could reflect the industry's much higher rates of unionization). Manufacturing firms also held somewhat idiosyncratic views of the *negative* aspects of nonsubscription. For example, unlike about a third of retail and services companies, no manufacturing firm described educating its workforce as a burden of nonsubscription, a disparity that once again could be explained by the sector's high rates of unionization. Moreover, although at least a third of retail and services firms mentioned bad arbitration awards and/or the frequency of frivolous lawsuits as negative surprises, no manufacturing firms shared this view. In fact, rather surprisingly, manufacturing firms (and members of the early cohort) reported no negative surprises at all.

Table 8.5 contains three other noteworthy findings. First of all, a sizable minority of respondents (ranging from 12 percent in services to 29 percent in manufacturing) reported that the company's experiences with nonsubscription caused them to change their safety practices in other states. (For example, the online injury reporting system developed by one services company under nonsubscription was rolled out nationwide to streamline reporting procedures. Similarly, another services company designed new documentation for claims reporting that was later adopted outside of Texas.) Secondly, at some point during the interview, about a quarter of respondents volunteered their opinion (unprompted) that other states should allow the nonsubscription option. Finally, although every risk manager was asked whether (s)he knew of any large, multistate firms that had been nonsubscribers but subsequently rejoined the workers' compensation system, all said no.

Finally, table 8.6 examines various legal dimensions of nonsubscription. The majority of respondents in all groups reported little or no trouble with litigation, and complaints about related issues (such as bad arbitration awards, frivolous lawsuits, and/or the frequency of internal appeals or lawsuits) were relatively rare. However, manufacturing firms and early-cohort firms were considerably more likely than others to report at least "some" litigation troubles. Similarly, whereas only about a quarter of retail, services, and late-cohort firms paid out any claims above \$500,000, most manufacturing firms (83 percent) and two-thirds of early-cohort firms reported having done so. Meanwhile, retail companies' experiences with litigation seemed to be unusually favorable: not only did few report "trouble" with litigation and/or paying out expensive claims, but a sizable minority also described less litigation and the infrequency of internal appeals and lawsuits as benefits and/or positive surprises.<sup>74</sup>

Another striking trend was the pervasive use of mandatory arbitration

74. Several firms mentioned that they carried high-deductible insurance policies to help cover the cost of expensive tort judgments or settlements. However, since respondents were not routinely asked whether they carried such policies, it is uncertain how many of the costly claims to which respondents alluded (i.e., those exceeding \$500,000) were paid for out-of-pocket.

**Table 8.6** Legal issues under nonsubscription

	Across all firms (%)		By industry (%)		By date of nonsubscription (%)		Response rate
	all firms (%)	Manuf. (%)	Retail (%)	Services (%)	1990–1994 (%)	1997–2009 (%)	
<i>Overview of legal issues</i>							
Uses mandatory arbitration in the event of a claim dispute <sup>a</sup>	85	50	89	89	50	91	52/54
Mentioned reducing litigation as a reason for nonsubscription <sup>a</sup>	6	0	7	5	33	0	53/54
Any trouble with litigation?							53/54
No	45	29	43	56	30	49	
Hardly any (no)	36	29	43	28	30	37	
Some (yes)	15	43	14	6	40	9	
Yes	4	0	0	11	0	5	
Has paid nonsubscription claims over \$500k	31	83	22	28	67	24	51/54
Has paid more than one claim over \$500k	14	50	4	17	22	12	50/54
Has settled outside the plan	27	40	22	31	33	25	41/54
<i>Drawbacks and negative surprises</i>							
Mentioned tort liability as a drawback <sup>a</sup>	50	57	43	58	30	55	54/54
Mentioned large arbitration awards as a negative surprise <sup>a</sup>	6	0	4	11	0	7	53/54
Mentioned frequency of frivolous lawsuits as a negative surprise <sup>a</sup>	4	0	4	5	0	5	53/54
Mentioned high frequency of internal appeals/lawsuits as a negative surprise <sup>a</sup>	2	0	0	5	0	2	53/54
<i>Advantages and positive surprises</i>							
Mentioned less litigation as a benefit <sup>a</sup>	22	14	36	5	20	23	54/54
Mentioned infrequency of internal appeals/lawsuits as a positive surprise <sup>a</sup>	9	0	19	0	11	9	53/54

Overview of legal issues, by use of mandatory arbitration

	Across all firms	Among firms that use mandatory arbitration	Among firms that do not use mandatory arbitration	Response rate
Mentioned reducing litigation as a reason for nonsubscription <sup>a</sup>	6	0	25	51/54
Mentioned tort liability as a drawback of nonsubscription <sup>a</sup>	50	52	38	54/54
Any trouble with litigation?				52/54
No	45	52	0	
Hardly any (no)	36	34	57	
Some (yes)	15	9	43	
Yes	4	5	0	
Has paid nonsubscription claims over \$500k	31	24	63	52/54
Has paid <i>more than one</i> claim over \$500k	14	10	38	52/54
Has settled outside the plan	27	31	13	52/54

*Notes:* This table presents results from a survey of fifty-four large, multistate firms that opted out of workers' compensation in Texas. Unless otherwise specified, percentages represent the fraction of all firms within the applicable column that answered the question and met the specified criterion. (In other words, firms that declined to respond and/or did not know the answer are excluded.) The "Response Rate" column indicates the number of firms that responded to each question.

<sup>a</sup>Similar information is presented in earlier tables. In this table, however, figures are uniformly calculated as a percentage of all firms that answered the question. (In some previous tables, figures are calculated as a percentage of firms that answered "yes" to a previous question.)

among nonsubscribers. The overwhelming majority (85 percent) of respondents used such provisions, although they were much more common among retail, services, and late-cohort firms. The bottom panel, which breaks down respondents by the use of mandatory arbitration, displays several salient patterns. Although firms that use mandatory arbitration provisions did not mention reducing litigation as a reason for opting out of workers' compensation, they were far more likely to describe tort liability as a drawback of nonsubscription—indeed, this concern may be what led them to adopt such provisions in the first place. This theory is seemingly borne out by the fact that “trouble with litigation” and claims above \$500,000 were much less common among firms that used mandatory arbitration.

Finally, it is interesting to note that about a quarter of all firms reported having settled claims outside of the nonsubscription plan. The prevalence of this practice was particularly high among manufacturing firms (40 percent) and among early-cohort members (33 percent). Moreover, as is revealed in the bottom panel, settlements outside of the plan were considerably more common among firms that used mandatory arbitration (31 percent) than among firms that did not (13 percent). It is possible that such settlements had been offered to compensate workers for permanent disabilities that were technically outside the scope of the plan—a practice that one stakeholder claimed was not uncommon among large nonsubscribers.<sup>75</sup> However, since this follow-up question was not posed to the survey participants, this hypothesis could not be confirmed.

## 8.6 Conclusions and Suggestions for Future Research

Although participation in the workers' compensation system is compulsory for virtually all private-sector employers, Texas' unique law—the only truly elective statute in the United States<sup>76</sup>—presents researchers with a valuable opportunity to explore the “path not taken.” Unlike in every other U.S. state, about one-third of Texas firms have elected to become “nonsubscribers” and opted out of the workers' compensation system. Remarkably, the prevalence of nonsubscription has been on the rise among very large firms, whose “deep pockets” might make them particularly averse to lawsuits by employees injured on the job. Why are large employers choosing to forgo the benefits of tort immunity? What are the real-world consequences for those firms that choose to become nonsubscribers? Such questions have received almost no prior scholarly attention.

This chapter is the first to comprehensively examine Texas nonsubscription from the perspective of companies that have opted out of workers'

75. See note 70.

76. For a list of the minor exceptions to this rule, see notes 3 and 7.

compensation. I focus on an important group of Texas firms—large companies that span many U.S. states. This group is of particular interest not only because large companies usually employ full-time, professional risk managers who are well-informed about workers' compensation and its alternatives, but also because large firms are the *only* group for which non-subscription has been rising (and markedly so) in recent years. Instead of letting injured workers without viable tort claims bear the costs of their own occupational injuries, these employers typically offer “home-grown” benefits plans to their Texas employees that approximate the benefits available through workers' compensation. After identifying those firms that met the study criteria, I administered a confidential phone survey to 89 percent of this group to learn more about their attributes, motivations, behavior, and experiences.

The survey responses revealed many important trends. Large, multistate firms that nonsubscribed in recent years were likely to rely on consultants and/or third-party administrators to help guide them through the nonsubscription process and to administer their plan in subsequent years. They were also likely to self-insure and/or use high-deductible plans in states that mandated workers' compensation coverage. Although a majority operated employee wellness programs, less than half used in-house first-aid clinics. There were considerable disparities in the provision of other employee benefits such as group health plans, disability coverage, and life insurance; whereas most manufacturing firms and a majority of services firms offered such benefits to all workers, only a minority of retail firms did so.

For nearly all large, multistate firms, the main reason for opting out of workers' compensation was to achieve cost savings, although a sizable minority of respondents were also motivated by the desire to provide better care for employees, control medical providers, and/or control program benefits. Firms did not seem to perceive the timing of the nonsubscription process as a strategically important decision, although some coordinated the start date with the beginning of the fiscal year or the renewal of contracts with insurers or third-party administrators. A sizable minority of firms did change other policies or practices at the same time that they phased in a nonsubscription plan.

Overall, the occupational injury plans that nonsubscribers offered in lieu of workers' compensation were remarkably homogenous. Unlike workers' compensation, most plans did not impose any maximum weekly dollar amount or waiting period on the receipt of wage-replacement benefits. Moreover, the maximum duration of wage-replacement benefits for temporary total disabilities typically exceeded the statutory cap. On the other hand, most nonsubscription plans imposed end-of-shift or twenty-four-hour reporting deadlines, did not cover permanent partial or permanent total disabilities, limited medical benefits to about two years, capped death

and dismemberment benefits, and imposed per-person and/or per-event caps on total benefits. The vast majority of respondents also directed employees' medical care.

There were also striking similarities in respondents' reported experiences with nonsubscription. Virtually all (94 percent) of firms judged these programs to be a success. Not only did virtually all (98 percent) of companies report cost savings, but most were pleasantly surprised by the magnitude of these savings, which reportedly exceeded 50 percent (on average) across all industries. Other commonly-cited benefits of nonsubscription were greater control over medical providers, greater control over program benefits, improved quality of medical care, faster return to work, and access to better doctors. The only drawback or negative surprise cited by an appreciable number of respondents was tort liability, which half of all firms viewed as a drawback. However, presumably in an effort to curb such liability, a very high fraction (about 85 percent) of nonsubscriber plans channeled disputes to mandatory arbitration. About a fifth of respondents reported that nonsubscription had affected safety practices outside of Texas, and a quarter spontaneously expressed a desire to spread nonsubscription to other states.

Although the majority of all survey respondents reported little or no trouble with litigation, follow-up questions revealed intriguing patterns across groups. Manufacturing firms and companies that opted out in the early 1990s were the most likely to report "some" trouble with litigation. At least two-thirds of respondents in all of these groups, for example, had paid out at least one claim exceeding \$500,000. At the other extreme, retail companies rarely reported any trouble with litigation, and less than a quarter had paid out any claims above \$500,000. The services sector fell somewhere between these two extremes. Litigation trends also varied by the presence (or absence) of mandatory arbitration. Firms that required mandatory arbitration were much less likely to report "trouble" with litigation, such as having paid out at least one half-million-dollar claim. Finally, about a quarter of respondents in all industries reported having settled claims outside the plan, and this practice was especially common among firms that used mandatory arbitration.

Although the study findings help to illuminate the real-world consequences of nonsubscription for an important and growing segment of Texas employers, many critical questions merit further investigation. First and foremost, the data consisted entirely of company self-reports, and as such were inherently prone to imprecision and subjectivity. Lacking detailed claim records, I could not test in a rigorous manner whether—and if so, to what extent—nonsubscription truly affected the frequency, distribution, cost, or duration of occupational injury claims. Secondly, my data did not allow me to test for the possibility of cost shifting. For example, some occupational injuries that apparently "disappeared" with nonsubscription may have been covered by

group health care plans and/or by private disability insurance, unbeknownst to the survey respondents. If nonsubscription caused many workers' compensation claims to "migrate" to nonoccupational benefit programs in this manner, it could have decreased costs far less than the survey results suggested (or not at all). Third, the experiences of small- and medium-sized nonsubscribers may have differed substantially from the experiences of the large multistate firms examined here. Finally, my findings shed little light on the consequences of nonsubscription for affected employees. Probing whether nonsubscription is a Pareto improvement—or simply redistributes economic surplus from employees to employers—is an especially critical and timely subject for future inquiry.

## Appendix

### *Telephone Survey Questions*<sup>77</sup>

#### **Process of Nonsubscription**

- a. When did you nonsubscribe?
- b. How and when did you first learn of nonsubscription as an option in Texas?
- c. Did you consult with outside parties, such as other companies or your Third Party Administrator (TPA), in choosing to become a nonsubscriber?
- d. Why did you nonsubscribe?
- e. After you decided to become a nonsubscriber, how did you choose when to switch to nonsubscription?
- f. Did you change any other company safety policies or practices at the same time you became a nonsubscriber?

#### **Experience with Nonsubscription (Relative to Workers' Compensation)**

- a. Do you think nonsubscription has been successful? If so, why and how?
- b. What are the benefits and drawbacks of nonsubscription for your company?
- c. What are the challenges, logistical or otherwise, with nonsubscription for your company?
- d. Have you had much trouble with litigation under nonsubscription?
- e. Have you had any large litigated nonsubscription claims, over \$500,000?

77. This script was followed loosely, and questions inviting more than a straightforward factual answer were posed in a flexible, open-ended, and individualized manner.

f. Do you use data to systematically measure the success of nonsubscription? If so, what types of benchmarks do you use (such as cost per claim or other measures)?

g. Have there been any surprises with nonsubscription, either positive or negative?

h. Has nonsubscription affected company safety practices outside of Texas? If so, how?

### **Nonsubscription Plan Characteristics**

a. What is the deadline for notifying the company of an injury?

b. Is there a time limit on medical benefits?

c. What is the waiting period for receiving wage-replacement benefits?

d. What is the wage-replacement rate?

e. Is there a maximum weekly wage benefit? If so, what is it?

f. Is there a limit to the number of weeks of disability? If so, what is it?

g. Can employees choose their own doctor?

h. Do you provide a benefit for permanent partial disabilities?

i. Do you provide a death benefit? If so, what is it?

j. What is the limit on dismemberment benefits?

k. What is the method for resolving claim disputes?

l. What is the total cap on benefits, if there is one?

m. What happens if there are still ongoing medical costs or lost time when a nonsubscription claim reaches the time limit of the nonsubscription plan (do you settle the claims, could another insurance policy cover some of the ongoing costs)?

n. Have you ever provided benefits outside the plan?

o. Do you have excess liability coverage? If so, when does it kick in?

### **Basic Company Information**

a. *Roughly* how many employees does your company have nationwide? In Texas?

b. How many locations do you have nationwide?

c. In about how many states do you operate?

d. *About* how many workers' compensation claims do you handle per year?

e. Do you self-insure in workers' compensation states where you have the option? If you do not self-insure, do you have a high deductible workers' compensation plan?

f. Do you have in-house clinics that handle first aid claims?

g. Do you have employee wellness programs? If so, when did they start?

h. Do you have any union locations? In Texas?

i. Do you handle nonsubscription claims in-house, or use a third-party administrator (TPA)?

- j. Are your employees eligible for:
  - i. Group health insurance
  - ii. Long-term disability insurance
  - iii. Short-term disability insurance
  - iv. Life insurance
- k. What other benefits does your company offer?
  - l. Do these benefits vary across states, particularly in and out of Texas?
  - m. Have you ever worked with PartnerSource?

#### Other<sup>78</sup>

- a. Do you know of any company that was a nonsubscriber, but then returned to the workers' compensation system in Texas?

## References

- Arnould, R. J., and L. M. Nichols. 1983. Wage-risk premiums and workers' compensation: A refinement of estimates of compensating wage differential. *Journal of Political Economy* 91 (2): 332–40.
- Baker, L. C., and A. B. Krueger. 1993. Twenty-four-hour coverage and workers' compensation insurance. *Health Affairs* 12 (supp. 1): 271–81.
- Biddle, J. 2001. Do high claim-denial rates discourage claiming? Evidence from workers compensation insurance. *Journal of Risk and Insurance* 68 (4): 631–58.
- Boden, L. I., and J. W. Ruser. 2003. Workers' compensation "reforms," choice of medical care provider, and reported workplace injuries. *Review of Economics and Statistics* 85 (4): 923–29.
- Bolduc, D., B. Fortin, F. Labrecque, and P. Lanoie. 2002. Workers' compensation, moral hazard and the composition of workplace injuries. *Journal of Human Resources* 37 (3): 623–52.
- Bureau of Labor Statistics. 2007. Table 1: Incidence rates of nonfatal occupational injuries and illnesses by selected industries and case types, 2007. U.S. Department of Labor. Available at: <http://www.bls.gov/news.release/osh.t01.htm>.
- Butler, R. J. 1994. Economic determinants of workers' compensation trends. *Journal of Risk and Insurance* 61 (3): 383–401.
- . 1996. Lost injury days: Moral hazard differences between tort and workers' compensation. *Journal of Risk and Insurance* 63 (3): 405–33.
- Butler, R. J., and J. D. Worrall. 1983. Workers' compensation: Benefit and injury claims rates in the seventies. *Review of Economics and Statistics* 65 (4): 580–89.

78. The survey also included four questions regarding a planned future study of detailed claim-level data provided by a subset of the survey respondents. These questions were the following: "Did you know this study was being conducted?"; "How did you learn about it?"; "Did you consider participating in the data portion of the study?"; and "Why did you decline to participate in the data portion of Prof. Morantz's study of nonsubscription?". Because these four questions did not pertain to the current study, the responses to them are not reported in tables 8.2 through 8.6.

- . 1985. Work injury compensation and the duration of nonwork spells. *The Economic Journal* 95 (379): 714–24.
- . 1991. Claims reporting and risk bearing moral hazard in workers' compensation. *Journal of Risk and Insurance* 58 (2): 191–204.
- Card, D., and B. McCall. 1996. Is workers' compensation covering uninsured medical costs? Evidence from the Monday effect. *Industrial and Labor Relations Review* 49 (4): 690–706.
- Chelius, J. R. 1976. Liability for industrial accidents: A comparison of negligence and strict liability systems. *Journal of Legal Studies* 5 (2): 293–309.
- . 1982. The influence of workers' compensation on safety incentives. *Industrial and Labor Relations Review* 35 (2): 235–42.
- Division of Workers' Compensation. 2009. Maximum and minimum weekly benefits. Texas Department of Insurance. Available at: <http://www.tdi.state.tx.us/wc/employee/documents/maxminbens.pdf>.
- Durbin, D. L., D. Corro, and N. Helvacian. 1996. Workers' compensation medical expenditures: Price vs. quantity. *Journal of Risk and Insurance* 63 (1): 13–33.
- Eccleston, S. M., E. Radeva, C. A. Telles, R. Yang, and R. P. Tanabe. 2009. *Monitoring the impact of reforms in Texas: CompScope benchmarks*, 9th ed. Cambridge, MA: Workers Compensation Research Institute.
- Ehrenberg, R. 1988. Workers' compensation, wages, and the risk of injury. In *New perspectives in workers' compensation*, ed. J. F. Burton, 71–96. Ithaca: ILR Press.
- Fields, J. A., and E. C. Venezian. 1991. Medical cost development in workers' compensation. *Journal of Risk and Insurance* 58 (3): 497–504.
- Fishback, P. V. 1987. Liability rules and accident prevention in the workplace: Empirical evidence from the early twentieth century. *Journal of Legal Studies* 16 (2): 305–28.
- Fishback, P. V., and S. E. Kantor. 1998a. The adoption of workers' compensation in the United States. *Journal of Law and Economics* 41 (2): 305–41.
- . 1998b. The political economy of workers' compensation benefit levels, 1910–1930. *Explorations in Economic History* 35 (2): 109–39.
- Health and Workers' Compensation Networks Division. Texas Department of Insurance. Available at: <http://www.tdi.state.tx.us/wc/wcnet/index.html#certified>.
- Howard, C. 2002. Workers' compensation, federalism, and the heavy hand of history. *Studies in American Political Development* 16 (1): 28–47.
- International Association of Industrial Accident Boards and Commissions, and Workers Compensation Research Institute. 2009. *Workers' compensation laws*, 2nd ed. Cambridge, MA: Workers Compensation Research Institute.
- Johnson, W. G., M. L. Baldwin, and R. J. Butler. 1998. Back pain and work disability: The need for a new paradigm. *Industrial Relations* 37 (1): 9–34.
- Kaestner, R., and A. Carroll. 1997. New estimates of the labor market effects of workers' compensation insurance. *Southern Economic Journal* 63 (3): 635–51.
- Kniesner, T. J., and J. D. Leeth. 1989. Separating the reporting effects from the injury rate effects of workers' compensation insurance: A hedonic simulation. *Industrial and Labor Relations Review* 42 (2): 280–93.
- Krueger, A. B. 1990a. Incentive effects of workers' compensation insurance. *Journal of Public Economics* 41 (1): 73–99.
- . 1990b. Workers' compensation insurance and the duration of workplace injuries. NBER Working Paper no. 3253. Cambridge, MA: National Bureau of Economic Research.
- Krueger, A. B., and J. F. Burton Jr. 1990. The employers' costs of workers' compensation insurance: Magnitudes, determinants, and public policy. *Review of Economics and Statistics* 72 (2): 228–40.

- Lakdawalla, D. N., R. T. Reville, and S. A. Seabury. 2007. How does health insurance affect workers compensation filing? *Economic Inquiry* 45 (2): 286–303.
- Meng, R., and D. A. Smith. 1999. The impact of workers' compensation on wage premiums for job hazards. *Applied Economics* 31 (9): 1101–8.
- Meyer, B. D., W. K. Viscusi, and D. L. Durbin. 1995. Workers' compensation and injury duration: Evidence from a natural experiment. *American Economic Review* 85 (3): 322–40.
- Moore, M. J., and W. K. Viscusi. 1989. Promoting safety through workers' compensation: The efficacy and net wage costs of injury insurance. *RAND Journal of Economics* 20 (4): 499–515.
- . 1992. Social insurance in market contexts: Implications of the structure of workers' compensation for job safety and wages. In *Contributions to insurance economics*, ed. G. Dionne, 399–422. Boston: Kluwer Academic Publishers.
- National Commission on State Workmen's Compensation Laws. 1972. The report of the National Commission on State Workmen's Compensation Laws. John Burton's Workers' Compensation Resources. Available at: [http://www.workerscompresources.com/National\\_Commission\\_Report/national\\_commission\\_report.htm](http://www.workerscompresources.com/National_Commission_Report/national_commission_report.htm).
- Neuhauser, F., and S. Raphael. 2004. The effect of an increase in workers' compensation benefits on the duration and frequency of benefit receipt. *Review of Economics and Statistics* 86 (1): 288–302.
- Neumark, D., P. S. Barth, and R. A. Victor. 2007. The impact of provider choice on workers' compensation costs and outcomes. *Industrial and Labor Relations Review* 61 (1): 121–42.
- Office of Injured Employee Counsel of the State of Texas. Notice of injured employee rights and responsibilities in the Texas workers' compensation system. Texas Department of Insurance. Available at: <http://www.tdi.state.tx.us/pubs/factsheets/ierrenglish.pdf>.
- Roberts, K., and S. Zonia. 1994. Workers' compensation cost containment and health care provider income maintenance strategies. *Journal of Risk and Insurance* 61 (1): 117–31.
- Ruser, J. W. 1985. Workers' compensation insurance, experience-rating, and occupational injuries. *RAND Journal of Economics* 16 (4): 487–503.
- . 1991. Workers' compensation and occupational injuries and illnesses. *Journal of Labor Economics* 9 (4): 325–50.
- Schwartz, G. T. 1994. Reality in the economic analysis of tort law: Does tort law really deter? *UCLA Law Review* 42:377–444.
- Shields, J., and D.C. Campbell. 2002. A study of nonsubscription to the Texas workers' compensation system: 2001 estimates. Texas Department of Insurance. Available at: <http://www.tdi.state.tx.us/reports/wcreg/documents/nonsub.pdf>.
- Smith, R. S. 1990. Mostly on Monday: Is workers' compensation covering off-the-job injuries? In *Benefits, costs, and cycles in workers' compensation*, ed. P. S. Borba and D. Appel, 115–27. Boston: Kluwer Academic Publishers.
- Standardized Occupational Components for Research and Analysis of Trends in Employment System. Texas Workforce Commission. Available at: <http://socrates.cdr.state.tx.us/>.
- Texas Non-Subscribers download file. Texas Department of Insurance. Available at: <http://www.tdi.state.tx.us/general/download/nonsubscribe.csv>.
- Transportation Research Board. 1994. *TRB special report 241: Compensating injured railroad workers under the Federal Employers' Liability Act*. Washington, DC: National Academy Press.
- Viscusi, W. K., and M. J. Moore. 1987. Workers' compensation: Wage effects, ben-

- efit inadequacies, and the value of health losses. *Review of Economics and Statistics* 69 (2): 249–61.
- Waehrer, G. M., and T. R. Miller. 2003. Restricted work, workers' compensation, and days away from work. *Journal of Human Resources* 38 (4): 964–91.
- Workers' Compensation Research Group. 1997. Experiences of injured workers employed by nonsubscribing employers. Texas Department of Insurance. Available at: [http://www.tdi.state.tx.us/reports/wcreg/inj\\_ees.html](http://www.tdi.state.tx.us/reports/wcreg/inj_ees.html).
- . 2004. Employer participation in the Texas workers' compensation system: 2004 estimates. Texas Department of Insurance. Available at: <http://www.tdi.state.tx.us/wc/regulation/roc/documents/wc0904est.pdf>.
- . 2006. Employer participation in the Texas workers' compensation system: 2006 estimates. Texas Department of Insurance. Available at: [http://www.tdi.state.tx.us/reports/wcreg/documents/Employer\\_Participati.ppt](http://www.tdi.state.tx.us/reports/wcreg/documents/Employer_Participati.ppt).
- . 2008. Employer participation in the Texas workers' compensation system: 2008 estimates. Texas Department of Insurance. Available at: [http://www.tdi.state.tx.us/reports/wcreg/documents/2008\\_Employer\\_Particip.ppt#8](http://www.tdi.state.tx.us/reports/wcreg/documents/2008_Employer_Particip.ppt#8).
- Worrall, J. D., and D. Appel. 1982. The wage replacement rate and benefit utilization in workers' compensation insurance. *Journal of Risk and Insurance* 49 (3): 361–71.
- Worrall, J. D., and R. J. Butler. 1985. Benefits and claim duration. In *Workers' compensation benefits: Adequacy, equity, and efficiency*, ed. J. D. Worrall and R. J. Butler, 57–70. Ithaca: ILR Press.
- . 1988. Experience rating matters. In *Workers' compensation insurance pricing: Current programs and proposed reforms*, ed. P. S. Borba and D. Appel, 81–94. Boston: Kluwer-Nijhoff.