

# WORKERS' COMPENSATION POLICY REVIEW

Vol 7 Issue 3

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### FEATURED TOPICS

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This issue is being distributed in July 2007. The next issue will follow shortly.

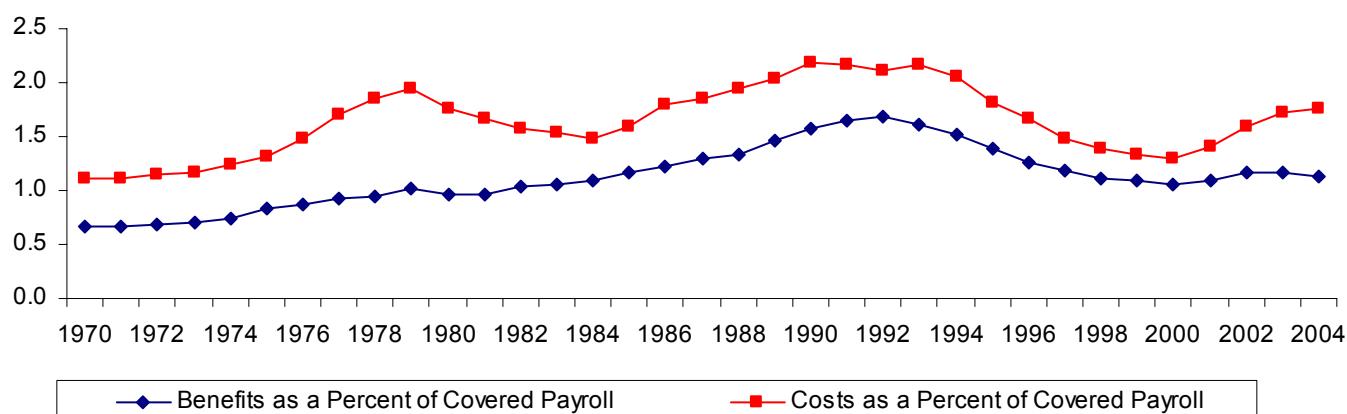
## Summary of the Contents

The article by John Burton provides an Overview of Workers' Compensation that ideally will be of value to both neophytes and aficionados in the area. The article provides the historical background for workers' compensation, which helps explain many of the attributes of the program, such as the control by the states. The article also provides a capsule of the legal tests for compensability, including both the historical requirements, such as the requirement for an accident, as well as recent developments, such as the requirement that the current workplace injury be the major contributing cause of the worker's disability. The article also describes the various types of cash and medical benefits provided by workers' compensation programs.

The article places particular emphasis of recent developments in workers' compensation insurance arrangements. Since the 1980s, several states have established competitive state workers' compensation funds, while two states have eliminated their exclusive state funds. Meanwhile, the workers' compensation insurance markets for private carriers have been deregulated in most states. These changes in insurance arrangements produced some expected and some surprising results for the employers' costs of workers' compensation insurance.

Burton plans to co-author an expanded version of the Overview article later this year. Suggestions from readers would be appreciated about topics not in the article that should be covered, as well as topics that are covered but that should be expanded or shortened. Please send your comments to JFBurtonJR@aol.com.

**Workers' Compensation Benefits and Employers' Costs as a Percent of Covered Payroll, 1970-2004**



## A Book of Possible Interest to Subscribers

*Employment Law: Cases and Materials: Fourth Edition* has recently been published by LexisNexis. The volume, written by Steven L. Willborn, Steward J. Schwab, John F. Burton, Jr., and Gillian L. L. Lester, is widely used in courses in law schools and graduate programs in employment relations, and should be valuable for practicing attorneys and others interested in an overview of employment law. John Burton was the lead author on Part VIII of the book, which contains these headings:

### **Part VIII. Workplace Injuries and Diseases**

#### **Chapter 21. The Prestatutory Approaches**

- A. The Labor Market
- B. Tort Suits

#### **Chapter 22. Workers' Compensation**

- A. The Origins of Workers' Compensation
- B. An Overview of Current Workers' Compensation Programs
- C. The Exclusivity of Workers' Compensation
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- E. Which Diseases are Compensable?
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#### **Chapter 23. The Occupational Safety and Health Act**

- A. An Overview of the Act
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- E. Enforcement
- F. Employee Rights and Responsibilities
- G. Federal Versus State Authority for Workplace Safety and Health

#### **Chapter 24. Rethinking the Approaches to Workplace Injuries and Diseases**

- A. The Labor Market
- B. Tort Suits
- C. Workers' Compensation
- D. The Occupational Safety and Health Act

*Employment Law: Cases and Materials: Fourth Edition.* 1167 Pages plus Table of Cases and Index. \$94.00 hardcover. ISBN 0-8205-7089-3. Published 2007.

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# An Overview of Workers' Compensation

by John F. Burton, Jr.

Workers' compensation programs provide cash benefits, medical care, and rehabilitation services to workers who experience work-related injuries.<sup>1</sup> Each state has a workers' compensation statute and there are several federal programs. There are some common features of these programs, including the use of several legal tests to determine which injuries are work-related and therefore entitle workers to benefits. There are also significant differences among the jurisdictions, including the weekly amounts and durations of cash benefits. This chapter summarizes the salient similarities and differences, with particular emphasis on the insurance arrangements used to provide the benefits.

## HISTORY

Workers' compensation is the oldest social insurance program in the U.S., and many of the current features of the program can only be understood if the context in which the program emerged in the first two decades of the 20<sup>th</sup> century is understood.<sup>2</sup> At that time, a negligence suit (a form of tort or civil remedy) was the only remedy an employee injured at work had against the employer. If the employee won the suit, the recovery could be substantial, since the damages could include replacement of lost wages, reimbursement of all medical expenses, and payments for nonpecuniary consequences, such as pain and suffering. An injured worker faced substantial obstacles to winning the suit, however, not only because of the necessity to prove that the employer was negligent, but because the courts had established several legal doctrines that a negligent employer could use to avoid liability. An example was contributory negligence, which precluded the employee from any recovery if he or she were negligent, even if the employer was primarily the negligent party. The conventional view is that few employees were successful in these suits, although occasionally employers were found liable and paid large awards, a combination that neither party liked. The approach was also criticized because recovery depended on the worker bringing a law suit, and the litigation was costly and time consuming.

Workers' compensation was designed to overcome some of the deficiencies of the negligence suit approach. All workers' compensation statutes incorporate the "workers' compensation principle," which has two elements. Workers' compensation is a no-fault system, which means that in order to receive benefits, a

worker does not need to demonstrate the employer is negligent and the employer cannot use the special defenses, such as contributory negligence. The employee only has to prove the injury is "work-related" (although there are legal tests that are obstacles to meeting the work-related requirement in some cases, as discussed below).

The other side of the workers' compensation principle is that the statutory benefits provided by the program are the employer's only liability to the employee for the workplace injury. The exclusive remedy aspect of workers' compensation means that employees cannot bring tort suits against their employers (subject to some limited exceptions discussed later). Workers' compensation laws also prescribe cash benefits by formulas, which are intended to reduce the litigation, delays, and uncertainty associated with tort suits (although in practice, many jurisdictions still have considerable litigation in their programs).

The legal context of the early 20<sup>th</sup> century also affected the design of the workers' compensation program in a feature that persists. At that time, the U.S. Supreme Court interpreted the commerce clause of the Constitution in a narrow fashion, which limited the ability of Congress to regulate matters that were not directly involved in interstate commerce. The federal government was able to enact a workers' compensation program for its own employees and for workers who were clearly engaged in interstate commerce, such as railroad workers. However, most workers in the private sector as well as state and local government employees could not be regulated by the federal government, and therefore, of necessity, most of the initial workers' compensation laws were enacted by the states.<sup>3</sup>

The Wisconsin workers' compensation law of 1911 is the oldest state workers' compensation law in continuous existence. By 1920, most states had enacted workers' compensation laws. Although the Supreme Court changed its interpretation of the commerce clause in the 1930s so that a federal workers' compensation statute covering all private sector workers would be constitutional, the pattern of states controlling workers' compensation established almost 100 years ago persists today. The most serious challenge to state dominance of workers' compensation occurred in the 1970s, when the National Commission on State Women's Compensation Laws proposed federal standards

for state programs if they did not significantly improve their laws.<sup>4</sup> Although legislation to implement the National Commission's proposal was introduced in Congress in the 1970s, the effort failed and similar efforts seem unlikely in the near term.

## COVERAGE OF EMPLOYEES AND EMPLOYERS

Most employees and employers are covered by workers' compensation.<sup>5</sup> Recent estimates indicate that nationally about 96 percent of all wage and salary workers are covered, not counting self-employed persons. Some states cover virtually all employees, while only about 76 percent of the workers are covered in Texas, the only state in which workers' compensation coverage is elective for all employers. The other gaps in coverage occur because some states exempt: (1) employers with a limited number of employees (e.g. three or less); (2) certain industries, such as state and local government, and agriculture; and (3) certain occupations, such as household workers.

In addition, the laws are designed to cover employees, which means that workers who are independent contractors normally are not covered. Moreover, certain employees—those who are casual workers or workers not engaged in the normal trade or business of the employer—may not be protected by the act even when their employers are within the scope of the act.

## COVERAGE OF INJURIES AND DISEASES

### The Traditional Four Tests for Injuries

Even workers who are covered by workers' compensation statutes must meet certain legal tests in order to receive benefits.<sup>6</sup> Four tests are included in most state workers' compensation laws: (1) there must be a personal injury (2) resulting from an accident that (3) arose out of employment (4) and in the course of employment. In order for the injury to be compensable, all four tests must be met. Most work-related injuries can meet these four tests, although there are thousands of cases testing the exact meaning of each of these four steps.

**The Personal Injury Test.**<sup>7</sup> The personal injury test examines whether the causes and the consequences of an injury are physical or mental. The injury test will clearly be met when both the cause and the effect of the personal injury are physical: the "physical-physical" case. (The worker loses a finger when the chain saw slips from his grasp.) Likewise, the injury test will be satisfied in almost all jurisdictions when the cause is physical and the result is both physical and

mental: the "physical-mental" case. (The model experiences a disfiguring facial injury when she falls off the runway and suffers a mental breakdown when she realizes her career is over.) Similarly, most states hold the injury test to be satisfied when the mental cause leads to a physical injury: the "mental-physical case." (The baseball pitcher is humiliated by the team manager and slashes off his fingers in a rage.) The most problematic cases are those that involve both a mental cause and a mental consequence: the "mental-mental" case. (The HRM Director suffers a mental collapse after being ridiculed at the company's annual meeting for not aligning the human resource practices with the firm's overall strategies.)

**The Accident Test.**<sup>8</sup> The accident test consists of four components: (1) unexpectedness of cause; (2) unexpectedness of result; (3) definite time of cause; and (4) definite time of result. If a court requires the unexpectedness to apply to the cause of the injury, then a worker who is injured because a machine falls on him can receive compensation, while compensation will be denied to a worker who is performing her normal duties of carrying heavy wheat sacks and experiences a herniated disc, even though the medical evidence confirms the back disorder was caused by the heavy lifting. However, if the court says that the unexpected aspect of the accident requirement can be met by the nature of the result, then the herniated disc caused by the normal but strenuous lifting would be compensable. Most states now find the accident test met if the result of the injury is unexpected.

A similar two-way distinction applies to the requirement of a definite time or event. The cause may be gradual and the result precisely distinguishable, such as dust poisoning that causes a sudden collapse of a lung. Or the etiology may be precisely specified, such as a fall into the river, while the pathology may intermittently progress to pneumonia. Again, the compensability of the lung collapse or the pneumonia depends on whether the court is looking for a definite time that can be assigned to the cause, the result, or both,

The accident test is most readily met when the cause is unexpected and the definite time requirements are met, such as might occur in an explosion. The opposite extreme is the typical occupational diseases, where all the elements are lacking. Occupational diseases are discussed in more detail below.

**The Arising Out Of Employment Test.**<sup>9</sup> This arising out of employment (AOE) test is used to distinguish among three types of risk that can occur in any workplace: (1) occupational risks, such as machinery breaking, which are universally compensable because they

are associated with the employment; (2) personal risks, which are universally noncompensable since they are personal to the claimant, such as a heart seizure resulting from a drug overdose; and (3) neutral risks, which may or may not be compensable since the cause of the injury is neither distinctly occupational nor distinctly personal in character or the cause is unknown.

The compensability of neutral risks depends on the type of neutral risk and on the legal doctrine used in the state where the injury occurred. Among the types of neutral risks are (1) an "Act of God" (or, depending on your philosophical bent, an "Act of "Nature"), such as a worker injured by lightning, a wild animal bite, an earthquake, or a similar calamity; (2) an assault by a stranger; (3) "street risks," which are harms such as dog bites, bullets, or other maladies associated with being on a public street; and (4) unexplained death.

There are three legal doctrines currently used to decide the compensability of neutral risks; the choice depending on the state and the type of neutral risk. The *increased risk doctrine* requires that the job increase the quantity of risk compared to other persons in the area, although the risk does not have to be peculiar to the occupation. A park ranger mauled by a bear would satisfy this test. The *actual risk (or normal risk) doctrine* allows compensation even if the risk that caused the injury was common to the public, so long as the risk was actual or normal risk of this job. A worker in a 24-hour convenience store in a dangerous neighborhood may not face a greater risk of assault by a stranger than anyone else in the neighborhood (which means the increased risk test would not be met), but such an assault is an actual (or normal) risk of being a clerk in such a store, and thus would meet the actual risk test. The *positional risk doctrine* allows compensation for all injuries that would not have occurred but for the fact the employment placed the claimant in the position where he or she was injured. A worker in a 24-four hour store who was in the back room sorting bottles and who is killed by a freak lightning bolt that ricochets through the store could meet the positional risk test, but not the increased risk or actual risk tests.

**The In the Course of Employment Test.<sup>10</sup>** The course of employment (COE) test is used to decide if the injury is compensable based on the activities the worker is engaged in at the time of the injury. Sometimes the worker is injured while involved in activities that mix social and business functions, such as a softball game sponsored by the employer as a method of promoting loyalty and teamwork. Whether the injury meets the COE test depends on factors such as the statutory language in the state and the degree to which the boss encourages the injured worker to participate in

the sport. Another type of activity subject to disputes involving the COE test is horseplay. Some courts draw a distinction between the instigator of the mischief (not compensable) and the innocent victim (compensable).

The COE test is also used to decide if an injury is compensable based on the location and time of the injury. An overly simplistic generalization is that the COE test requires the injury to occur on the employer's premises during working hours. A specific application of the COE test is the "going and coming rule," which generally denies compensability for injuries suffered by employees while commuting to and from work. There are, however, numerous exceptions to the rule. Injuries to workers while commuting have been held compensable when the worker is injured in the parking lot provided by the employer, or while traveling between job sites, or while running an errand for the employer on the way home, or while commuting in a vehicle provided by the employer.

### The Legal Tests for Diseases

The coverage of diseases is a problem in workers' compensation.<sup>11</sup> Many diseases, such as coal workers' pneumoconiosis (black lung disease), could not meet the accident test because they developed over a prolonged period. Most states avoided the accident test by enacting separate statutory provisions that contained lists of diseases that were compensable. Some of the statutes restricted compensability to the specific diseases contained in the list. Fortunately, the restricted lists of diseases have been abandoned in all jurisdictions. Now, typically, there is a list of specified occupational diseases followed by a general category permitting the compensation of other occupational diseases. However, some state courts, such as New York, have interpreted the general category of occupational diseases to only cover those diseases that are peculiar to or characteristic of the occupation of the disabled employee. Thus, even if the worker could establish that his or her disease had been caused by exposures at the workplace, the worker is not eligible for benefits if the disease is neither on the list of occupational diseases nor typical of the worker's occupation.

There are other restrictions in language pertaining to work-related diseases still found in many laws, such as statutes of limitations that require the claim to be filed within a limited period after the last exposure to the substance causing the disease, even if the disease did not manifest itself for a prolonged period.<sup>12</sup>

### Recent Developments in Compensability Rules

Many states amended their laws in recent decades to limit compensability of workplace injuries and dis-

eases (Spieler and Burton 1998).<sup>13</sup> One of the constraints involved statutory or regulatory changes that explicitly limit the compensability of claims involving particular medical diagnoses. For example, many states, including Arkansas, California, and Oregon have substantially restricted the right of workers to make claims for psychological injuries resulting from a mental stimulus in the absence of a physical injury ("mental-mental" injuries). In a similar fashion, some states have reduced or even eliminated compensability for injuries caused by repetitive trauma, such as carpal tunnel syndrome, and for noise-induced hearing losses.

A number of states have also limited coverage when the injury involves aggravation of a pre-existing condition. Traditionally, employers were required to "take workers as they found them." This meant that workers with preexisting conditions were not barred from coverage when they experienced workplace injuries, even if the underlying condition contributed to the occurrence of the injury or to the extent of the resulting disability. While states have restricted compensation of preexisting conditions in a variety of ways, the most significant change has been to limit compensation when the current workplace injury is not the sole or major cause of the disability.

In addition, there have been procedural and evidentiary changes in claims processing that have restricted compensability. For example, some statutes now require that the medical condition caused by a workplace injury be documented by "objective" medical evidence. This requirement excludes claims based on subjective reports of patients that cannot be substantiated by objective evidence, including musculoskeletal injuries that involve soft tissue damage and reports of pain and psychological impairment.

In addition, some workers' compensation programs have imposed on workers a stricter burden of proof or a greater quantum of proof. Amendments to some statutes now require, either in all claims or for designated categories of conditions, that claimants must prove their case by a "preponderance of the evidence" or, for some injuries or diseases, the even more difficult standard of "clear and convincing evidence." Because many workers' compensation programs gave claimants the benefit of the doubt in close cases in the past, these changes are significant.<sup>14</sup>

## MEDICAL CARE AND REHABILITATION SERVICES

Most state workers' compensation laws require the employer to provide medical benefits to the worker with a work-related injury, although there are some limits on

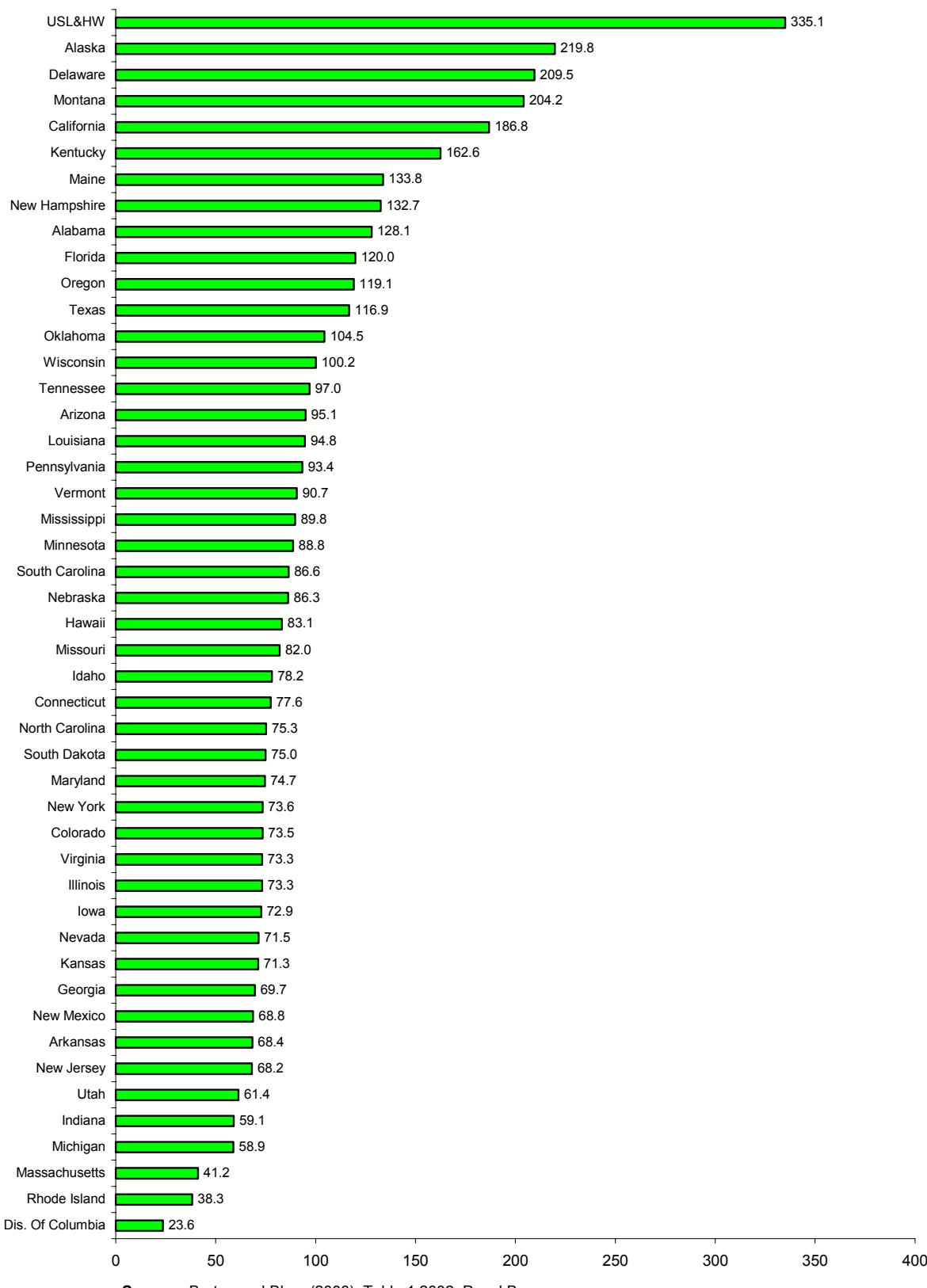
what the program will provide.<sup>15</sup> Most jurisdictions, for example, require the employer to pay for the cost of modifying a van for a disabled worker, but not the cost of the van itself. In most jurisdiction, the employer must provide medical benefits for as long as they are medically justified, which is beneficial for workers. And, unlike most health care plans, (with minor exceptions), employees pay no portion of the premium for workers' compensation insurance, and there are no deductibles or co-insurance provisions that require employees to share the expense of medical care.

This portion of the workers' compensation program has become increasingly expensive in the last decade, with medical benefits now accounting for about 47 percent of all benefit payments (Sengupta, Reno, and Burton 2006: Table 4), up from one-third in the early 1980s. There are wide variations among states in the amounts of medical benefits per 100,000 covered workers (Figure 1), with three states (Alaska, Delaware, and Montana) expending more than twice the national average in 2002, while three jurisdictions (Massachusetts, Rhode Island, and the District of Columbia) spending less than half the national average

The reasons for the interstate differences in expenditures on medical benefits per 100,000 covered workers are due to a variety of factors, including each state's general level health care costs and frequency of workplace injuries. There are policy differences among the states that arguably also explain part of the differences in medical benefits. Fee schedules have been issued by many state workers' compensation agencies that limit medical charges, but which have made some medical care providers reluctant or unwilling to provide services to injured workers. Other providers appear to react to fee schedules by increasing the quantity of health care services provided. There is disagreement about whether the fee schedules are effective in reducing expenditures on medical care.

Another approach to reducing workers' compensation health care expenditures used in a number of states is to allow the insurance carrier or employer (rather than the employee) to choose the treating physician. Again, there is disagreement about the effect of such limits on employee choice on the quality and cost of health care. In recent years, there has also been a rapid increase in the use of managed health care in the workers' compensation programs in a number of states, including such techniques as health maintenance organizations (HMOs), preferred provider organizations (PPOs), and utilization review. There is limited evidence about the effect of these cost containment efforts on medical costs and quality in the workers' compensation system.

**Figure 1 - Medical Benefits Per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 2002**



Source: Burton and Blum (2006): Table 1.2002, Panel B

Medical rehabilitation, such as physical therapy, is likely to be provided by the workers' compensation laws. However, many states do not require employers to provide vocational rehabilitation services that may be necessary to equip the injured worker to handle a new job.

## CASH BENEFITS

All state workers' compensation programs provide cash benefits for temporary disability (until the date of maximum medical improvement) and for permanent disability; for partial and for total disability; and for fatalities. And in all jurisdictions, the cash benefits are not subject to state or federal income taxes. Despite these common features, there are also substantial differences in cash benefits among the states, with wide variations in maximum weekly benefits and maximum durations of benefits.<sup>16</sup> These features of the state workers' compensation statutes, plus factors such as the general level of wages in the states and the frequency of workplace injuries, help explain the significant differences among states in amounts of cash benefits per 100,000 workers (Figure 2). As of 2002, three states (California, New York, and Alaska) provided cash benefits that were more than 50 percent above the national average, while six jurisdictions (South Dakota, Arkansas, the District of Columbia, Arizona, Utah, and Indiana) expended less than half of the national average of cash benefits per 100,000 workers.

## Temporary Total Disability Benefits

Temporary total disability (TTD) benefits are paid to someone who is completely unable to work but whose injury is of a temporary nature.<sup>17</sup> The weekly benefit in most jurisdictions is two-thirds of the worker's preinjury wage, subject to maximum and minimum amounts as prescribed by state law. The maximum weekly benefit as a percentage of the state's weekly wage varies significantly among the states (Figure 3). As of 2006, three states (Iowa, Vermont, and New Hampshire) had maximum weekly benefits that were more than 150 percent of the state's average weekly wage, while New York had a maximum weekly benefit that was less than 50 of the state's average weekly wage. Lest there be a misunderstanding about the generosity of benefits in the Hawkeye, Green Mountain, or Granite states, an injured worker in those jurisdictions as elsewhere receives a specified percentage of the worker's preinjury wage (66 2/3 of gross wages in most states) or receives the maximum weekly benefit – whichever is less.

There is also a waiting period for temporary total disability benefits during which time the worker receives no cash benefits from the workers' compensation pro-

gram.<sup>18</sup> However, if the worker is still disabled beyond a specified date, known as the retroactive date, then the benefits for the waiting period are paid on a retroactive basis.

## Temporary Partial Disability Benefits

Temporary partial disability (TPD) benefits are paid to someone who is still recovering from a workplace injury or disease and who is able to return to work but has limitations on the amount or intensity of work that can be performed during the healing period.<sup>19</sup> The weekly benefit in most jurisdictions is two-thirds of the difference between the worker's preinjury wage and the worker's current earnings, subject to a maximum amount as prescribed by state law.

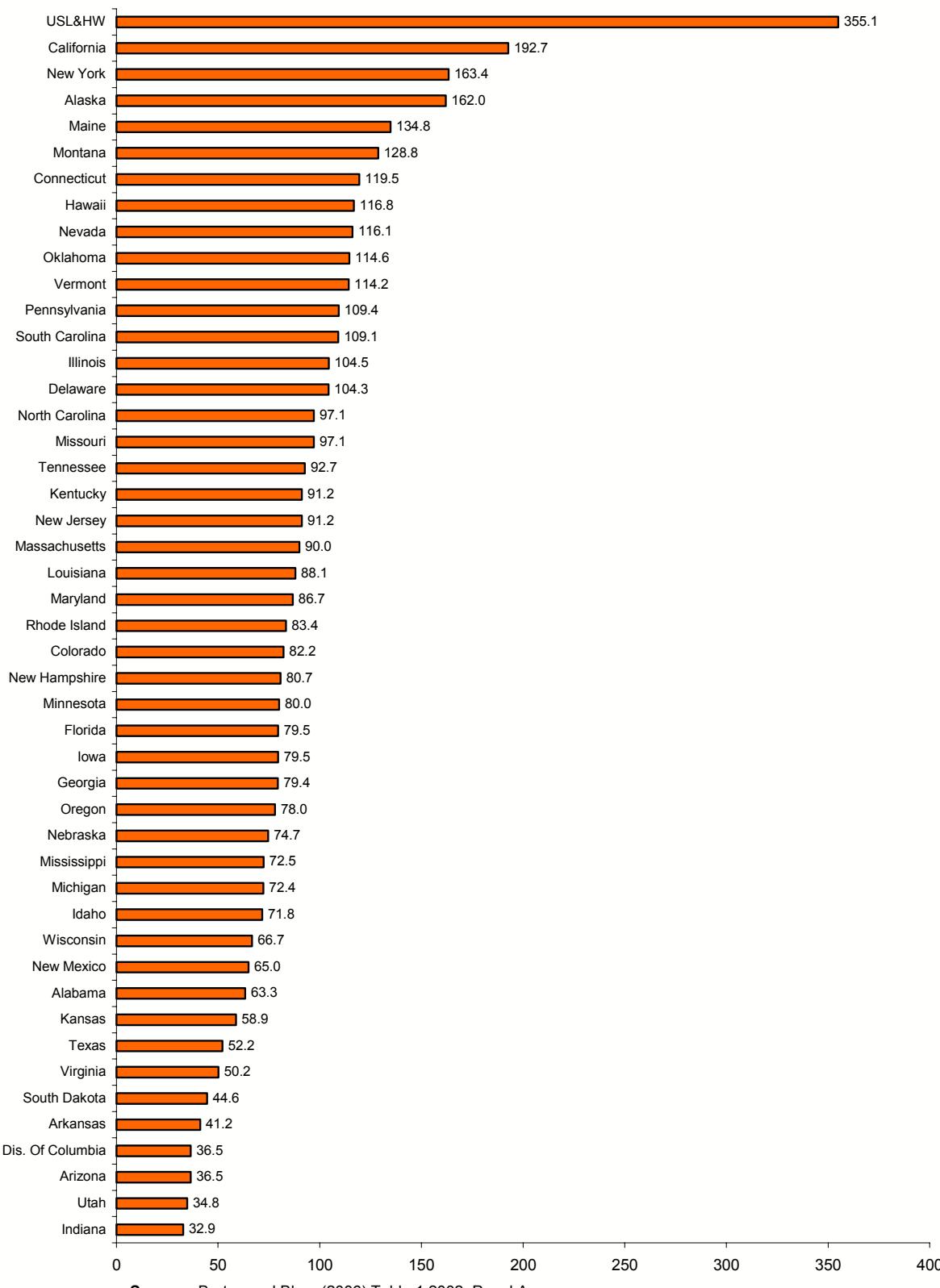
## Permanent Partial Disability Benefits

Permanent partial disability (PPD) benefits are the most complicated, controversial, and expensive type of workers' compensation benefit.<sup>20</sup> They are paid to a worker who has a permanent consequence of his or her work-related injury or disease that is not totally disabling. An example would be someone who has lost a hand in an accident.

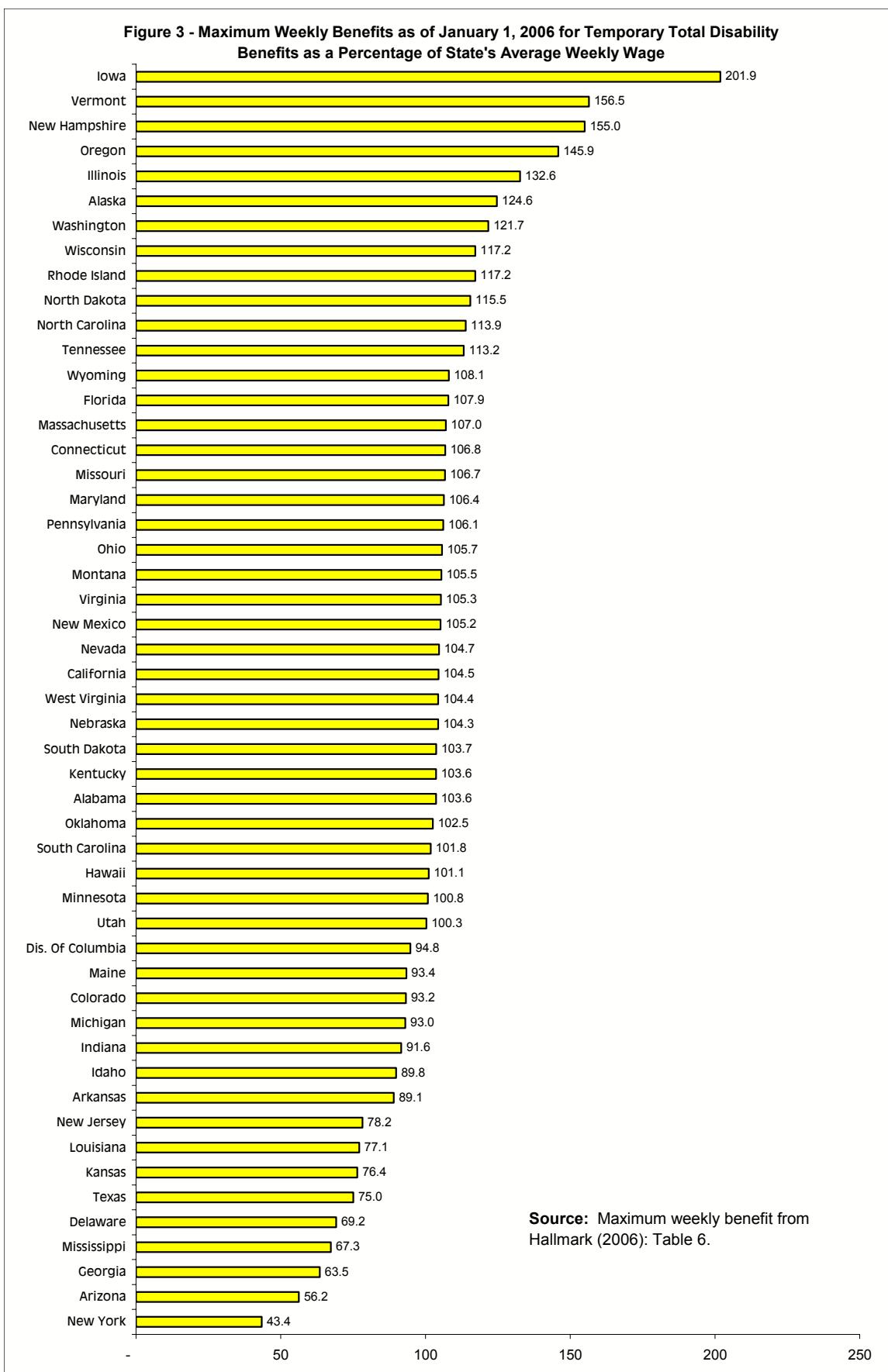
Most states use two general approaches to permanent partial disability benefits. Scheduled PPD benefits are paid for those injuries included in a list (or schedule) found in the workers' compensation statute. In New York, for example, 100 percent loss of an arm entitles the worker to 312 weeks of benefits. The schedules are also applied to partial loss of the arm, so that a 50 percent loss of an arm in New York is worth 156 weeks of benefit. The schedules in most jurisdictions provide benefits whether the injury results in amputation or a loss of use of the body part. Normally the schedule is limited to the body extremities such as arms, legs, hands, and feet, plus eyes and ears.

Nonscheduled PPD benefits are paid for those permanent injuries that are not on the schedule, such as back injuries. The basis for these benefits depends on the jurisdiction. In states like New Jersey that use the "impairment approach," the back injury is rated in terms of the seriousness of the medical consequences. (In New Jersey, 25 percent of loss of the whole person in a medical sense translates into 25 percent of 600 weeks, or 150 weeks of benefits). In states like Iowa that use the "loss of earning capacity approach," the back injury is rated considering the medical consequences as well as factors, such as age, education, and job experience that affect the worker's earning capacity. (In Iowa, 25 percent of loss of earning capacity translates into 25 percent of 500 weeks or 125 weeks of benefits).

**Figure 2 - Cash Benefits per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 2002**



Source: Burton and Blum (2006):Table 1.2002, Panel A



These benefit durations for scheduled PPD benefits and for nonscheduled permanent partial benefits in those jurisdictions relying on the impairment approach or on the loss of earning capacity approach are fixed in the sense that the worker receives that duration of benefits whether or not he or she has actual wage loss for that period. During the period these types of the permanent partial benefits are being paid, the weekly benefit is normally calculated as 66 2/3 percent of pre-injury wages, subject to maximum and minimum weekly benefit amounts.

The nonscheduled permanent partial disability benefits in New York rely on a fundamentally different approach, usually referred to as the "wage-loss approach." The worker only receives benefits if, in addition to having an injury with permanent consequences, the worker also has actual wage loss due to the work-injury. The weekly nonscheduled permanent partial disability benefit in New York is 66 2/3 percent of the difference between the worker's earnings prior to the injury minus the worker's actual earnings (or earning capacity, whichever is greater) after the healing period is over, subject to a maximum weekly amount. In New York, these nonscheduled permanent partial disability benefits can continue for as long as the worker has earnings losses due to the work-related injury, subject to a maximum duration that depends on the worker's disability rating.

### Permanent Total Disability Benefits

Permanent total disability (PTD) benefits are paid to someone who is completely unable to work for an indefinite period.<sup>21</sup> Permanent total status is assigned if the worker has specified types of injuries, such as the loss of two arms, or more generally if the facts in the case warrant an evaluation as a permanent total disability. In some state, a worker with a relatively low impairment rating (that is, medical rating) can be classified as PTD using the "odd-lot" doctrine if the worker is essentially unemployable because of factors such as lack of education, limited work skills, advanced age, and illiteracy.

Permanent total disability is a relatively uncommon type of case in workers' compensation. The weekly benefit for a permanent total disability is normally two-thirds of the preinjury wage, subject to maximum and minimum amounts as prescribed by state law. In most states, the permanent total disability benefits are paid for the duration of total disability or for life. In a number of states, however, there are limits on total dollar amounts or duration of these benefits.

### Death Benefits

Death benefits are paid to the survivors of a worker who was killed on the job. In many jurisdictions the weekly benefit depends on the number of survivors. For example, a widow or widower might receive a benefit that is 50 percent of the deceased worker's wage, while a widow or widower with a child might receive a weekly benefit that is 66 2/3 percent of the deceased worker's wages. These benefits are subject to minimum and maximum weekly amounts. Most states provide the benefits for the duration of the survivor's lifetime if the survivor is a widow or widower and for children's benefits at least until age twenty-one, but there are a number of states that have limits on the dollar amounts or on the durations of survivors' benefits.

## FINANCING OF BENEFITS

### Insurance Arrangements

Workers' compensation benefits are prescribed by state laws, but these laws assign the responsibility for the provision of the benefits to the employer. The employer in turn provides the benefits by one of three mechanisms: (1) by purchasing insurance from a private insurance carrier; (2) by purchasing insurance from a state workers' compensation fund; or (3) by qualifying as a self-insurer and paying its own employees directly.<sup>22</sup> The availability of these insurance arrangements varies among jurisdictions, as shown in Table 1. Nineteen states, such as California and New York, have all three options available. (This is known as the three-way system or competitive state fund approach.) Five states, such as Ohio and Washington, prohibit private carriers and operate state funds (known as an exclusive or monopolistic state fund); three of these states also allow self-insurance.<sup>23</sup> The other 27 jurisdictions, including the District of Columbia and Wisconsin, permit employers to purchase insurance from private carriers or to self-insure. Federal government employees are covered by a government fund. Nationally, about 51 percent of all benefits are paid by private insurance carriers, about 25 percent by state and federal funds, and about 24 percent by self-insuring employers (Sengupta, Reno, and Burton 2006: Table 5).

### Calculating Insurance Premiums

Workers' compensation insurance premiums are determined by a multi-step process. Table 2 shows the "traditional" process used in states that rely on the National Council on Compensation Insurance (NCCI) for actuarial assistance.<sup>24</sup> Each employer who purchases insurance is assigned to a particular insurance classification (e.g. a bakery is assigned to class 2003). The

**Table 1**  
**Workers' Compensation Insurance**  
**In Effect as of January 1, 2006**

**States with Exclusive State Funds (5)**

North Dakota	(No Self-Insurance)
Ohio	
Washington	
West Virginia	
Wyoming	(No Self-Insurance)

**States with Private Carriers and Competitive State Funds (19)**

Arizona	Montana
California	New Mexico
Colorado	New York
Hawaii	Oklahoma
Idaho	Oregon
Kentucky	Pennsylvania
Louisiana	Rhode Island
Maine	Texas
Maryland	Utah
Minnesota	

**Jurisdictions with only Private Carriers (27 )**

Alabama	Mississippi
Alaska	Missouri
Arkansas	Nebraska
Connecticut	Nevada
Delaware	New Hampshire
Dis. of Columbia	New Jersey
Florida	North Carolina
Georgia	South Carolina
Illinois	South Dakota
Indiana	Tennessee
Iowa	Vermont
Kansas	Virginia
Massachusetts	Wisconsin
Michigan	

**Note:** Self-Insurance by qualifying employers

**Source:** Based on Table 1, Hallmark (2006)

next step is to determine the initial insurance rate by looking in an insurance manual that specifies the "manual rate" for each insurance classification.

Manual rates have two components: pure premiums and an expense loading. The pure premiums cover expected payments for cash benefits, medical

care, and (in most jurisdictions) loss-adjustment expenses. The expense-loading factor provides an allowance for other insurance carrier expenses, such as general administrative expenses, commissions, profits, and contingencies. In most states using manual rates, the loading factor is usually 35-40 percent of the manual rates.

Manual rates are specified as dollars per hundred dollars of payroll. The manual rates vary substantially within each state, reflecting the previous experience with benefit payments for all the employers in that classification. Manual rates in a particular state might range from \$40 per \$100 of payroll for logging to \$.75 per \$100 of payroll for clerical workers.

*Manual rates* (line 1) multiplied by the employer's total *payroll* (line 2) equals *manual premium without constants* (line 3). In practice, few employers pay such a premium because of several modifications. The first modification arises from the firm-level experience rating that is permitted for medium and large employers. Experience rating uses the employer's own experience – as evaluated by actuarial formulas that consider injury frequency and aggregate benefits payments – to modify the manual rates that would otherwise apply. If, for example, the employer's record is worse than the experience of the average employer in its classification, then its actual premium for the current policy period is larger than its manual premium. The product of the manual premium without constants (line 3) and the *experience-rating modification* (line 4) is line 5, *the standard earned premium excluding constants*.

The standard earned premium excluding constants also is modified for most employers, although the form of this modification depends on the size of the employer's premium. Employers in almost every state are assessed a flat charge, termed an "expense constant," to cover the minimum costs of issuing and servicing a policy. In addition, employers in some states are assessed another flat charge, termed a "loss constant," because of the generally inferior safety record of small businesses. When the standard earned premium excluding constants (line 5) is divided by line 6, the *adjustment for the expense constants (and loss constants)*, the result is the *standard earned premium at bureau rates (DSR)* (line 7), also termed the "standard earned premium at the designated statistical reporting (DSR) level."

The standard earned premium at bureau rates is further adjusted for many employers. Deviations are a competitive pricing device that has been in active use in many jurisdictions since the 1980s. In a state allowing deviations, individual carriers may use the manual rates

promulgated by the rating organization or may deviate from those rates. The carrier might, for example, use manual rates that are 10 percent less than those issued by the rating organization. The deviations offered by a particular carrier must be uniform for all policyholders in the state in a particular insurance class (although different deviations for different classes are sometimes possible). If the standard earned premium at bureau rates (line 7) is multiplied by the *adjustment for deviations* (line 8), the result is the *standard earned premium at company level* (line 9).

There are several additional factors that may reduce workers' compensation insurance premiums. Premium discounts apply to employers with annual premiums in excess of a specified amount (\$5,000, for example), which basically reflect reductions in carrier expenses for larger policies because of economies of scale. The discounts based on a specified schedule are compulsory in the NCCI states, unless both the insurance carrier and the employer agree to substitute "retrospective rating" for the premium discounts. Though these retrospective rating plans vary among the NCCI states, they are basically similar in that they allow the employer to increase the effect of its own claims experience on the published manual rates.

The main difference between experience rating and retrospective rating is that the former uses the employer's experience from previous periods to modify the premium for the current policy period rate, whereas the retrospective plan uses experience from the current policy period to determine the current premium on an *ex post facto* basis. The same expense retention (reduction in premiums for the employer) provided by the premium discounts is built into the retrospective rating plans.

Schedule-rating plans have also been actively used in many jurisdictions since the 1980s. Under these plans, insurers can change (usually decrease) the insurance rate the employer would otherwise pay through debits or credits based on a subjective evaluation of factors such as the employer's loss-control program. There are two types of schedule rating. In states with uniform schedule-rating plans, regulators authorize all carriers to use identical schedule-rating plans. If all carriers are not given this permission, then individual carriers can apply for approval of their own schedule-rating plans.

The result of multiplying the standard earned premium at company level (line 9) by the *adjustment for premium discounts, retrospective rating, and schedule rating* (line 10) is the *net earned premium* (line 11). One final adjustment factor, a *dividends adjustment* (line 12), needs to be used to compute the premiums actually paid by employers. Mutual companies or stock companies with participating policies write a substantial portion of the workers' compensation insurance. While these companies normally use a quantity discount schedule less steeply graded than that of the nonparticipating stock companies, they pay dividends that usually decrease policyholders' net costs to levels below that charged by nonparticipating stock companies, especially for large employers. The product of the net earned premium (line 11) and the dividends adjustment is the *net cost to policyholders* (line 13), which is the premium actually paid by employers purchasing workers' compensation insurance.

The multi-step process summarized in Table 1 is inapplicable under several circumstances. First, in a number of states, the starting point for calculating the employer's premium is pure premium rates (or loss costs), rather than adjusted manual rates.<sup>25</sup> In these states, carriers add their own expenses loadings to cover expenses, such as administrative expenses and commissions, rather than relying on the expense loadings built into manual rates.

Second, most workers' compensation insurance is provided in the voluntary insurance market. However, because the employers who cannot purchase policies in the voluntary market still must have insurance, all states that do not have state funds have established assigned-risk plans.<sup>26</sup> The national average for the assigned-risk (or residual) market share in NCCI ranged

**Table 2**  
**Calculation of Net Workers' Compensation Costs to Policyholders**

1		Manual rates (MR)
2	X	Payroll
3	=	Manual premium without constants
4	X	Experience-rating modification
5	=	Standard earned premium excluding constants
6	÷	Adjustment for expense constants (and loss constants)
7	=	Standard earned premium at bureau rates (DSR)
8	X	Adjustment for deviations
9	=	Standard earned premium at company level
10	X	Adjustment for premium discounts, retrospective rating,
11	=	Net earned premium
12	X	Dividends adjustment
13	=	Net cost to policyholders

**Source:** Based on Thomason, Schmidle, and Burton (2001, Table C.5)

between 3.2 percent and 28.5 percent between 1975 and 2004.<sup>27</sup> There are several types of residual market pricing plans used in various states, including those that use different manual rate (or loss costs) in the voluntary and residual markets and those that eliminate or modify premium discounts for large policyholders.

Third, the five states with exclusive state funds determine premiums using state-specific procedures. For example, each fund has a unique set of insurance classifications and experience rating formula, and Washington bases premiums on hours worked rather than payroll (as in all states with private carriers).

### **Interstate Differences in Insurance Rates**

There are significant differences among states in the workers' compensation premium rates for employers in comparable insurance classifications. The Oregon Department of Consumer & Business Services (2007) has published premium rate rankings for 51 jurisdictions on a biennial basis since 1986.<sup>28</sup> As shown in Figure 4, there were four states (Alaska, California, Delaware, and Kentucky) with premium rates that were at least 50 percent above the median state's rates, and two states (Indiana and North Dakota) with premium rates that were at least 50 below the median state's rates. The Oregon data must be used with some caution since several factors that influence the workers' compensation insurance premiums paid by employers, such as dividends and premium discounts for larger policies, are not included in the premium rates.

### **Self-Insurance**

Employers that self-insure—that is, pay benefits to their own employees without use of an insurance carrier—represent a “pure” form of experience rating in which an employer’s costs are solely determined by the benefits to that firm’s employees. This characterization needs to be qualified to some degree because self-insuring employers generally purchase excess risk policies that protect them against unusually adverse experience; have administrative expenses that may not vary in proportion to benefit payments; and may be subject to assessments to support state workers’ agencies or other purposes that are not solely based on benefit payments.

### **WORKPLACE SAFETY AND HEALTH**

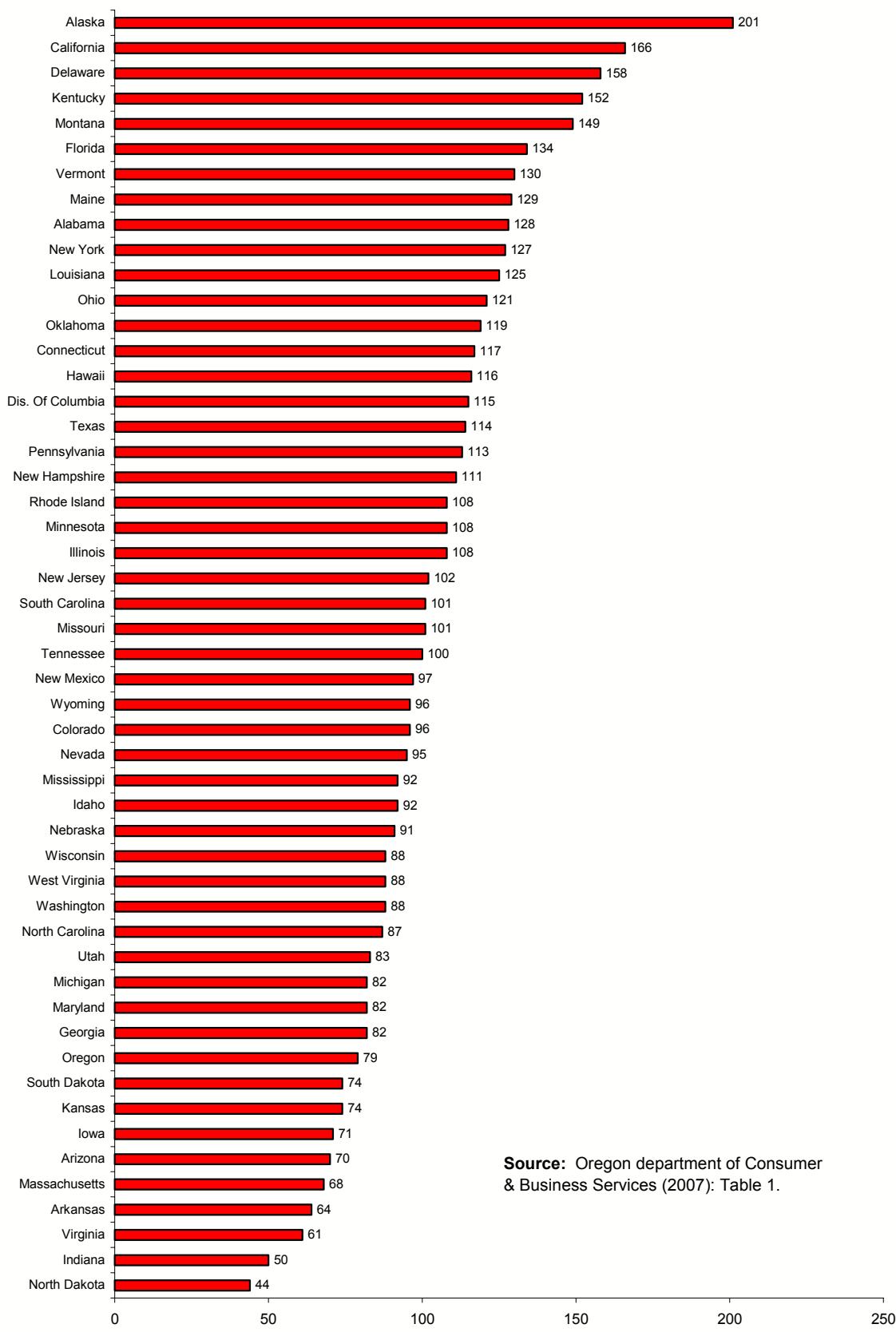
The workers’ compensation program in each state relies on two levels of experience rating to promote safety. Industry-level experience rating establishes a pure premium (or manual) rate for each industry that is largely based on prior benefit payments by the industry.

Firm-level experience rating determines the workers’ compensation premium for each firm above a minimum size by comparing its prior benefit payments to those of other firms in the industry. The effects of the workers’ compensation program in general, and firm-level experience rating in particular, have been debated by scholars representing various theories.<sup>29</sup>

The essence of the “pure” neoclassical economics approach is that the introduction of workers’ compensation will lead to reduced incentives for workers to avoid injuries, assuming that they did not purchase private disability insurance plans prior to the introduction of workers’ compensation, since the adverse economic consequences of the injuries for workers are reduced by workers’ compensation benefits. The disincentive to avoid injuries is an example of the “moral hazard” problem. This economic approach also argues that the introduction of workers’ compensation will also lead to reduced incentives for employers to prevent accidents unless perfect experience rating is used to finance the program.

In contrast, the “old” institutional economics (OIE) approach argues that the introduction of workers’ compensation with experience rating should improve safety because the limitations of knowledge and mobility and the unequal bargaining power for employees mean that the risk premiums generated in the labor market are inadequate to provide employers the safety incentives postulated by the pure neoclassical economics approach. The modified neoclassical economics approach would also accept the idea that experience rating should help improve safety by providing stronger incentives to employers to avoid accidents. Where the OIE theorists would probably disassociate themselves from the modified neoclassical economics theorists would be the latter contingent’s emphasis on the moral hazard problem aspect of workers’ compensation, which could result in more injuries.

A number of recent studies of the workers’ compensation program provide evidence that should be helpful in evaluating the virtues of the pure neoclassical economics, the modified neoclassical economics, and the OIE approaches. However, the evidence is inconclusive. A survey of the literature by Boden (1995, 285) concluded that: “research on the safety impacts has not provided a clear answer to whether workers’ compensation improves workplace safety.” In contrast, Thomason (2003, 196) asserted that most (11 of 14) studies he surveyed found that experience rating improves safety and health and that the studies failing to detect the relationship were methodologically weaker than the other studies. Thomason concluded (2003, 196):

**Figure 4 - Workers' Compensation Premium Rates in 2006 as a Percentage of Median State**

"Taken as a whole, the evidence is quite compelling: experience rating works."

Some estimates of the magnitude of the safety effect from industry-level and firm-level experience ratings are substantial: Durbin and Butler (1998, 78-79) suggest that a 10 percent increase in workers' compensation costs countrywide between 1947 and 1990 was associated with a 12.9 percent decline in workplace fatalities. This evidence on experience rating is consistent with the positive impact on safety postulated by the OIE approach and the modified neo-classical economists, and inconsistent with the pure neoclassical view that the use of experience rating should be irrelevant or may even lead to reduced incentives for employers to improve workplace safety.<sup>30</sup>

There is also evidence that the presence of workers' compensation benefits leads to changes in worker behavior. Thomason (2003) summarizes a number of studies that found the reported frequency and severity of workers' compensation claims increase in response to higher benefits, which may suggest that a moral hazard problem exists. Caution is needed in interpreting these studies, however, since the increased frequency or severity reported in the claims can result from a "true injury effect" (workers take more risks as a result of higher benefits and as a result actually experience more injuries) or from the "reporting effect" (workers report claims that would not have been reported as a result of the higher benefits, and/or extend their period of reported disability because of the higher benefits). Most studies of the relationship between workers' compensation benefits and the frequency and severity of claims have not distinguished between the true injury and reporting effects. Durbin and Butler (1998, 67) conclude that the latter effect dominates, which implies that the concerns of modified neoclassical economists that the use of workers' compensation benefits to provide *ex post* compensation for injured workers will lead to more injuries is exaggerated.

## **ADMINISTRATION OF WORKERS' COMPENSATION**

There are wide variations among the states in how the workers' compensation programs are administered. There are several dimensions of the differences among states.

### **The Initial Responsibility for Payment**

Most states use what is known as the direct payment system, in which employers are obligated to begin payment as soon as the worker is injured and the employer accepts liability. Other states use the agreement

system, where employers have no obligation to begin payments until an agreement is reached with the employee concerning the amount due. The agreement system is likely to involve delays in many cases.

### **The Functions of the Administrative Agency**

Most states have a workers' compensation agency that is responsible for administering the program. One function of the agency is adjudication of disputes between workers and employers or insurance carriers. In most agencies, the initial level of decision is made by an administrative law judge (ALJ) or an official with similar duties, such as a hearing examiner. The decisions of the ALJ normally can be appealed to an appeals board (or commission) within the workers' compensation agency. Then, appeals from the workers' compensation board typically enter the state court system at the appellate court level.

The state workers' compensation agencies vary considerably in their administrative styles. At one extreme are agencies, such as those in Illinois and New Jersey, which are passive. They essentially wait for problems to arise and then perform the adjudication function. The other extreme is Wisconsin, where the agency can be characterized as active because it performs three functions in addition to adjudication. The Wisconsin agency engages in extensive recordkeeping, in monitoring of the performance of carriers and employers, and in providing evaluations (e.g., of the extent of permanent disability) that help the parties reach decisions without resorting to litigation.

### **Closing of Cases**

In many states, cases are closed by private agreements of the parties (subject to approval of the workers' compensation agency in some states). These are generally known as compromise and release agreements, because a compromise is reached on the amount of benefits paid and the employer is released from any further obligations. Normally the benefits are paid in a lump sum. These compromise and release agreements are often criticized, because they mean that workers who subsequently have additional need for medical care or income benefits cannot obtain them from the employer.<sup>31</sup>

### **Litigation**

States vary widely in the extent of litigation (defined here as the use of an attorney by the worker to help receive benefits). The worker's attorney's fee is almost always deducted from the cash benefit. Wisconsin is an extreme example of a state where lawyers are involved

in only a small minority of cases. At the other extreme, states such as California and Illinois have lawyers involved in the majority of cases, especially those that involve anything other than a relatively short period of temporary total benefits.

## RECENT DEVELOPMENTS AND CONTINUING CHALLENGES

The workers' compensation program has experienced significant changes in recent decades, many of which were stimulated by developments between 1985 and 1991.<sup>32</sup> There was a rapid escalation in the employers' costs of workers' compensation, largely due to the increases in benefit payments discussed below. The costs increased from \$25.1 billion in 1984 to \$55.2 billion in 1991, or an average of 11.9 percent a year, which far outpaced payroll growth. As a result, workers' compensation costs as a percent of payroll increased rapidly, rising from 1.49 percent in 1984 to 2.16 percent in 1991 (Figure 5).

Workers' compensation benefits also increased during the period, from \$18.0 billion in 1984 to \$40.8 billion in 1991, for an average annual increase of 12.4 percent. Benefits increased from 1.09 percent of payroll in 1984 to 1.65 percent in 1991. Medical benefits increased by 14.6 percent per year between 1995 and 1991, more rapidly than both the annual increase of 11.0 percent in cash benefits and the high inflation rate for general health care costs. The sources of the relatively high inflation in medical costs in the workers' compensation program included the rapid spread of

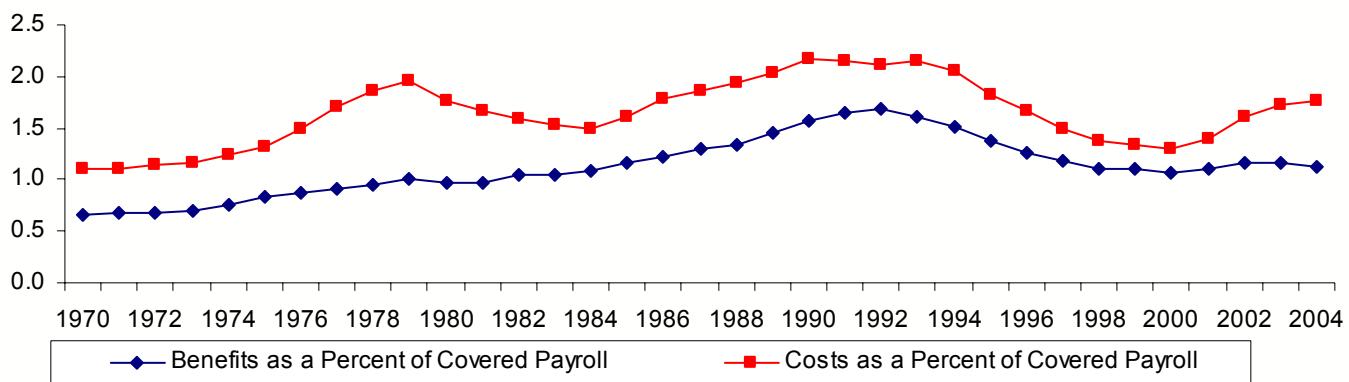
managed care through the health care system used for non-occupational medical conditions.

Throughout the late 1980s and early 1990s, many employers became concerned about the increasing costs of workers' compensation. In addition to cost increases resulting from higher statutory cash benefits and escalating medical benefits, employers were also concerned about what they perceived to be widespread fraud and rampant litigation, especially involving conditions, such as workplace stress, that employers felt were outside the proper domain of the program.

The workers' compensation insurance industry was particularly agitated during this period. Several factors contributed to the industry's problems. Benefit payments accelerated during this period. Nonetheless, carriers were unable to gain approval from regulators for the significant premium increases the industry believed were actuarially justified. Even though investment income was relatively high from 1984 to 1991 (always exceeding 12 percent of premium), underwriting losses were so substantial that the overall operating ratio was 103.8 or higher in every year between 1984 and 1991.<sup>33</sup> In other words, the workers' compensation insurance industry lost money in every year during this period, even after taking into account the returns on investments.

The major legacy of the period from 1985 to 1991 was the planting of the seeds for reform that bloomed in the 1990s and that have lasting effects on the program. Over half of the state legislatures passed major amend-

**Figure 5**  
**Workers' Compensation Benefits and Employers' Costs as a Percent of Covered Payroll, 1970-2004**



**1970-1979 data:** Burton and Blum (2005: 51). Table 13. "Workers' Compensation Coverage, Benefits, and Costs, 1940-2002."

**1980-1988 data:** Burton, Blum, and Yates (2005: 337). Appendix Table A.2. "Workers' Compensation Costs and Benefits as a Percentage of Covered Payroll, 1980-1988."

**1989-2004 data:** Sengupta, Reno, and Burton (2006: 28); Table 12. "Workers' Compensation Benefit and Cost Ratios, 1989-2004."

ments to workers' compensation laws between 1989 and 1996, generally with the purpose of reducing the cost of the program. Spieler and Burton (1998) identified five significant developments related to these efforts to reduce costs.

First, the statutory level of cash benefits was reduced in a number of jurisdictions, particularly with regard to benefits paid for permanent disabilities. Second, as previously discussed, eligibility for workers' compensation benefits was narrowed due to changes in compensability rules. These included requiring workers to provide objective medical evidence to support their claims, the tightening of procedural rules (such as placing the burden of proof on workers to establish their claims), and the restriction on eligibility when the extent of a worker's disability was due in part to a prior injury.

Third, the health care delivery system in workers' compensation was transformed in many states, most notably by the introduction of managed care, by limitations on the worker's choice of the treating physician, and by the promulgation of fee schedules. The fourth development was the increasing use of disability management by employers and carriers, largely due to unilateral action by these parties, but also in part as a result of inducements provided by state legislation.

Finally, in a development discussed later in more detail, the exclusive remedy doctrine, which precludes workers from bringing tort suits against their employers as a result of workplace injuries, was challenged in several court decisions. In addition to these five factors related to workers' compensation reform efforts, another factor that helps explain the decline in employee benefits and employer costs in the 1990s was the significant drop in the work-related injury rate in the decade (from 8.8 cases per 100 workers per year in the private sector in 1990 to 6.1 cases per 100 workers in 2000).

As a result of these various factors, workers compensation benefits increased modestly or even declined in the 1990s, depending on the measure used.<sup>34</sup> Benefits paid to workers increased from \$42.2 billion in 1991 to \$47.7 billion in 2000, which represented less than a 1.5 percent annual rate of increase. Benefits as a percent of payroll peaked at 1.68 percent of payroll in 1992, and then declined to 1.06 of payroll in 2000. The multi-year decline in benefits relative to payroll is unprecedented in duration and magnitude since at least 1948, when the annual data for successive years were first published.

Largely as a result of these benefit developments, the employers' costs of workers' compensation only

increased from \$55.2 billion in 1991 to \$58.6 billion in 2000, which is less than 1.0 percent a year. Costs as a percent of payroll peaked at 2.18 percent of payroll in 1990, and then slid to 1.30 percent of payroll in 2000. Also, as benefits and costs relative to payroll declined in the 1990s, the profitability of private carriers quickly improved. The overall operating ratio (which includes net investment income) fell from a peak of 108.7 in 1991 to a low of 81.8 in 1995 and 1997, and was below 100 from 1993 to 2000. The four years from 1994 to 1997, when the operating ratio was below 90 in every year, represents the most profitable stretch of years in at least 20 years for workers' compensation insurance.

Benefits increased to \$56.0 billion in 2004, which represented 1.13 of payroll. The employers' costs of workers' compensation increased more rapidly than benefits after 2000, and reached \$87.4 billion in 2004, which was 1.76 of payroll. Despite these increases after 2000, both benefits and costs as a percent of payroll remain well below their peaks of the 1990s. The workers' compensation insurance industry was unprofitable in 2001 and 2002, but then returned to profitability (with an operating ratio of 93.7 in 2004).

## Changing Insurance Arrangements

**Changes in State Insurance Funds.** Workers' compensation has relied on a mixture of state funds, private carriers, and self-insurance from its origins in most states between 1910 and 1920.<sup>35</sup> From the beginning, there were arguments concerning the merits of the various insurance arrangements. State funds were lauded because of lower overhead (notably the absence of a broker's fee) and because proponents thought that profits were inappropriate in a mandatory social insurance program. Private carriers were praised because they promoted efficiency and were considered more compatible with our capitalistic society. The arguments that prevailed varied from state to state: some jurisdictions created exclusive state funds; some authorized only private carriers to provide insurance; and some permitted private carriers to compete with state funds.

The initial choices of insurance arrangements by the states prevailed for an extended period. As of 1960, there were seven exclusive state funds, the youngest of which was the North Dakota fund established in 1919. There were also 11 competitive state funds as of 1960; the youngest was the Oklahoma fund established in 1933. Oregon converted its exclusive state fund into a competitive state fund in 1966; this represented the only change in state funds between the early 1930s and the early 1980s.

One of the significant developments in the workers' compensation insurance market in the last 25 years was the emergence of several new competitive state funds. The "pioneer" of the modern movement was Minnesota, which established a competitive state fund in 1984. Then, in the 1990s, seven new competitive state funds began operation. However, in contrarian moves, the long-existing Michigan competitive state fund was privatized in 1994 and the Nevada exclusive state fund was privatized in 1999. West Virginia is currently in the process of closing its exclusive state fund and admitting private carriers.

The state legislators' motives for establishing the new state funds were (1) to reduce the costs of workers' compensation and/or (2) to provide an alternative source of insurance for employers who could not purchase policies in the voluntary market or who did not like the surcharges or other conditions imposed on policies purchased in the residual or assigned-risk markets. And, presumably, part of the rationale for privatizing the Michigan, Nevada, and West Virginia state funds was to reduce the costs of workers' compensation insurance.

The cost-savings motives for these changes in insurance arrangements do not appear to be evidence-based. Thomason, Schmidle, and Burton (2001) found there were no differences in insurance costs between states with exclusive state funds and states with private carriers, after controlling for other factors that influence interstate differences in costs, such as injury rates and benefit levels. Among states with private carriers, they found that states with competitive state funds have insurance costs that are nearly 18 percent higher than the costs in states that only have private carriers.

**Deregulation of Private Insurance Markets.** Another significant development in workers' compensation insurance arrangements in recent decades has been the deregulation of the markets in which private carriers operate. In contrast to the deregulation that generally occurred in property and casualty insurance in the 1970s, rate setting in workers' compensation insurance continued to be highly regulated until the 1980s. The deregulation of workers' compensation insurance was resisted on several grounds: the distinctive characteristic of workers' compensation as a mandated social insurance program (and the resultant concerns with both rate levels for employers and solvency for carriers); the existence of competitive measures other than price competition for workers' compensation insurance (primarily through dividends); and the need for a comprehensive data base (with uniform rate classes and information on the experience of a large number of insurers). These arguments helped delay even partial

deregulation of workers' compensation insurance in most states until the 1980s and 1990s, and still operate to preserve "pure" administered pricing in a few states and vestiges of regulation in most states.

The multiple steps that are involved in moving from a manual rate applicable to an employer to the premium paid by that employer were discussed in connection with Table 2 above. The essence of administered pricing is that all carriers were required to start with the same manual rates, and the various modifications to those rates involved either (1) formulas or constants to which all carriers had to adhere and which modified the manual rates at the beginning of the policy period, or (2) dividends that were paid only after the policy period ended. In short, there was virtually no chance for carriers to compete in terms of price at the beginning of the policy period.

Administered pricing is no longer the dominant approach to workers' compensation insurance pricing in the United States. A fundamental result of the deregulation of the workers' compensation insurance market that has taken place in the last 25 years is that private carriers can now compete for business by varying the insurance rates at the beginning of the policy period. Most jurisdictions now allow deviations and scheduled rating,<sup>36</sup> and a number of jurisdictions have moved to more comprehensive forms of deregulation, which generally fall under the rubric "open competition" or "competitive rating." These reforms involve various combinations of three different changes to the regulatory environment. First, some states have dropped the requirement that insurers become members of the rating organization or adhere to bureau rates. Second, other jurisdictions no longer require insurers to obtain regulatory approval prior to using rates. Third, some states prohibit the rating organization from filing fully developed rates; instead, these organizations file loss costs or pure premiums. Each carrier has to decide what loading factor should be used in conjunction with pure premiums to produce the equivalent of manual rates.

The initial phase of deregulation began in the early 1980s, and nine states adopted competitive rating between 1981 and 1985. Several factors help explain the onset of deregulation. First, the overall political climate became more hostile to the notion that "big government" could do a better job than competitive forces in determining prices and allocating resources, and one consequence was a general move towards deregulation involving industries such as airlines and trucking, as well as the insurance industry. Another factor was a perception among some legislators, unions, and employers that profits in the workers' compensation insur-

ance line were excessive. The hope was that deregulation would help reduce costs by squeezing out excess profits. Not surprisingly, most workers' compensation insurers resisted deregulation during this period.

After the initial spurt of deregulation in the early 1980s, there was a slowdown in the introduction of deregulation in the balance of the 1980s, with only seven additional states enacting open competition statutes. However, one consequence of the unprofitability of workers' compensation insurance in the late 1980s and early 1990s was a change in attitude towards deregulation by many in the insurance industry.

Deregulation was now seen as a way to escape from the "onerous" decisions of insurance regulators and to establish rates that would allow carrier profitability. Deregulation re-emerged with vigor during the 1990s: open competition statutes became effective in 18 states between 1991 and 1995 and in an additional 3 states by the end of the decade. Deregulation in some of these states – especially those that adopted open competition in the early 1990s when the industry was still experiencing losses – reflected support from the insurance industry, while deregulation in other states, most notably California in 1995, where rate filings had generally been approved by the insurance commissioner, was generally resisted by the industry.

The effect of deregulation on the costs of workers' compensation insurance depends on several factors, such as the stringency of rate regulation in a state prior to deregulation and the particular form of deregulation. Thomason, Schmidle, and Burton (2001) found that comprehensive deregulation – the use of loss costs (instead of manual rates) that were not subject to prior approval by the state before carriers could establish the rates they would charge – reduced the costs of workers' compensation insurance by about 11 percent below the rates that would have been charged if states had continued to rely on administered pricing. They also found that partial deregulation – for example states that continued to rely on manual rates but allowed carriers to deviate from those rates – resulted in higher workers' compensation rates than would have been paid by employers under administered pricing.

**Changes in the Residual Market.** Another noteworthy development in workers' compensation insurance in recent decades was the rise and fall of the share of premiums accounted for by the residual market. The traditional reasons why an employer was unable to obtain workers' compensation insurance policies in the voluntary market were that the applicant was engaged in some activity that was unusually hazardous relative to the experience of other firms in the appropri-

ate insurance classification, or had a poor loss record, or was so small that the premium did not adequately compensate the insurer for its expenses (Williams 1969:48). Prior to the mid-1980s, the residual market share generally accounted for five percent or less of all premiums nationally.<sup>37</sup>

The fiscal stress that the workers' compensation insurance market was under from the mid-1980s to the early 1990s is clearly evident in the explosion of the residual market share from 5.5 percent of all premiums in 1984 to a peak of 28.5 percent in 1992. In addition to the traditional reasons for the applicants being forced to purchase in the residual market, which were basically due to the unattractiveness of individual risks, the dominant factor contributing to the residual market growth in the 1985-92 period was the general inadequacy of workers' compensation insurance rates because of the reluctance of insurance regulators in many states to approve rate filings with substantial rate increases for the voluntary market. Carriers in such jurisdictions became unwilling to write policies in the voluntary market because they could not make an adequate (or, in many cases, any) profit.

The share of workers' compensation insurance provided through the residual market was 80 percent or more in three states (Louisiana, Rhode Island, and Maine) in one or more years between 1989 and 1991. A vicious cycle ensued in some states:

- rates were held down in the voluntary market by regulators;
- carriers were unwilling to write policies in the voluntary market, which forced some employers into the residual market;
- in addition, regulators sometimes responded to political pressures and held insurance rates in the residual market well below the levels that were warranted, which induced some employers who were able to purchase policies in the voluntary market to obtain policies in the residual market because the rates were so low; the residual markets ran substantial deficits because of inadequate rates;
- the carriers in the voluntary market were assessed substantial sums to cover the assigned risk markets deficits; and
- when the carriers tried to pass on these assessment to policyholders still in the voluntary market, many employers shifted to the residual market in order to obtain coverage at the suppressed rates, which only increased the size of the residual market and increased assessments in the voluntary market.

The national share of total premiums accounted for by the residual market rapidly declined after 1994 (to less than five percent by 1998) due to the three major factors already discussed. First, the overall profitability of the workers' compensation insurance line quickly improved after 1992, which made carriers more willing to provide policies in the voluntary market. Second, several jurisdictions established competitive state funds or other special public or quasi-public funds to provide insurance to employers who could not find policies in the voluntary market. The third factor was a series of changes in assigned risk policies that made these policies more expensive and reduced the subsidy from the voluntary market to the residual market, including the introduction of special experience-rating plans in the residual markets that tied premiums more closely to each firm's own benefit payments.

The assessments on insurance policies in the voluntary market to underwrite losses in the residual markets had two significant consequences for workers' compensation insurance.<sup>38</sup> Employers received an incentive to self-insure since such employers were usually not assessed to cover losses in the residual markets. Benefits paid by self-insuring employers increased from 19.0 percent of all benefits in 1990 to 25.9 percent in 1995. Subsequently, as assessments for residual markets declined, the share of benefits provided by self-insuring employers declined somewhat (to 23.8 percent of all benefits in 2004).

The second effect of basing assessments for the residual market on insurance premiums was the rapid growth of policies with large deductibles. Under deductible policies written by private carriers or state funds, the insurer pays all of the workers' compensation benefits, but the employer is responsible for reimbursing the insurer for the benefits up to the specified deductible amount (such as the first \$100,000 per injury). The amount reimbursed by the employer is not considered insurance for purposes of assessments for the residual market or other special funds in most states. The amount of benefits paid by employers under deductible provisions increased rapidly from \$1.3 billion in 1992 to \$8.2 billion in 2004, which represented almost 15 percent of the \$56.0 billion total benefit payments in 2004. One consequence of the expanded use of deductibles should be added encouragement to workplace safety, since employers are essentially perfectly experience rated for the benefit payments up to the deductible.<sup>39</sup>

## The Exclusive Remedy Principle

### The Exclusive Remedy Against the Employer.

Since their origins in the U.S., workers' compensation

programs have incorporated the workers' compensation principle, which has two elements: workers benefit from a no-fault system and employers benefit from limited liability, which means that workers' compensation is the exclusive remedy of employees against their employers for workplace injuries and diseases.<sup>40</sup> There have always been some exceptions to the exclusive remedy doctrine, however, and in recent decades there have been several developments that represent significant challenges to the doctrine.

One traditional exception is that the employer is not protected from a tort suit when there is an intentional injury of the employee by the employer.<sup>41</sup> There are at least five legal approaches that states can take when the employer engages in activity that at least arguably represents an intentional injury to the employee:

- First, some states do not recognize the intentional injury exception under any circumstances.
- Second, some states require a conscious and deliberate intent to inflict an injury. Larson and Larson (2007, §103.03) indicate this exception to the exclusive remedy doctrine requires "deliberate infliction of harm comparable to an intentional left jab to the chin."
- Third, some states allow an exception when the employer's conduct is "substantially certain" to cause injury or death.
- Fourth, the New Mexico Supreme Court has recently created an exception to the exclusive remedy doctrine when the employer's conduct is willful.
- Fifth, no state (except perhaps New Mexico) upholds the intentional injury exceptions merely because the employer conduct is negligent, wanton, reckless, or even grossly negligent.

The third and fourth exceptions require explication. The exception when the employer's conduct is "substantially certain" to cause injury or death has been established by the courts in several states. In most of these states, including Michigan, Ohio, and West Virginia, the exception was eliminated or narrowed by subsequent legislation. However, a series of recent New Jersey Supreme Court decisions, beginning with *Laidlow v. Hariton Machinery Co.*, 170 N.J. 602, 790 A.2d 884 (2002) endorsed the substantially certain test as one element of the intentional injury exception, and efforts by employers and carriers to eliminate the exception by statutory enactment have been unsuccessful. The New Mexico decision, *Delgado v. Phelps Dodge Chino, Inc.*, 131 N.M. 272, 34 P. 3d 1148 (2001) includes as part of the definition of "willful conduct" that

the employer's act is "reasonably expected to result in the injury suffered by the employee," and to date that decision has not been overturned by the legislature. Whether the New Jersey–New Mexico axis of exception will spread to other jurisdictions is of concern to employers and insurers.

Another area in which the exclusive remedy provision is being challenged involves situations when an employee alleges sexual harassment at the workplace. The New Mexico Supreme Court held in *Coates v. Wal-Mart Stores, Inc.*, 976 P.2d 999 (1999) that a tort suit alleging negligent supervision and intentional infliction of emotional distress was not precluded by the exclusive remedy doctrine. However, courts interpreting the workers' compensation statutes in Delaware and Maine have precluded tort claims for negligent or intentional infliction of emotional distress resulting from sexual conduct by fellow employees. Where tort suits for sexual harassment are precluded by the workers' compensation exclusivity principle, recovery against the employer may be possible under a state fair employment statute or Title VII of the Civil Rights Act of 1964, which was amended in 1991 to permit compensatory or punitive damages for sexual harassment.

A decision by the Supreme Court of Oregon, *Smothers v. Gresham Transfer, Inc.*, 23 P.3d 333 (2001), provides another challenge to the exclusive remedy doctrine. The Oregon legislature passed legislation in 1993 denying workers' compensation benefits unless the worker could prove that work exposure was the major contributing cause of an occupational disease. In 1995, the Oregon legislature amended the workers' compensation statute to provide that workers' compensation was the exclusive remedy for work-related injuries and diseases, even if the condition was not compensable under workers' compensation because the work exposure was not the major contributing cause. In *Smothers*, the court said that the Oregon constitution did not allow the legislature to eliminate both the workers' compensation remedy and a tort remedy when the employment is not the major contributing cause of the condition. While this case established a clear limitation on the exclusive remedy provision in Oregon, similar constitutional challenges in other states have not been successful. Nonetheless, similar challenges to statutes that remove any remedy for workplace injuries and disease may be successful under state statutes and constitutions, and arguably also under the U.S. Constitution.

#### To Whom Does the Exclusive Remedy Apply?

The exclusive remedy provision means that the only recovery by the injured worker against his or her employer is workers' compensation benefits, unless the

worker can take advantage of one of the exceptions to the exclusivity, such as the intentional injury exception discussed above. The injured worker may, however, be able to bring a tort suit against a third party who was at least partially responsible for the worker's injury.<sup>42</sup> Examples of third parties that may be sued are manufacturers of defective machinery that was sold to the employer and producers of asbestos sold to firms whose workers contracted diseases because they were exposed to the substances. A few states also allow employees to sue the employer's insurance carrier for negligent inspection of the workplace or negligent medical care. However, in most, but not all states, employees as well as the employer are immune from suits for workplace injuries they inflict upon fellow employees. In addition, the exclusive remedy doctrine generally protects employers from suits by the worker's spouse, parents, or children from harm resulting from workplace incidents.

### The Viability of Workers' Compensation

The workers' compensation system in the U.S. is experiencing stress along several dimensions. One is the conflict between affordability of the program for employers and adequacy of benefits for workers. Although economists argue that most of the costs of workers' compensation are paid for by workers in the form of lower wages,<sup>43</sup> employers nonetheless act as if they bear all of the costs and generally seek to reduce costs. The quest for affordability is encouraged in part by the decentralized nature of the programs, in which states compete for employers in part by offering low workers' compensation costs. The increased competition in the U.S. economy in recent decades as a result of deregulation of many domestic industries and of globalization has added to the pressures for states to reduce costs.

The pressures on states to reduce costs can have salutary effects to the extent the result is increased efficiency in the delivery system for workers' compensation benefits, which, for example, might result from reduced litigation. However, the cost savings achieved by states in recent years often resulted from limiting eligibility for benefits or from maintaining or further curtailing benefits that were already inadequate. An example of the effects of restricting eligibility on workers is provided by Oregon, where Thomason and Burton (2001) estimate that a series of legislative provisions resulted in benefits (and costs) being about 25 percent below the amounts they would have been in the absence of the more restrictive eligibility standards.

The adequacy of the benefits provided to those workers who qualify for benefits has been examined in important recent studies. Hunt (2004) provides a com-

prehensive survey of the meaning of adequacy of benefits in the workers' compensation program. The generally accepted standard is that workers' compensation benefits should replace two-thirds of the wages lost because of the work injuries. However, Boden, Reville, and Biddle (2005) found that in the five jurisdictions they examined (California, New Mexico, Oregon, Washington, and Wisconsin) permanent partial disability benefits replaced between 16 and 26 percent of earnings losses in the ten years after the workers' were injured, which meant the "replacement rates do not approach the 2/3 benchmark for adequacy."

The consequences of the tightening eligibility standards in workers' compensation may have another consequence that is troublesome for the future of the program. As the number of workers' compensation cases and costs of the program dropped in the 1990s, due to in part to tighter eligibility standards for qualifying for benefits, the number of former workers qualifying for Disability Insurance (DI) under the Social Security program increased. Some commentators, such as Williams, Reno, and Burton (2004, 37), have raised the possibility that some disabled persons are being shifted from workers' compensation to the DI program. This perception is reinforced because according to Burton and Spieler (2001) the changes in eligibility rules for workers' compensation benefits that took place in the 1990s had a particularly adverse effect on older workers, who are the predominant source of applicants for DI benefits. Preliminary empirical findings by Burton and Guo (2006) suggest that the constrictions in eligibility rules in workers' compensation programs in the 1990s resulted in higher applications for DI benefits.

A final challenge to workers' compensation worth noting is the medical benefits provided by the program. These benefits now account for 46.6 percent of all benefit payments, up from 36.3 percent in 1987 (Sengupta, Reno, and Burton 2006, Table 4). Medical benefits in workers' compensation are also important because in many ways they are more generous than other medical benefits provided by employers.

With rare exceptions, medical care through workers' compensation is provided without deductibles, co-insurance, or premiums paid for by workers, while these attributes are lacking in health care benefits for non-occupational conditions paid for by employers. Indeed, many employers do not provide any health care benefits for their workers – other than the medical care mandated for work-related injuries. This provides a glaring contrast between two health care systems for workers, and provides incentives for workers (and often providers and sometimes even employers) to shift conditions that are arguably work-related, such as back injuries, into workers' compensation.

The disparity between these two systems has led many employers who do provide non-occupational health insurance to integrate the administration of all their programs for disabled workers, regardless of the origins of the disability. Some commentators have even suggested that the medical benefits (and perhaps even the cash benefits) provided for work-related and non-work-related disabilities should be combined into a 24-hour coverage program.<sup>44</sup>

This final section has identified some tensions and challenges for the workers' compensation program that may suggest the program may not survive far into the 21<sup>st</sup> century. It is thus worth remembering that the premier study of workers' compensation published a half-century ago (Somers and Somers 1954) concluded with a chapter entitled "Workmen's Compensation at the Crossroads." The thrust of the chapter was that the problems of the program threatened its future unless fundamental changes were made. The program's name may have changed and the problems may be somewhat different than in 1954. But the experience of the intervening years suggests that the fundamental attributes of workers' compensation – a system confined to work-related injuries that provides limited benefits on a no-fault basis – are hard to successfully challenge and may be immutable.

## ENDNOTES

1. Unless otherwise indicated, "injuries" includes injuries and diseases.
2. Burton and Mitchell (2003) provide a brief history of workers' compensation, as well as other social insurance and employee benefit programs.
3. The crucial elements of the workers' compensation principle – liability without fault for employers and limits on recovery for employees – were challenged on constitutional grounds, but were upheld by the U.S. Supreme Court in *New York Central Railroad Co. v. White*, 243 U.S. 188 (1917). Burton (2006a) discusses several recent challenges to workers' compensation statutes based on state constitutional provisions, including guarantees of equal protection.
4. Barth (2004) and Burton (2004) discuss the legacy of The National Commission on State Workmen's Compensation Laws. The program was generally known as "workmen's compensation" until the 1970s, when most jurisdictions adopted "workers' compensation" as a more appropriate term.
5. Hallmark (2006) and U.S. Chamber of Commerce (2007) include tables summarizing state coverage provisions. Sengupta, Reno, and Burton (2006) provide data on national and state coverage of workers.
6. The legal tests are examined in Larson and Larson (2007) and Willborn et al. (2007, 894-937)
7. The personal injury test is discussed in Willborn et al. (2007, 936-37)
8. The accident test is discussed in Willborn et al. (2007, 931-36.)
9. The arising out of employment test is discussed in Willborn et al. (2007, 915-27).
10. The in the course of employment test is discussed in Willborn et al (2007, 894-915).
11. The compensability of diseases is discussed in Willborn et al. (2007, 937-42). Barth and Hunt (1980) is the best examination of the handling of diseases by workers' compensation programs.
12. Burton (2007) discusses the obstacles to recovery by Rudy Washington, Deputy Mayor of New York City on September 11, 2001, who rushed to the World Trade Center after the planes struck the buildings and spent considerable time at the site for weeks afterwards. He subsequently developed severe respiratory ailments and filed a claim for workers' compensation benefits in December 2004. The New York workers' compensation statute of limitations for occupational diseases is two years from disablement or after the claimant knew of should have known that the disease is due to the nature of the employment. However, Washington was held not to have an occupational disease because his respiratory disease was neither included in the schedule of occupational disease in the New York statute nor was a respiratory disease "the natural incident" of his particular occupation, namely Deputy Mayor, thereby satisfying the definition of the residual category of "any and all occupational diseases" in the statute. Washington's respiratory condition did meet the definition of an accidental injury under the New York workers' compensation statute. However, the statute of limitations for injuries is two years from the date of injury. Since more than two years had passed between September 11, 2001 and December 2004, when Washington filed his claim, he did not qualify for benefits. As a result of wide-spread publicity concerning this New York Tangle, the New York legislature enacted a provision that provided special relief for persons who engaged in World Trade Center rescue, recovery, and clean up operations.
13. An examination of the legal aspects of the recent changes in compensability rules is provided in Willborn et al. (2007, 950-55).
14. As discussed in Willborn et al. (2007, note 3, 954-55) some state workers' compensation programs have adopted the *Daubert* rule, which controls the admission of expert testimony in the Federal Courts. The Daubert rule can affect both claimants and defendant, but will make it more difficult for workers to establish their case by presenting objective evidence that constitutes a sufficient quantum of proof.
15. The legal issues pertaining to medical care and rehabilitation services are discussed in Willborn et al (2007, 974-82).
16. Hallmark (2006) and U.S. Chamber of Commerce (2007) provide information on the statutory provisions for cash benefits. Sengupta, Reno, and Burton (2006) provide data on benefit payments.
17. The legal issues involving temporary total disability benefits are discussed in Willborn et al. (2007, 956-59).
18. A worker with a work-related injury will receive workers' compensation medical benefits from the date of injury. Some employers also have disability benefit plans that provide cash benefits or continuation of salary from the date of injury, although many such plans exclude work-related injuries.
19. The legal issues associated with temporary partial disability benefits are discussed in Willborn et al. (2007, 959-962).
20. The legal issues associated with permanent partial disability (PPD) benefits are discussed in Willborn et al. (2007, 962-70). Burton (2005) examines the design of permanent partial disability benefits in more detail and provides criteria for evaluating state PPD benefits.
21. The legal issues associated with permanent total disability (PTD) benefits are discussed in Willborn et al (2007, 970-74).
22. Hallmark (2006, Table 1) and Sengupta, Reno, and Burton (2006, 13-16) provide information on workers' compensation insurance arrangements.

23. West Virginia, one of the states with an exclusive state workers' compensation fund, is in the process of allowing private carriers to provide insurance in the state.
24. Table 1 and the description of the procedure used to determine premium are based on Thomason, Schmidle, and Burton (2001, 326-331).
25. The calculation of premiums when the starting point is pure premiums is discussed by Thomason, Schmidle, and Burton (2001, 331-333).
26. The calculation of premiums for employers who purchase insurance in the assigned risk market is discussed by Thomason, Schmidle, and Burton (2001, 333-339).
27. Recent data on the national and state shares of premiums in residual markets are included in National Council on Compensation Insurance (2006, Exhibit XIII).
28. The workers' compensation premium rate rankings prepared by the Oregon Department of Consumer & Business for 1986 to 2004 are included in Burton and Blum (2005, 31-37).
29. This section is largely based on Burton and Chelius (1997).
30. Thomason (2003, 196) cautions that experience rating may, in addition to encouraging employers to improve workplace safety and health, also lead to increased claims management by employers, including the denial of legitimate compensation claims. While Thomason discusses several studies suggesting that such employer activity occurs, the evidence indicates that experience rating is nonetheless associated with accident prevention activities by employers.
31. Thomason and Burton (1993) summarize the studies of the determinants and consequences of compromise and release agreements. They also report (1993, S27-S28) that in New York, "retention of legal counsel increases the probability of settlement and decreases settlement size, indicating that claimant attorneys are acting contrary to their clients' interests" in the settlement of nonscheduled permanent partial disability claims.
32. The discussion of developments in the 1980s and 1990s is largely based on Thomason, Schmidle, and Burton (2001, Chapter 2).
33. The combined ratio after dividends is the sum of losses, loss adjustment expenses, underwriting expenses, and dividends. The overall operating ratio is the combined ratio after dividends minus net investment gain/loss and other income. The ratios are expressed as a percent of net premiums. Thus, an overall operating ratio of 103.8 means carriers were losing \$3.80 for every \$100 of net premiums, while an overall operating ratio of 80 means carriers were earning \$20 of profit for every \$100 of net premiums.
34. The data on benefits and costs in the next three paragraphs are from Sengupta, Reno, and Burton (2006). The underwriting results are from Burton (2006b).
35. The discussion of changes in insurance arrangements in this subsection is largely based on Thomason, Schmidle, and Burton (2001, 32-47).
36. If a state allows deviations, individual carriers may deviate from the published manual rates and charge lower (or higher) rates than those promulgated by the rating organization. The discounts offered by a carrier are uniform for all policyholders in a insurance classification (although the discounts may differ among classes). Under schedule rating plans, insurers can change (usually decrease) the workers' compensation insurance rates an individual employer would otherwise pay.
37. Thomason, Schmidle, and Burton (2001, 43-46) provide more details on the pre-1985 experience in the residual market, and note that in 1978-79 the assigned risk market accounted for 12.7 percent of all premiums nationally as the cost of workers' compensation increased after 1975. However, the share dropped back to 5.5 percent in 1984, reflecting the generally profitable conditions in the workers' compensation insurance market and the declining costs of workers' compensation insurance.
38. The data in the next two paragraphs are from Sengupta, Reno, and Burton (2006).
39. However, some states permit employers to purchase insurance for their benefit payments up to the deductible, which reduces the degree of experience rating for these benefits.
40. This subsection is based on Willborn et al. (2007, 869-89).
41. This discussion of the intentional injury exception to the exclusive remedy doctrine is based on Willborn et al. (2007, 869-78), Aurbach (2003), and Burton (2006c).
42. The suits against third parties and related issues are discussed in Willborn et al. (2007, 889-94).
43. Leigh, Markowitz, Fahs, and Landigan (2000, 175-79) provide a useful discussion of who pays for workers' compensation.
44. Several variants of twenty-four hour coverage are examined by Burton (1997).

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