

11-1-1996

Workers' Compensation Insurance in North America: Lessons for Victoria?

H. Allan Hunt

W.E. Upjohn Institute for Employment Research, hunt@upjohn.org

Robert W. Klein

Georgia State University

Follow this and additional works at: https://research.upjohn.org/up_technicalreports



Part of the [Workers' Compensation Law Commons](#)

Citation

Hunt, H. Allan and Robert W. Klein. 1996. "Workers' Compensation Insurance in North America: Lessons for Victoria?" Upjohn Institute Technical Report No. 96-10. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <https://doi.org/10.17848/tr96-010>

This title is brought to you by the Upjohn Institute. For more information, please contact repository@upjohn.org.

**WORKERS' COMPENSATION INSURANCE
IN NORTH AMERICA:
LESSONS FOR VICTORIA?**

Upjohn Institute Technical Report No. 96-010

**H. Allan Hunt
Assistant Executive Director
W.E. Upjohn Institute for Employment Research**

**Robert W. Klein
Director, Center for Risk Management and Insurance Research
Georgia State University**

November 1, 1996

© W.E. Upjohn Institute for Employment Research

TABLE OF CONTENTS

I. INTRODUCTION	I-1
Justification	I-1
Relevance of North American Experience	I-3
Why British Columbia and Michigan?	I-4
Limitations of Exemplars	I-6
Administration of Public vs. Private Workers' Compensation Systems	I-7
Core Workers' Compensation Insurance System Functions	I-12
Workers' Compensation Insurance Market Failures	I-15
Plan of the Presentation	I-18
II. OVERVIEW OF BRITISH COLUMBIA (PUBLIC) WORKERS' COMPENSATION SYSTEM	II-21
Introduction	II-21
Organization of the Workers' Compensation System	II-21
Other Organizations in the WC System	II-23
Other WCB Functions	II-24
Organizational Structure of the WCB	II-24
Claims Administration	II-25
Workers' Compensation Benefits	II-26
Health Care Benefits	II-26
Temporary Disability Benefits	II-27
Permanent Disability Benefits	II-28
Vocational Rehabilitation Benefits	II-31
Death Benefits	II-32
Dispute Resolution	II-33
Workers' Compensation Review Board	II-33
Medical Review Panels	II-35
Appeals Beyond the Board	II-36
Role of Lawyers	II-36
Incentives	II-37
Safety and Prevention Incentives -- Mainly Employer	II-37
Return-to-Work Incentives -- Mainly Employee	II-37
Provider Incentives	II-38
Litigation Incentives	II-39
III. BRITISH COLUMBIA (PUBLIC) INSURANCE MODEL	III-43
Introduction	III-43
WCB Assessment Structure and Function	III-44
Registration and Classification	III-45
Audits and Collections	III-46
Self-Insurance at the WCB	III-47

Experience Rating (ERA)	III-48
Personal Optional Protection Program	III-51
Relief of Cost Applications	III-51
Performance Issues	III-52
Revenue Sufficiency	III-52
Cross-Subsidization Issues	III-53
IV. OVERVIEW OF MICHIGAN (U.S.) WORKERS' COMPENSATION MODEL . .	IV-65
Introduction	IV-65
Organization of the Workers' Compensation System	IV-65
Organizational Structure of the BWDC	IV-65
Other Organizations in the Workers' Compensation System	IV-67
Board of Magistrates	IV-67
Appellate Commission	IV-68
Other Agencies	IV-69
Funds Administration	IV-69
Second Injury Fund	IV-70
Silicosis, Dust Disease, and Logging Industry Compensation Fund	IV-71
Self-Insurers Security Fund	IV-71
BWDC Compensation Supplement Fund	IV-71
Claims Administration	IV-72
Workers' Compensation Benefits	IV-74
Medical Benefits	IV-74
Wage-Loss Benefits	IV-74
Total and Permanent Disability	IV-76
Specific Loss Benefits	IV-77
Death Benefits	IV-77
Rehabilitation Benefits	IV-78
Coordination of Benefits	IV-78
Total Benefit Payments	IV-79
Dispute Resolution	IV-79
Formal Hearings	IV-80
Role of Attorneys	IV-81
Incentives	IV-82
Safety and Prevention Incentives -- Mostly Employer Side	IV-82
Return-to-Work Incentives -- Mostly Employee Side	IV-83
Provider Incentives	IV-85
Litigation-Settlement Incentives	IV-85
V. MICHIGAN (PRIVATE) INSURANCE MODEL	V-88
The Structure-Conduct-Performance Paradigm	V-88
Market Structure	V-89

Number and Size of Firms	V-89
Entry and Exit Conditions	V-92
Conduct	V-95
Pricing	V-95
Product Service/Design	V-99
Performance	V-100
Prices	V-100
Benefit Costs	V-101
Expenses	V-103
Profits	V-104
Availability	V-107
Solvency	V-110
Regulation	V-111
Entry/Exit	V-111
Pricing	V-112
Quality of Service and Market Practices	V-117
Data Reporting and Advisory Organizations	V-118
Role of State Funds	V-119
Residual Market Mechanisms	V-121
Self-Insurance	V-123

VI. COMPARATIVE WORKERS' COMPENSATION SYSTEM PERFORMANCE:

BRITISH COLUMBIA AND MICHIGAN MODELS	VI-151
Introduction	VI-151
Noncomparable Aspects	VI-152
Influence of Self-Insurance	VI-153
Claim Termination	VI-154
Role of Administrative Agencies	VI-155
Stakeholders' Role	VI-155
Effect of Other Institutions	VI-156
System Performance Comparisons	VI-157
Coverage	VI-157
Injury and Illness Incidence	VI-158
WC Claims Incidence	VI-160
Vocational Rehabilitation Benefits	VI-161
Aggregate WC Benefit Payments	VI-162
Incurred Benefit Costs	VI-163
Promptness of Payment	VI-163
Dispute Resolution	VI-165
Employer Costs	VI-167
Administrative Costs	VI-168
Summary	VI-170

VII. POLICY IMPLICATIONS FOR VICTORIA	VII-180
Introduction	VII-180
Marketing and Distribution	VII-181
Underwriting Selection	VII-182
Ensuring Availability of Coverage	VII-183
Benefit Provisions and Policy Design	VII-185
Pricing and Premium Verification	VII-187
Loss Prevention	VII-189
Claims Adjustment and Case Management	VII-190
Solvency Protection	VII-192
Statistical Reporting and System Monitoring	VII-194
Conclusion	VII-194
 Bibliography	 B-196

LIST OF TABLES

1.1 Core Workers' Compensation Insurance Functions	I-20
2.1 Reason for Appeal and Allow Rate at WCRB, 1990	II-40
3.1 Canada Jurisdictional Summary	III-56
3.2 WCB Assessment Performance, 1984-93	III-57
3.3 WCB Financial Performance, 1984-93	III-58
3.4 WCB Sub-Class Financial Performance, 1993	III-59
5.1 Michigan - 20 Leading Workers' Compensation Insurers, 1993	V-125
5.2 Number of Insurers and Market Concentration 1982-93	V-126
5.3 Entries and Exits, 1983-93	V-129
5.4 Distribution of Policies by Manual Rates, 1993	V-132
5.5 Michigan & U.S. Competitive Pricing Adjustments, Policy Years 1984-93	V-138
5.6 Michigan & U.S. Benefits & Costs as Percentage of Covered Payroll, 1982-91	V-139
5.7 Benefits (Losses Incurred)/Direct Premiums Earned, Michigan & U.S., 1982-93	V-140
5.8 State-Specific Expense Costs Michigan & U.S. Average, 1992-93	V-141
5.9 Profits - Michigan and U.S. 1985-93	V-142
5.10 Workers' Compensation Insurance - Distribution of States - Operating Profits	V-143
5.11 Residual Market Share and Burden - Michigan & U.S., 1982-93	V-144
5.12 Insurer Failures, U.S., 1982-93	V-145
5.13 Workers' Compensation Insurance State Rate Regulatory Systems	V-146
6.1 Incidence of Work-Related Injuries and Illnesses	VI-172
6.2 Incidence of Workers' Compensation Claims, 1993	VI-173
6.3 Workers' Compensation Benefit Payments, Calendar Year 1993, in U.S. Dollars	VI-174
6.4 Incurred Workers' Compensation Benefit Costs Calendar Year 1993, in U.S. Dollars	VI-175
6.5 Promptness of Payment	VI-176
6.6 Dispute Resolution Activity, 1993	VI-177
6.7 Employer Cost of Workers' Compensation Coverage for 1993, in U.S. Dollars	VI-178
6.8 Public Administrative Costs 1993, in U.S. Dollars	VI-179

LIST OF FIGURES

2.1 Organization of Workers' Compensation System in British Columbia	II-41
2.2 Organizational Structure of the Workers' Compensation Board	II-42
4.1 Organization of Workers' Compensation System in Michigan	IV-86
4.2 Organizational Structure and Function of BWDC	IV-87
5.1 Rate of Return on Net Worth	V-150

I. INTRODUCTION

Justification

In 1985, the Victorian WorkCare workers' compensation system was implemented, replacing the private market in workers' compensation insurance coverage with a state monopoly fund scheme. Unfortunately for Victorians, WorkCare proved to be unworkable; it gave rise to increasing costs for employers, an "epidemic" of long-term disability claims, and huge unfunded liabilities. The WorkCare scheme was abandoned in 1992 in favor of WorkCover, which uses a unique blend of private market and state monopoly principles. Thus the Victorian Government embarked on a comprehensive workers' compensation reform plan, which began with the introduction of WorkCover in December 1992.

The WorkCover scheme restructured benefits, dispute resolution procedures, and administration of the system. Private insurers were incorporated into the system as "authorized insurers" (essentially marketing and claims management agents). The premium system was revised, introducing incentives for employers through experience rating and other devices. Additional legislation in 1994 introduced the latest stage of Victoria's transition, making a number of minor adjustments in the scheme to further streamline claims management and rationalize incentives for workers and employers. (Victorian WorkCover Authority, 1993-94 Annual Report)

Thus far, the WorkCover scheme seems to be a great success (Boston Consulting, 1994). The last step in the reform plan involves possibly privatizing the scheme, once past liabilities are fully funded and the fund itself is stable. This could happen as early as 1997, based on the rapid progress to date. Since WorkCover began in December 1992, reported claims have dropped by 40 percent, and average premium levels have been reduced by 25 percent, accompanied by a significant increase in weekly benefit levels. Most significantly, the unfunded liability has been reduced from 53 percent to zero, a swing of over \$2 billion in less than three years. (Victorian WorkCover Authority, 1994-95 Annual Report)

Because of this recent history, and because the pendulum seems to be swinging back toward private market solutions in Victoria, as well as in Australia as a whole, there is an interest in other models of workers' compensation systems. It seemed relevant to the authors of this report to offer an outside perspective, one rooted in North American workers' compensation experience. Our hope is that a review of U.S. and Canadian experiences, as highlighted in careful reviews of two "successful" systems that have not wavered in their dedication to private market and state monopoly principles respectively, might help inform the final debate on privatization in Victoria.

Of course, there is no universally accepted definition of "public" or "private" workers' compensation systems. In North America, "public" would be taken to refer to a state or provincial monopoly workers' compensation insurance system. "Private" would refer to some version of a system that allows private insurance carriers to sell workers' compensation insurance. In fact, of course, there is a continuum of systems and of system features that might affect the basic judgment as to whether a particular system is more public or private in its orientation. The question is how are different functions of the workers' compensation system allocated among government or public entities and private firms.

It should be clear that we do not mean "private" to be synonymous with "market-oriented," although there are a number of obvious linkages between these abstract concepts in workers' compensation practice. The Victorian WorkCover system is an example of a hybrid system that uses private agents to sell the insurance, service the employers, and manage the claims, but retains public ownership of the underwriting and rate-making functions. In addition, Victoria maintains extensive private incentives through an aggressive experience rating program. Thus, private economic incentives are a strong influence on the Victorian WorkCover system, even though the fundamental underwriting and pricing functions are held in public hands.

Among the issues we will consider here are the following. Who carries the underwriting (insurance) risk for workers' compensation benefits? How is workers' compensation insurance priced, and by whom? What fundamental principles guide the insurance pricing system? Who monitors benefits for compliance with statutory requirements?

Are the availability of coverage and the payment of insurers' claims obligations guaranteed? Is self-insurance allowed and, if so, for whom? How are incentives for prevention of accidents, and resulting workers' compensation claims, maintained? What is the performance of the overall system? In summary, how are these questions answered and what do the answers reveal about how these responsibilities are allocated among government agencies, other public entities, and private firms?

Since there are probably no universal statements that can be made about workers' compensation systems, we have selected two "exemplars" of successful public and private workers' compensation systems from North America to carry our analysis. While this may distort some comparisons, due to non-workers' compensation system factors, it has the advantage of grounding our judgments in a specific factual context that can also provide examples and illustrations of basic principles.

Relevance of North American Experience

There are a number of reasons to believe that the lessons of North America may be relevant for the decision makers in Victoria. First, in a rough policy sense, the Canadian and U.S. models of workers' compensation bracket the Victorian WorkCover Authority scheme. That is, the Canadian systems represent one variant of the monopoly fund model that Victoria has been moving away from since 1992, and the U.S. systems represent one version of the privatized model that Victoria experienced previously. This is not to suggest that any specific North American model would fit the Australian environment, but simply to argue that experiences in the same "policy neighborhood" may be relevant. In addition, it is very clear that Australia, Canada, and the United States share a great deal of common culture and shared institutions, partially owing to our mutual British heritage. The commitment to representative government, free and independent trade unions, individual ownership of property, and private enterprise constitutes a powerful shared paradigm.

In the workers' compensation sense, it is also clear that Canada, the United States, and Australia share a good deal of common ground. In the first place, these nations are unique in that all have workers' compensation systems based at the state or provincial, rather than the

national, level.¹ Thus, each nation's experience is the sum of many different state or provincial systems' experience. While Canadian models are less diverse, it is probably true that there is as much variety within both Australia and the United States as there is among all three countries. The point is that our 70 state and provincial workers' compensation models (total from Australia, Canada, and U.S.) have a great deal in common, as well as considerable differences. This is manifest in the fact that the International Association of Industrial Accident Boards and Commissions (IAIABC), the professional organization for administrators of workers' compensation programs, includes members from the Australia, Canada, and United States. Apparently the administrators of the workers' compensation systems in these three countries have had sufficient common interest to hold them in the same association.

Why British Columbia and Michigan?

The choice of British Columbia and Michigan as exemplars of "public" and "private" workers' compensation systems, respectively, may not be entirely obvious. The first reason for their selection is familiarity. Since the W.E. Upjohn Institute for Employment Research had conducted administrative inventories for each of these systems in the last five years, we had a basic familiarity with their institutional features and operations² (Hunt and Eccleston, 1990; Hunt, Barth, and Leahy, 1991; Hunt, 1992). Having the personal contacts to facilitate developing updated information on these particular systems rapidly and efficiently was especially important.

However, there is more than convenience to recommend the choice of these two systems. British Columbia is one of only three large Canadian systems (the others are Alberta and Saskatchewan) that are approximately fully funded today. This represents a signal achievement and indicates that there is something different about the system or its political

¹See American Insurance Association (1993) for one description of the variety of systems operating in nine highly developed nations.

²The Administrative Inventory is a device developed by the Workers Compensation Research Institute (WCRI) in the United States. It represents a detailed examination and description of the structure and performance of an individual workers' compensation system using a common pattern that facilitates comparison across systems. To date, AI's have been published for 14 U.S. states and one Canadian province.

setting. More impressively, there is evidence that this circumstance is not simply a matter of good luck. British Columbia started to spiral down into large-scale deficits in the mid-1970s, just like Ontario, Quebec, and other Canadian systems. (Vaillancourt, 1994) However, British Columbia turned this situation around in the early 1980s with policy choices that restored the Workers' Compensation Board (WCB) to financial health. Hence, British Columbia has a workers' compensation system that appears to be in balance and working relatively well. Presumably, that means that some or all of its system features may be viable for certain other jurisdictions.

Michigan too has justification for selection as an exemplar of U.S. private market-dominated workers' compensation systems. In the first place, Michigan was one of the first states in the U.S. to implement competitive rating for workers' compensation insurance. This bold commitment to the market mechanism in 1983 meant that Michigan abandoned the administered pricing model that had dominated workers' compensation insurance since the origins of these systems in the early 20th century and embraced a competitive market system, which a majority of states have since implemented to some degree.

More fundamentally, like British Columbia, the record that Michigan compiled in reforming its workers' compensation statute in 1980, 1981, and 1985 showed that Michigan was willing and able to grapple with tough policy issues and arrive at sound long-term conclusions. (Hunt, 1986). This effort foreshadowed many similar reform movements in other states by 5 to 10 years, and was precipitated by the fact that Michigan had reached a point where the cost of workers' compensation was thought to be interfering with economic growth in the state.³

In addition, there are a number of characteristics of these jurisdictions that make them interesting examples. They are both large, significant states with substantial workers' compensation exposure. Although British Columbia is characterized more by primary, or extractive, industries (fishing, logging, mining) and Michigan more by secondary, or

³Elson and Burton (1981) had calculated that Michigan workers' compensation insurance rates for a sample of manufacturing classifications were 80 percent above U.S. average in 1978.

manufacturing, industries, they both have many employers with lots of injuries. They also both have heavily unionized labor forces, although Michigan's is much less influenced by labor than a decade ago, largely due to the downsizing of the auto industry in Michigan.

Limitations of Exemplars

There are also some reasons why these two jurisdictions are not perfect exemplars. Michigan is theoretically a "wage-loss" workers' compensation system, as opposed to an "impairment" or "loss of wage-earning capacity" system. This places it in a minority among U.S. jurisdictions. However, the "redemption" of employer liability available in the Michigan system is both an accommodation to make the wage-loss system more workable and a feature that makes the handling of permanent partial claims more like that in other jurisdictions. Michigan uses a litigation process to arrive at the permanent partial implicit ratings however.

More important, Michigan has one of the highest proportions of self-insurance in the U.S., due largely to the fact that the auto industry is dominated by three huge firms, General Motors, Ford and Chrysler. All three firms have their corporate headquarters and, especially for GM and Chrysler, multiple large manufacturing installations in the State of Michigan. This has produced an environment that is "friendly" to self-insurance. This has also been extended to include the participation of some 9,000 small firms in 35 different industry-specific group insurance plans in Michigan, which has increased the competitive pressures on private insurers.

Another unique aspect of the Michigan system is the "privatization" of the competitive state-owned Michigan Accident Fund in 1994. The trend of the last several years in the U.S. has been to create new competitive state funds (although no exclusive, or monopolistic, state funds beyond the six that have existed for years). At least six U.S. states have created new competitive state funds in the last five years, and Michigan is the only state to be privatizing a fund. We regard this as an anomaly, that reflects the current Governor's philosophical position on government entities competing with the private market, rather than a major policy change.

While it may prove to have significant consequences in the long-run, it does not represent a dissatisfaction with the performance of the fund as an insurance company. In fact,

it is ironic that the Michigan Accident Fund increased its market share from 3.4 percent in 1982, the year before open competitive rating to 15.6 percent in 1993, while remaining profitable and increasing its net worth. Over this decade, the fund had earned a reputation for being willing to write the smaller risks that the large private carriers did not want to insure and did so successfully.

British Columbia, also, is somewhat unusual among Canadian jurisdictions in that the WCB structure also contains the Prevention Division (previously Occupational Safety and Health). The administrative inventory of the British Columbia system in 1991 urged the WCB to move to exploit the potential synergy between the prevention and compensation missions in workers' compensation. (Hunt, Barth and Leahy, 1991) However, there is little evidence to date that being housed under the same roof provided significant performance advantages for the WCB. In addition, the WCB maintains their own world class worker rehabilitation center at the central offices in Richmond. This facility should make it possible to integrate compensation and rehabilitation more effectively. While this is a relatively unique system feature, it only involves a small minority of WCB claimants, so we believe it unlikely that it has a substantial impact on the system as we will analyze it here.

Administration of Public vs. Private Workers' Compensation Systems

In this volume, we maintain the hypothesis that, while there is no pure test of the public vs. private workers' compensation insurance mechanism, there are indicators of the significant differences that underlie these fundamental scheme choices. In other words, it would be inaccurate to say that any given system feature is necessarily characteristic of either public or private workers' compensation systems. All systems seem to be a unique blend of features that reflect the specific socio-political-economic environment within which they were created. However, we still think we see some specific aspects of our *exemplary* systems that reflect the underlying public/private scheme orientations that they represent.

Of course, relying on market mechanisms to organize the behavior of system actors can be shown to provide the highest level of consumer satisfaction in conventional competitive markets for consumption goods. However, the private workers' compensation insurance

market has a great many discrepancies from such a simple “perfectly competitive” model. The lack of good information on both sides of the market, agent-principal problems of administering a program (insurance carrier) for a group of beneficiaries (injured workers) on behalf of another party (employer), public interest in guaranteeing certain outcomes, and many divergences from the perfect competition model exist. Some of the market imperfections, and the way they are dealt with, will be discussed below.

While economists (including the authors) have great respect for the unfettered market as an optimal resource allocation mechanism, the particular example of workers’ compensation insurance does not yield to simple, knee-jerk judgments of the superiority of private markets. Traditional neo-classical economic analysis leads to the judgment that compensating wage differentials that arise from free and unfettered labor markets should be sufficient to optimize the social level of occupational injury and, perhaps, illness.⁴ However, we know of no example where the market has been left completely alone to solve this social problem. Societies have seen fit to interfere in the market solution in one way or another, to one degree or another, in pursuit of what becomes a political-social-economic solution. This is certainly true of the workers’ compensation systems we will examine here.

We believe that private market forces can be constrained to serve public goals in this case, without automatically leading to sub-optimal social outcomes. In one sense, the entire history of workers’ compensation programs reflects the political judgment that the unfettered market solution (compensating wage differentials combined with employer’s tort liability) was not an efficient or effective remedy to the problem of compensating injured workers for injuries sustained in the course of their employment. The political authority of the state found in the late 19th century that the tort solution to these increasingly frequent events was not sufficient. Thus, the very origin of workers’ compensation programs at the dawn of the 20th century can be said to reflect interference with market forces.

Some economists would have us seek a market solution to this social problem, but this volume maintains an agnostic view. We seek to describe the institutions and probe the system

⁴See Moore and Viscusi (1990).

performance for two exemplary workers' compensation systems in North America, one predominantly public, the other predominantly private. We attempt to distill from this examination some policy lessons that relate to the specific mix of public and private workers' compensation institutions that may prove relevant to other jurisdictions, including Victoria.

Obviously, the selection of a particular workers' compensation insurance mechanism has broad implications for the administration of the system. The difference between public and private workers' compensation systems in North America seems to constitute a choice between direct system administration by a public entity (as in Canada and those U.S. jurisdictions with "exclusive" state funds) or a market regulatory approach to system administration (as in Michigan and most other U.S. jurisdictions). For example, in British Columbia the public administrative agent (WCB) makes all benefit payments and is directly responsible for making them correctly and promptly. In Michigan, the public administrative agent Bureau of Workers' Disability Compensation (BWDC) is responsible for monitoring the performance of private insurance carriers and self-insured employers in making such payments correctly and promptly. These are two very different roles and have different staffing and performance monitoring requirements. This accounts for the emphasis on regulation in U.S. jurisdictions, which is almost unknown in Canada.

The adjudication, termination, and re-opening of claims provide additional examples. In British Columbia, all these are the responsibility of the WCB and the staff they employ for this purpose. Fundamentally the public entity is determining whether benefits are payable in a given instance, based on the statutory, policy, and legal interpretive superstructure. In Michigan, private decision makers are deciding these things, with recourse to the dispute resolution procedures provided by the public entity in the event of a difference of opinion. However, it is fundamentally different for employers to have the right to seize the initiative, subject to a subsequent legal challenge, as in Michigan from having to secure the basic decision from a public entity as in British Columbia. Again, these administrative arrangements have manifold implications for worker and employer client satisfaction with the system.

This also applies to the appellate dimension. In the British Columbia system, appeal procedures allow workers and employers to seek redress from alleged errors by the public

decision maker. Thus, the matter of the independence of appellate bodies has assumed great importance in Canada. In Michigan, by contrast, appeal procedures settle differences between private parties in interpretation of law or fact. Presumably, this is the reason for greater interest in, and utilization of, alternative dispute resolution procedures like mediation and arbitration in the Michigan system. Fundamentally, the interest of the public body is to secure an agreement between the private parties within the confines of the statutory and regulatory environment.

One area where we do not observe fundamental differences is in the approach to prevention of workplace injuries and illnesses. Both Michigan and British Columbia follow a 3-pronged approach of incentives, regulation, and education to promote occupational safety and health. Prevention incentives are embedded in the workers' compensation systems in the institution of experience rating for the premiums of individual employers, with their cost of insurance coverage varying with the number and cost of their claims. While there is greater scope for variation in premiums due to experience rating and other risk sensitive pricing adjustments in Michigan than in British Columbia, the institution is fundamentally the same.

In addition, both British Columbia and Michigan have aggressive regulatory approaches to occupational safety and health. Inspectors from the public sector visit and evaluate workplaces based on a set of standards, with punitive or remedial actions resulting. In addition, both programs utilize voluntary consulting and education programs to raise the awareness of prevention as a fundamental issue. The fact that the administrative agent for the workers' compensation system (WCB) in British Columbia also administers this program, while in Michigan it is a separate agency (Bureau of Safety and Regulation) does not appear to have significant programmatic implications, although in theory it could.

Finally, there is a significant difference in what might be called the collective "voice" of the workers' compensation system. In the most basic sense, including private insurers in the workers' compensation system means that there is another powerful set of stakeholders whose interests will be defended. In British Columbia, the administrative agent (WCB) speaks for the system as a whole in a way that would be completely unacceptable in Michigan. While statutory initiatives from stakeholder interest groups are not unknown, they have been

relatively rare in British Columbia, and are subject to examination and endorsement by the public body. In contrast, the multiplicity of stakeholders and their unique individual versions of “the truth” serve to fragment and confuse public opinion and statutory initiatives in Michigan and other U.S. jurisdictions. Frankly, it is difficult to determine what the public interest is under such a regime.

Only in the State of Wisconsin does this problem seem to have been permanently averted, by recourse to the institution of a *Workers’ Compensation Advisory Council*, which serves as a deliberative body to forge consensus recommendations from employer and worker stakeholder groups.⁵

The council meets as needed to study legislative proposals submitted by labor, management and the division (public administrative agent), and to hold public hearings.... Council members reach agreement on proposed legislation through a series of meetings, public hearings, and negotiations, culminating in the submission of a single bill to the assembly and senate labor committees of the state legislature. To date, bills submitted by the council have been passed virtually unchanged. (Ballantyne and Telles, 1992, pp. 10-11)

However, there is nothing magical about the institution of an advisory council itself, since it has been tried in other jurisdictions without achieving the same remarkable status of respect from legislators that seems to be enjoyed in Wisconsin. Further, the suspension of the Governing Board of the WCB in British Columbia in the summer of 1995 raises the issue of whether the political authority will continue to allow the WCB to “speak” for the workers’ compensation system. Certainly, it has become obvious that there has been a change in the degree to which all stakeholders in British Columbia share the same set of assumptions about system structure and performance.

⁵Although temporary consensus has been reached in a number of jurisdictions, most recently Oregon and Maine.

Core Workers' Compensation Insurance System Functions

Since a major focus of this report is the way that public and private workers' compensation insurance systems actually work, significant attention will be paid to the core functions of such an insurance system. Table 1.1 lays out the general principles of the public monopoly and private market models that will be treated here. While minimum workers' compensation benefit provisions are always specified by law, the exact insurance policy "design" features can vary substantially in the private market case. In all cases, statutes specify minimum benefits for injured workers and assign the financial responsibility for those benefits to the employer, individually or collectively. However, private insurers have proven to be more innovative in meeting the perceived needs of their customers.

This is vividly manifest in the rush to managed care in the U.S. workers' compensation market over the past five years. Each insurance company has developed its own version of managed care and touts it as superior to all others. British Columbia, on the other hand, has just begun to discuss the possibilities inherent in such systems.⁶ It seems clear that this is a difference deriving from the competitive versus monopoly character of the workers' compensation insurance market.

Marketing differs very significantly between public monopoly and private market systems. In British Columbia, virtually every employee must have workers' compensation coverage, and there is only one source. In Michigan, there are over 100 insurance groups aggressively competing for the employers' business. While this competitive process insures more choice for the employer-consumer, it does not necessarily assure that the right choice is made for the workers. Therefore, the insurance regulatory function seeks to guarantee "adequate" performance by the carriers, i.e., to prevent excessive downward pressure on benefit payments. In addition, the marketing function must be funded out of policy revenues, and this is not a trivial cost to be absorbed, as we will see later.

Under the subject of underwriting selection, the public monopoly model essentially offers no choice; all employers who require coverage are automatically part of the system.

⁶See Hunt, Barth, and Leahy (1996).

Under the private market model, insurers have a choice of who they want to insure. This is the obverse side of the marketing coin. Insurers want to insure “good risks,” and they seek to avoid “poor risks.” But there is also a more subtle selection process that insurers use to find risks that “fit” their prices. This means there is room for different underwriting strategies. In fact, some insurance carriers devote a great deal of time and effort to selecting the risks they want to insure, believing that this guarantees better results. So underwriting selection as it affects the availability of coverage is a major public policy concern in a private market system, because workers’ compensation coverage is guaranteed to all workers, regardless of their likelihood of being injured.

Pricing/premium verification refers to the dual functions of setting the price for insurance coverage and verifying that employers are being charged the appropriate price. Again, this is a universal concern and must be provided by either a public monopoly or private market system, but the range of pricing schemes available to an insurer may depend on its competition and the regulatory authority. The case is similar with loss prevention services. In most public monopoly systems, workers’ compensation or another agency provides loss prevention services to employer clients. However, the loss prevention incentives employed by private insurers are likely to produce greater effort, since a major avenue to increased profits in a competitive system is cost reduction. This is offset by concerns that private incentives also produce behaviors designed to fight claims, which is thought to be less typical of public systems.

Claims adjustment and case management services would show little difference between a public monopoly and private market system, except insofar as the potential for cost reduction in the private system seems again to focus the attention of the insurer on reducing expenditures as opposed to making sure the injured worker receives every benefit to which he/she is entitled.

There is no necessary difference in the statistical reporting function, although in practice some additional statistical reporting may be necessary in private, regulated systems to monitor insurer performance and compliance with statute. Public monopoly workers’ compensation systems generally perform their own data collection and analysis, whereas

private market systems generally use private statistical agents (who also must be regulated) to pool data across insurers, with the result that access to system data is usually restricted because of competitive concerns. Consequently, workers' compensation administrative agencies in private market systems tend to have their own statistical systems, although far less comprehensive than those in public systems.

The availability of insurance coverage is a major issue for private market systems. As indicated in the underwriting selection discussion, private insurers are generally not compelled to write policies for all comers. The result in private market systems is that some employers are left outside the voluntary market and must be provided coverage through some other system, generally a residual market or a state fund. This creates equity problems among employers, among insurance carriers, and potentially among injured workers. It can also impose additional administrative costs and other inefficiencies on the workers' compensation system. Severe residual market problems can even drive a workers' compensation system into crisis, as happened in Maine in the early 1990s.

Finally, the solvency of the system must be assured. Mechanisms must be provided to guarantee that the means to pay future benefits to injured workers will be safeguarded. In the event of an insurer, or self-insured employer, bankruptcy, the payment of future benefits to injured workers must be assured. There are similar issues for public systems, of course, particularly regarding the adequacy of reserves for future benefit commitments. Public insurers can be underfunded and accumulate huge deficits, which must eventually be resolved.⁷ While we are not aware of any public insurer that has ultimately failed to pay its claims obligations, the measures that may eventually be implemented to restore solvency could have significant equity effects on both employers and workers.

⁷The Ontario WCB accumulated a deficit of approximately \$12 billion (CD) during the decade of the 1980s.

Workers' Compensation Insurance Market Failures

In theory, regulation is designed to address market failures that would otherwise impair economic performance and reduce social welfare. The purpose of regulation is to correct market failures, or at least minimize their negative effects, and improve allocative efficiency. The principal market imperfections that regulation is intended to address are: barriers to entry and exit; externalities, where transactions create costs for third parties; and internalities, i.e., costs and benefits of transactions that are not reflected in the terms of exchange (Spulber, 1989). To correct or counteract these problems, regulators may impose controls on entry, exit, prices, product quality, inputs to production, refusal to serve, and other private activities.

Insurance markets, including workers' compensation, are subject to several types of market failures that insurance regulators seek to counteract. The principal market failure that led to insurance regulation in the U.S. is the problem of excessive risk of insurer insolvency that derives from inefficiencies created by costly information and agent-principal problems (Munch and Smallwood, 1981). Owners of insurance companies have diminished incentives to maintain a high level of safety to the extent that their personal assets are not at risk for unfunded obligations to policyholders caused by insolvency.

It is costly for consumers to properly assess an insurer's financial strength in relation to its prices and quality of service. Insurers also can increase their risk after policyholders have purchased a policy and paid premiums. Thus, in the absence of regulation, imperfect consumer information and agency problems would result in an excessive number of insolvencies. Solvency regulation is intended to limit the degree of insolvency risk in accordance with society's preference for safety. This regulatory function is considered to be particularly important for workers' compensation, to guarantee that injured workers will receive the benefits to which they are entitled.

One of regulators' concerns is that insurers' incentives to take on excessive financial risk and even engage in "go-for-broke" strategies may result in inadequate reserves and prices. Some consumers will buy insurance from low-price carriers without properly considering the greater financial risk involved. This potential is exacerbated for third-party liability lines such as workers' compensation where employers may seek to escape their obligations to workers by

declaring bankruptcy in the event of their insurer's insolvency. The regulatory concern is that poor incentives for safety could induce a wave of "destructive competition" in which all insurers are forced to cut their prices below costs to maintain their market position. Thus, it is argued that regulators must impose some degree of discipline by placing a floor under prices to prevent the market from imploding.

At the same time, circumstances may arise where consumer search costs can impede competition and lead to excessive prices and profits (Varian, 1992). Further, imperfect information and unequal bargaining power between insurers and consumers can make consumers vulnerable to misleading marketing and claims practices of insurers and agents. It also has been suggested that it is costly for insurers to ascertain consumers' risk characteristics accurately, giving an informational advantage to insurers already entrenched in a market and creating barriers to entry that diminish competition (Cummins and Danzon, 1991). Under these circumstances, regulators may seek to enforce a ceiling that will prevent prices from rising above a competitive level and to protect consumers against unfair market practices.

The tension between insurers' tendencies to either underprice or overprice insurance coverage may contribute to the cyclical pricing behavior that is observed in commercial property/casualty insurance lines, such as workers' compensation. This phenomenon is commonly termed the "property/casualty underwriting cycle." It is apparent that, over time, workers' compensation and other commercial insurance prices in the U.S. have moved up and down in relation to loss costs in alternating "hard" and "soft" markets.

The conventional wisdom is that this cyclical behavior is caused by "cash-flow underwriting," i.e., insurers cut prices below costs to increase their market share and rely on cash flows from premiums and investment income to sustain their operations, causing a "soft market." However, losses eventually mount as claims are paid, causing insurers to retrench, tighten their underwriting, and raise prices, which leads to a "hard market." The resulting improvement in profits establishes the conditions for another soft market, and the cycle is perpetuated.

Some analysts have challenged this explanation of the underwriting cycle and suggest other causal factors such as movements in interest rates and loss shocks (see Cummins,

Harrington, and Klein, 1991). While these alternative theories are supported by empirical evidence, there appears to be a residual “behavioral” component to cyclical patterns in commercial insurance pricing and underwriting that defies explanation simply by changes in external economic variables. This cyclical pattern can increase uncertainty and instability for employers in terms of the availability and cost of worker’ compensation coverage. Workers also may be adversely affected to the extent that market cycles influence insurers’ quality of service.

Potential agent-principal problems raise other issues with respect to reliance on private markets to finance and deliver workers’ compensation insurance. Private insurers, employers, and workers have different interests and incentives. Workers seek to maximize their wages and benefits, while employers and insurers seek to maximize their profits. Statutory provisions governing workers’ compensation benefits necessarily leave some room for interpretation and application by insurers to specific claims. Insurers can increase profits by minimizing workers’ compensation benefit payments within the parameters set by law. Employers may support insurers’ efforts to minimize benefit payments if it serves to lower their workers’ compensation premiums and total labor costs.

In theory, workers’ ability to bargain for wages and other benefits should impose some check on employers’ and insurers’ inclination to “low-ball” workers’ compensation benefit payments. However, in practice it is costly and difficult for workers and employers to monitor and control insurers’ claims adjustment practices. Workers are unlikely to choose to leave an employer on the basis of its workers’ compensation carrier, and an injured worker must engage in costly litigation if the worker cannot reach an agreement with the carrier on the payment of the claim. Consequently, under a system where workers’ compensation benefits are privately financed, workers’ interests may be compromised without regulatory protections.

The problems of adverse selection and moral hazard also plague insurance markets, including workers’ compensation, and induce insurers to reject some risks and limit the coverage provided to others (Borch, 1990). Adverse selection refers to the greater tendency of high-risk individuals to seek insurance, particularly if the premium they would pay is less than their expected loss. Workers’ compensation insurers are subject to adverse selection unless

they are able to reject high-risk employers or charge them a rate commensurate with their higher risk. Insurers subject to adverse selection are forced to increase their prices to cover higher loss costs, which, in turn, leads to further concentration of high-risk employers among these insurers. Low-risk employers will be discouraged from buying insurance from insurers charging premiums that exceed the employers' expected loss costs. Insurers attempt to avoid adverse selection by coordinating their selection of risks and pricing so that every risk they insure is charged an adequate rate. This is the reason for insurance groups, with different companies and different prices designed for different market segments. However, this can lead to situations where some employers are unable to obtain workers' compensation insurance through the voluntary market.

Moral hazard occurs when insurance diminishes an insured's incentive to prevent or contain losses. Insurers counteract moral hazard by offering less than full coverage and using an employer's previous loss experience as a rating factor. Partial coverage is an issue in workers' compensation because of the concern that injured workers may become a burden to society, particularly if they fail to receive the benefits due them from the employer/insurers. Consequently, in the U.S., workers' compensation policies are structured so that insurers pay full benefits to workers and seek reimbursement from employers for any residual portion of benefit costs for which the employers are responsible.

Plan of the Presentation

As we describe these two exemplary workers' compensation systems, we will utilize a common framework. This comes from the desire to provide consistent descriptions of the two systems in spite of the considerable differences in details between them. After giving a picture of the general administrative organization of the workers' compensation system, we will describe the claims administration process. This will be followed by a discussion of the benefits provided to injured workers. Then the dispute resolution mechanisms employed will be described, followed by a discussion of the incentives implicit in the systems. This thumbnail sketch should be sufficient to give a flavor of the day-to-day operation of the systems, as they are experienced by injured workers, employers, and providers.

Next, the insurance models will be examined in separate sections. There is less consistency in the treatment here, because there is not so much in common. The British Columbia section will describe the assessment structure and function at the WCB. Then some specific policy issues will be considered, including self-insurance, experience rating, and protection for extremely small risks. Last, the two basic performance issues of revenue sufficiency and cross-subsidization among classes of employers will be discussed.

The Michigan analysis is more formal and utilizes a structure-conduct-performance model to examine the Michigan insurance mechanism. This discussion should be particularly valuable in identifying the issues and possible outcomes from different approaches to privatizing various workers' compensation functions. While this discussion focuses primarily on Michigan, it draws on other jurisdictions where needed, and uses U.S. averages as bases of comparison.

The parallel analysis culminates with a side-by-side comparison of system performance in British Columbia and Michigan. The coverage of the workers' compensation statute, the incidence of injuries and illnesses, the number of workers' compensation claims, vocational rehabilitation benefits, promptness of payment, dispute resolution, employer costs of workers' compensation coverage, and administrative cost levels are all considered.

The final section of the report extends our analysis to consider some policy implications of alternative approaches to public and private provision of these core workers' compensation system functions. Based on the underlying framework of the report and prior analysis, we discuss the potential outcomes of the options available to policy makers in structuring the public and private sector roles in a workers' compensation system. This discussion also considers the interrelationship among the policy choices for administering the core system functions. While it is not possible to predict the effects of different measures in Victoria without a detailed study of its system features and environment, we do offer some observations on possible outcomes for policy makers in Victoria to assist in considering options for privatization.

Table 1.1 Core Workers' Compensation Insurance Functions

Core Functions	Public Monopoly Model	Private Market Model
Benefit provisions and policy design	Uniform benefits and coverages set by law	Law establishes uniform benefits and basic coverages but insurers may vary services and risk sharing with employer
Marketing/distribution	Limited policy issuance activities performed by agency	Competition among private insurers necessitates marketing and distribution efforts and commissions/salaries to agents
Underwriting selection	Employers are automatically part of system	Insurers evaluate and can refuse to accept certain risks
Pricing/premium verification	Agency administers uniform price or cost allocation	Insurers determine prices and audit premiums governed by competition with limited regulatory oversight
Loss prevention	Performed by agency	Service provided by insurers and other vendors
Claims adjustment/case management	Performed by agency	Performed by insurers and third party administrators
Statistical reporting	performed by agency	Function shared by agency and private statistical agents appointed by regulators
Availability guarantee	Not an issue in public system	Residual market mechanism administered by state or private entity under regulatory supervision
Solvency protection	Not needed in public system	Solvency regulated and claims obligation insured by private association of private insurers

II. OVERVIEW OF BRITISH COLUMBIA (PUBLIC) WORKERS' COMPENSATION SYSTEM

Introduction

In British Columbia, as in Canada generally, workers' compensation from the beginning was considered to be a public matter handled by a public body. The Workers' Compensation Board (WCB) of British Columbia has administered the Act continuously since 1917 as an independent provincial agency. The WCB is charged with the responsibility to pay the benefits specified by the Act to injured workers, their dependents and survivors.

It has the corresponding authority to assess employers subject to the Act for the monies necessary to "meet all amounts payable from the accident fund during the year" and to "provide in each year capitalized reserves sufficient to meet the periodical payments of compensation accruing in future years in respect of all injuries which occur during the year." (Workers' Compensation Act, Section 39) Thus, the WCB does not administer a "pay as you go" system, but one that is intended to be fully funded and actuarially sound.

Coverage is mandatory for industries enumerated in the Act, and since 1994 it is nearly universal. Certain occupations are excluded from the definitions of "worker" or "employer" by statute. These include casual workers (under eight hours per week), professional athletes, and members of the employer's immediate family. The Appeal Division of the WCB provides review of actions and policies taken to implement the Act, and its decisions are subject to judicial review only on the grounds of "denial of natural justice" or lack of WCB jurisdiction.

Organization of the Workers' Compensation System⁸

The WCB is an independent provincial agency whose Board of Governors is appointed by the Lieutenant Governor in Council. The Board is not dependent on the provincial government for any revenues, as these are raised by WCB assessment against employer

⁸See Hunt, Barth, and Leahy (1996) for a thorough discussion of the structure and performance of the WCB of British Columbia.

payrolls throughout British Columbia. The Ministry of Skills, Training and Labour exercises general oversight of the WCB and it is this Ministry which transmits the Annual Report of the WCB to the Lieutenant Governor. In actual fact, the WCB has operated with very considerable independence from the provincial government.⁹

There are 13 voting members on the Board of Governors of the WCB. It is presided over by a Chairperson, with five of the members designated as “representative of workers,” five designated as “representative of employers” and two additional voting governors who are “representative of the public interest.” In addition, the President of the WCB and the Chief Appeal Commissioner are non-voting members of the Board of Governors by virtue of their office.

The Board of Governors is the highest authority of the WCB, and Section 82 of the Act specifies they “shall approve and superintend the policies and direction of the board...” The voting members of the Board of Governors are part-time office holders. The Board issues its policy pronouncements in Decisions, which are published in the *Workers’ Compensation Reporter* as well as through amendment of the various internal manuals that have been adopted by the Governors as their stated policy.

The Appeal Division was established by Bill 27 of 1989 and came into existence on June 3, 1991. The Division consists of a Chief Appeal Commissioner appointed by the Board of Governors and a variable number of Appeal Commissioners appointed by the Chief Appeal Commissioner and selected in accordance with policies established by the Board of Governors. The Appeal Commissioners are appointed expressly as representative of workers, representative of employers, or nonrepresentational members. The WCB is the final arbiter on questions of both law and fact, notwithstanding the existence of an independent Workers’ Compensation Review Board.

⁹This may be changing. In the Summer of 1995, the Board of Governors of the WCB was replaced by the provincial government with a Panel of Administrators under emergency legislation. The justification for this action was the failure of the governors “... to put the interests of injured workers and their families before the interest of the individual governors and their sectors.” See Hunt, Barth, and Leahy (1996) for more details.

The Appeal Division has authority to hear appeals from Review Board findings by employers or workers (or their dependents), referrals of Review Board findings from the President of the WCB, reconsideration of previous Appeal Division or Commissioners' decisions, occupational safety and health penalty appeals, appeals of assessment matters, and appeals of decisions under the Criminal Injury Compensation Act (which is also administered by the WCB).

Other Organizations in the WC System

While the Workers' Compensation Board is the primary player in providing benefits to disabled workers in British Columbia, there are a number of other organizations that play important supplementary roles in the workers' compensation system.

The decisions of the WCB are subject to review by the Workers' Compensation Review Board (WCRB). The Review Board is appointed and supervised by provincial government. It has jurisdiction over matters "with respect to a worker." As such it is the first line of appeal for workers and employers who feel that an error has been made in adjudicating a claim for benefits under the Act.

There are also organizations created by the Act to facilitate access by workers and employers to its provisions. (See Figure 2.1) The Workers' Advisers Office (WAO) assists workers or their dependents in bringing claims, including actually representing them before the WCB or WCRB if necessary. Similarly, the Employers' Advisers Office (EAO) has a staff to perform advisory and representative services on behalf of employers subject to the Act.

All these organizations report administratively to the Ministry of Skills, Training and Labour and their budgets are approved by the Ministry before being invoiced to the WCB to be included in the WCB assessment rates. Thus, the employers of British Columbia bear the direct cost of the entire workers' compensation system and its administration.

In addition, the Ombudsman of British Columbia is involved in oversight of the workers' compensation system, primarily through the request of injured workers for assistance. The Ombudsman is not permitted to become involved in an issue that is, or could be, subject to an appeal, so its direct involvement with claimants is limited.

Other WCB Functions

The Board has responsibility for a number of other functions that are not typically a part of workers' compensation systems. First, the WCB also administers the occupational safety and health program in British Columbia.¹⁰ The Prevention Division of the WCB administers a program of standards setting and enforcement throughout the province. The Division also maintains an extensive worker and employer safety education program.

The WCB administers the Criminal Injury Compensation Act in British Columbia, as well. This Act provides compensation for personal injury or death to victims of crimes within the province. Victims of criminal acts, or their dependents, are eligible for medical, loss of earnings, pain and suffering, and rehabilitation benefits up to \$50,000. These claims are administered within the Legal Services Division of the WCB, and the claim costs are reimbursed by the provincial government.

Organizational Structure of the WCB

Figure 2.2 shows the overall organizational structure of the WCB. There are three main operational divisions, plus a number of special purpose divisions and departments, which report directly to the President/CEO. Each of the Divisions is headed by a Vice President. The next level is generally the department, headed by a Director. The Compensation Services Division is the largest division of the WCB. Compensation Services has responsibility for administering wage loss, pension, vocational rehabilitation, and health care benefits to injured and occupationally diseased workers. It is the benefit delivery agent for the WCB.

The Finance and Information Services Division is responsible for raising the funds for the WCB and allied organizations through its Assessments Department and for managing the Board's substantial investments by the Treasurer. Financial Services also includes the offices of the Controller, the Actuary, and the Statistical Services Department. Information Services is responsible for the information and data processing needs of the WCB; this includes supporting hardware, software, and database applications.

¹⁰Quebec, the Yukon, and New Brunswick also are organized in this way.

Claims Administration

Since the WCB operates an “inquiry” as opposed to an “adversary” system, WCB adjudicators are obligated to both investigate and adjudicate claims for compensation to the best of their ability. Further, the Board has exclusive jurisdiction to determine all questions of fact and law in claims for compensation, and the decision of the WCB is final and conclusive and is not open to review in any court. While representation by the parties is allowed in initial adjudication, it is very rare.

The WCB is not bound by legal precedent, but decides each claim according to the merits and natural justice of the case. Board personnel making decisions on claims are guided by WCB policies, as promulgated by the Board of Governors. The Claims Adjudicator is not to begin fact finding with any presumption against the worker, nor with any presumption in his/her favor. However, the Act does specify that “... when there is doubt on an issue and the disputed possibilities are evenly balanced..., the issue is to be resolved in favor of the worker.” (Section 99) The Claims Adjudicator is to examine the evidence to determine whether it is sufficiently complete and reliable to provide a conclusion with some confidence. This judgment, however, is up to the adjudicator operating within the law and WCB policy, subject to review by management or upon appeal.

In the majority of claims, the issues of compensation are determined with reference solely to the evidence submitted in the injured worker’s application, the employer’s report, and the attending physician’s report. However, where this is not sufficient in the judgment of the Claims Adjudicator, the Board has broad powers of investigation, including the power to compel the attendance of witnesses and the production of materials germane to the claim (by subpoena). Once the Claims Adjudicator certifies compensability, wage-loss benefits commence, generally in 15 to 25 days from disablement depending on complexity of claim.

Temporary wage-loss payments (whether total or partial) continue as long as the temporary disability lasts. When the physical impairment is no longer temporary, either because it has become permanent or because the worker has recovered, a new determination of eligibility must be made. When an injured worker returns to work, his/her employer files an “Employer’s Statement of Return to Work.” Absent contrary evidence, this will terminate

wage-loss payments, although medical benefits continue, if necessary, to effectuate as complete a recovery as possible. The entitlement to medical treatment and wage-loss benefits for the injury or illness never terminates, but is dependent on contemporary circumstances.

When a physician, or other qualified practitioner, determines that the worker has plateaued in his/her recovery, but some residual impairment remains, adjudication for a permanent pension must be conducted by the Disability Awards Department. Usually temporary total benefits are terminated before the Disability Awards Department can adjudicate the permanent pension entitlement. In this case, the Vocational Rehabilitation Consultant can authorize continued wage-loss payments in anticipation of permanent disability benefits.

Workers' Compensation Benefits

Injured workers in British Columbia are entitled to a wide variety of fairly generous benefits, depending on the nature and severity of their disability.

Health Care Benefits

Workers with compensable injuries or illnesses receive a very broad range of health care benefits. Under most circumstances the Board will pay all the costs of physician and hospital services, medications, diagnostic requirements and appliances. British Columbia allows the worker free choice of attending physician or other qualified practitioner. The latter include chiropractors, dentists, podiatrists and naturopaths. Health care services can also be provided by optometrists, dental mechanics, nurses, and physiotherapists.

Health care providers are paid according to a negotiated fee schedule. Presently, the WCB pays physicians at a rate of 104 percent of the rate agreed to between the government and the British Columbia Medical Association under the provincial health care system. The WCB also pays physicians to provide required medical reports to the WCB. Attending physicians are expected to provide such reports upon initial exam and at approximately two-week intervals during the course of the treatment.

It is included under its health care provisions, that the Board will pay for six types of allowances and services, over and above the benefits already noted. They include:

- clothing allowance
- homemaker services
- independence and home maintenance allowance
- personal care or nursing allowance
- subsistence allowance
- transportation allowance

It is up to the adjudicator to determine which of these benefits are payable in a particular case. In 1993, the WCB processed 56,186 health-care-only claims at a total cost of \$14.3 million (US), or \$254 (US) per claim.

Temporary Disability Benefits

Where a worker has incurred a compensable impairment, he/she is entitled to a wage-loss benefit, beginning the first working day after the day that the injury or illness occurred (i.e. no waiting period). Indemnity benefits for temporary total disability are set at 75 percent of the worker's average gross earnings, subject to the statutory maximum and minimum benefits. Benefits are paid for the duration of the disability and are tax-free.

Temporary total disability benefits are terminated when the worker is no longer temporarily and totally disabled. If the worker returns to employment, total disability no longer exists. Where the worker's condition is judged to have stabilized or "plateaued," it is no longer temporary. The decision rests with the Claims Adjudicator, based upon information received from the worker and/or employer and from the biweekly reports of the attending physician or other practitioner. When temporary total disability benefits are terminated, either indemnity benefits end, temporary partial benefits are paid, or the person is evaluated for a permanent pension.

Temporary partial benefits are paid where the worker has some actual or potential earnings, after sustaining a compensable injury or disease. The worker is entitled to an indemnity benefit of 75 percent of the difference between the average earnings before the injury and the average amount earned, or that could potentially be earned, after the injury.

This benefit is terminated when the worker no longer has any wage loss, or when the medical condition is judged to have stabilized. A decision to reduce or to terminate a wage-loss benefit may be appealed by the claimant. In 1993, the WCB paid \$273.9 million (US) in wage-loss and health care benefits to 75,601 temporary disability claims, an average of \$3,623 (US) per claim.

Permanent Disability Benefits

If a worker suffers a permanent residual impairment due to an occupational injury or disease, the worker may be entitled to a pension award for permanent disability. Depending upon the condition of the worker, the benefit can be either for permanent partial or permanent total disability. British Columbia employs a “dual” approach to benefits for permanent partial disability. A claimant receives benefits based on an assessment of either the degree of impairment, called a permanent functional impairment, or the loss of earnings capacity, whichever provides the larger award.

Permanent disability awards are the responsibility of the Disability Awards Department within the Compensation Services Division. As soon as it becomes evident that a permanent disability is likely to result from a claim, the worker’s file is forwarded to that unit for purposes of determining the average earnings level. When temporary benefits are terminated the worker is examined by a Disability Awards Medical Adviser (DAMA). This examination results in a recommended value of Permanent Functional Impairment. Most physical impairments are “scheduled” according to values spelled out in the *AMA Guides to the Evaluation of Permanent Impairment*, but other guidelines are also employed on occasion.

Benefits are based on the degree of impairment. If the worker is determined to have a permanent functional impairment of 20 percent, for example, the worker is entitled to a lifetime pension benefit of 20 percent of 75 percent of the worker’s average earnings as determined by the Disability Awards Department, subject to the maximum and minimum earnings levels. The award is modified based on age so that for each year that the worker’s age exceeds 45 at the date of the award, the percentage rate of compensation is increased by one percent up to a maximum of 20 percent (age 65) of the assessed impairment. This is to

compensate for the reduced pension entitlement consequent upon the disability. After one year, permanent pension benefits are subject to revision semiannually based on changes in the consumer price index. In the vast majority of claims, the impairment is scheduled.

It has been noted that the worker's benefit is based on either the degree of impairment or on the loss of earning capacity, whichever is higher. Initially, the procedure is the same, since an impairment rating must be made first. Then, a Vocational Rehabilitation Consultant (VRC) prepares an employability assessment. It will describe the person's work history, the training and education that the worker has received, and any work activity since the injury. It is also possible that the worker will be sent by the rehabilitation consultant to the Functional Evaluation Unit (FEU). There the worker is evaluated over a two week period and a technical report on the worker's capabilities is prepared by the FEU. The report covers the areas of occupational therapy, remedial therapy, and functional evaluation based on activity in an occupational setting. This report is used by the VRC to prepare the employability assessment. With this information, the consultant is expected to identify two or three jobs that the worker could perform, and that are potentially available in the relevant labor market. The pay rates for these jobs at the time of the injury are also identified.

A numerical example may help clarify how the projected loss of earnings capacity is calculated. Suppose a worker is injured in 1994, with average earnings of \$2,000 per month (below the earnings maximum at that time). He/she is assessed as having a 30 percent, scheduled, permanent functional incapacity. If the worker is below age 45 in 1994, there is an entitlement to a lifetime monthly pension of $.30 \times .75 \times \$2,000$ or \$450 per month. Alternatively, the Disability Awards Committee accepts the rehabilitation consultant's determination that the worker is capable of working no more than 60 hours per month at clerical work (that is available) and that paid \$10 per hour in 1994. Perhaps the worker is already employed at this job and working a 15 hour week. Or perhaps, the judgment is made that after a 3-month training course, the worker would be able to do that job, working up to 60 hours per month, and that the pay in that job in 1994 was \$10 per hour. Hence, the worker's monthly earnings loss due to the injury or disease is \$2,000 minus \$600 (60 hours @ \$10 per hour) or \$1,400 per month and there is an earnings loss entitlement of $.75 \times \$1,400$ or \$1,050

per month, clearly exceeding the benefit based solely on the assessment of permanent functional impairment. In this instance, the worker would receive a loss of earnings pension of \$1,050 per month.

Benefits based on impairment assessment alone are payable for life, though they will be adjusted if the impairment assessment changes. Benefits paid for projected loss of earnings are not lifetime benefits for two reasons. First, the WCB will reassess the worker's income status two years after setting the pension. Thereafter, the WCB has discretion over whether or not to reassess the worker. In some cases, a physician's report or hospital charge will indicate that the worker's physical condition may have changed, in turn requiring that a new assessment be made of the permanent functional impairment and of the worker's projected earnings level. A second reason that the earnings loss is not a lifetime benefit is that workers are not projected to work and earn for a lifetime, but instead, to retire in their later years. However, the WCB is mindful that a worker's retirement benefits are likely to be reduced due to earnings losses as a consequence of a compensable injury or disease.

An injured worker may also be entitled to a lump-sum benefit where the injury or industrial disease results in a permanent disfigurement. This award will be paid only if the disfigurement is judged to be serious and potentially harmful to the worker's projected earning capacity. Thus, the WCB will take into account the worker's occupation and the visibility of any disfigurement. In practice such payments are rare.

The process of setting the permanent disability award is one of the most difficult, and potentially contentious, aspects of the benefits scheme. The use of schedules allows for some degree of consistency in the rating of permanent functional impairment. The core issue, however, is the extraordinary difficulty in identifying the worker's projected earnings capacity. Where the worker has suffered some earnings loss, the Board is asked to decide what type and quantity of work the person can be expected to achieve, that could reasonably be available, perhaps with the assistance of a retraining program and perhaps after geographic relocation. Of course, the worker always has a right to appeal the Board's decision. In 1993, the WCB accepted 3,778 permanent disability claims valued at \$250.7 million (US), or \$66,357 (US) per claim.

Vocational Rehabilitation Benefits

Vocational rehabilitation services are provided to injured workers, and in some cases to the workers' dependents, in order to offset the effects of compensable injuries, industrial diseases and fatalities in accordance with Section 16 of the Workers' Compensation Act. Services provided include vocational assessment and planning, counseling, skill development, job readiness and placement assistance, and employability assessments.

The Vocational Rehabilitation Consultants also provide certain benefits to the injured worker to sustain rehabilitation efforts. Wage-loss equivalency benefits are payable when temporary wage-loss benefits have concluded. These benefits may be awarded when workers are awaiting or undertaking specific vocational programs. In addition, transportation and subsistence allowances, as well as accommodation at the WCB's Rehabilitation Residence are available in support of the vocational rehabilitation programs.

If work site or job modifications are required to facilitate reemployment, the WCB may provide the required financial assistance to accommodate the work site or job in relation to the worker's functional needs, including expenditures for special equipment and tools. When training on the job is utilized as a training and placement strategy, the WCB will develop shared cost arrangements with the employer. When the WCB is supporting a formal training program for an injured worker, the benefits provided would normally include: a training allowance at wage-loss equivalency when enrolled in a full-time program, tuition, fees and any required books, materials and equipment; and travel and subsistence allowance where appropriate. In certain cases, the WCB may contribute to the cost of starting a business in lieu of providing training.

In 1993, there were about 9,000 referrals for Vocational Rehabilitation Services. Approximately 60 percent of these received significant services with a return to work rate of about 50 percent. Total expenditures for vocational rehabilitation in 1993 were \$37.6 million (US).

Death Benefits

In compensable death claims, funeral and accidental death expenses are paid by the WCB, subject to a maximum that is adjusted semiannually. Death benefits are paid to dependents of the worker, that is, family members who were wholly or partly dependent upon the worker's earnings. The benefit is determined by the family status and earnings level of the decedent. Children cease to be dependents when they become 18, or at age 21 if they are regularly attending school. Children who are handicapped dependents continue to receive benefits beyond age 21.

Where the surviving spouse has two or more children, the monthly compensation benefit, when combined with any federal benefits to or for those dependents, is the compensation rate that would have been paid had the worker been permanently and totally disabled at the date of death, plus a monthly stipend for every child beyond two in number. Where the surviving spouse with two or more children may receive a benefit under the Canada Pension Plan, the Board offsets the workers' compensation benefit so that together, benefits do not exceed 75 percent of the worker's average earnings, plus the stipend for any children beyond two. The worker's average earnings are subject to the permanent total disability maximum and to a minimum average earnings level that differs from the one utilized in cases of permanent total disability.

Where there is a surviving spouse and one child, the benefit is 85 percent of what would have been paid had the worker sustained a permanent and total disability at the date of death. As above, this benefit is subject to an earnings maximum and minimum, and an offset for any federal benefits. Benefits are subject to recalculation when children cease to be considered children, or where a dependent survivor is no longer an invalid.

If the dependent spouse has no children, the death benefit then depends upon the age of the person. Subject to the earnings maximum, if the survivor is 50 years of age or older, or an invalid, the survivor's benefit is 60 percent of the monthly compensation that would have been paid had the worker been permanently and totally disabled at the date of death, subject to the offset for any Canada Pension Plan benefits. There is a minimum benefit level set by the WCB, and in such cases there is no offset for federal benefits. If the surviving spouse is

without a child, not an invalid, and below the age of 40, the benefit paid is a capital sum, with an instalment paid immediately and the entire balance paid within six months. It is noteworthy that the size of this benefit (about \$27,400 (US)) is invariant with respect to the worker's average earning level. In 1993, the WCB initiated payments to 124 fatal claims for a total incurred expenditure of about \$24 million (US), or \$188,000 (US) per claim.

Dispute Resolution

There are three bodies, excluding the court system, that constitute appellate bodies of the workers' compensation system in British Columbia. These are the Workers' Compensation Review Board, Medical Review Panels, and the Appeal Division of the WCB. The source of disputes is mostly decisions made by Board officers, that is, Claims Adjudicators, Claims Officers, or Vocational Rehabilitation Consultants in the Compensation Services Division of the WCB. If either a claimant or employer is dissatisfied, they may ask the officer to reconsider the decision, usually in the light of additional information that the complainant will provide. Where the matter is not reconsidered, or where it has been reconsidered but the party remains dissatisfied, a manager's review can be requested. The manager is able either to accept (including modify) or reject the appellant's view or return the file to the originating unit for further investigation. The manager's review was developed to allow aggrieved parties to have a rapid decision on an officer's decision without involving one of the three appellate bodies.

A party that wishes to formally appeal a decision at this point may have a choice. If the issue in dispute is a medical one, the appeal can be to a Medical Review Panel (MRP), otherwise to the Workers' Compensation Review Board (WCRB). The decision of the MRP is final on medical issues and cannot be appealed. Findings of the Review Board can be appealed to the Appeal Division of the WCB.

Workers' Compensation Review Board

The WCRB has jurisdiction over appeals of decisions by any officer of the WCB with respect to a worker. It is required that the decision must affect a worker, hence there is no

right of appeal to the WCRB by an employer on a decision regarding an assessment, for example. Employer appeals to the WCRB occur where the employer is dissatisfied with a WCB decision regarding a worker's claim. Virtually all appeals to the WCRB come from workers or their dependents.

The WCRB consists of 15 three-person panels, plus some single-person panels. A 3-member panel consists of one person drawn from the ranks of labor, another person with a background on the management side, and a third person, often a lawyer, who is a neutral. A one-person panel, always employing a person of a neutral background, is most frequently used in those cases that consist only of a "read and review" of the record. Usually, the choice of the one- or 3-person panel is left to the appellant. The chair of each panel, the nonrepresentational member, is called a Vice Chairman of the WCRB.

Appellants are frequently represented by union representatives, private lawyers or the Workers' Advisers Office. Employers may be similarly represented by private lawyers, the Employers' Advisers Office, or some other consultant. Witnesses are not normally sworn, oral hearings are taped but transcribed only if there is a subsequent appeal. When the panel completes its deliberations, it issues its findings, with reasons, in writing. The panel decision need not be unanimous, but a dissenting panel member must also explain in writing his/her decision.

The data in Table 2.1 highlight the types of issues appealed to the WCRB. The most frequent issue decided is the one of compensability; that is, one-fourth of Review Board decisions were in cases where the WCB had disallowed the claim. In 45 percent of these, the WCRB decided either to allow benefits or to send the matter back to the WCB claims unit for further work. The next most frequently appealed issues were refusals by the WCB to reopen cases, WCB decisions to terminate wage-loss payments, and disputes over the size of a permanent partial disability pension awarded. The allowance rate for these appeals varies from 40 percent to 50 percent. Decisions of the WCRB can be appealed to the Appeal Division of the WCB.

Medical Review Panels

The Lieutenant Governor in Council appoints physicians to serve as Chairs of Medical Review Panels. Currently, 16 persons serve in this capacity. When the Board accepts an appeal for an MRP, it sends a list of specialists practicing in the field in which the medical dispute occurs to the worker and to the employer, asking them to choose a specialist. The party requesting the panel must exercise that choice within eight days, or no further action is taken on the matter. If the party that did not request the panel, usually it is the employer, does not choose a specialist from the list within eight days, a selection is made by the Ministry of Skills, Training and Labor.

In order to be allowed to appeal a decision to an MRP, there must be a *bona fide* medical dispute. That determination is usually left to the worker's attending physician who submits a letter (certificate) attesting to the presence of such a dispute. The certificate is evaluated by a medical appeals officer of the WCB. It is either accepted or the worker is given further opportunity to procure a certificate indicating that there is a good faith medical dispute. If the WCB finds that there is no *bona fide* medical dispute, that determination may be appealed to the Workers' Compensation Review Board. A set of 10 questions is given to the MRP with instructions that the panel limit its response to those issues only. The panel is absolutely bound by the WCB's nonmedical findings in the case.

The panel chairman and the two specialists meet the worker, customarily at the chairman's office. The panel has access to any reports contained in the WCB claim file. They each physically examine the worker; a medical history is usually taken as well. The panel is able to request that other tests be conducted if they believe it to be necessary. The three physicians then discuss their findings, and a report is prepared for the file by the chairman. The chairman also drafts the certificate and distributes it to the specialists for their approval. Only two of the three panel members need agree. This certificate contains the answers to the questions the panel was charged with.

Almost all MRP cases involve appeals by workers. A few issues seem to predominate. The most common issue that goes to an MRP is the question of causality, or work-relatedness of the condition. A second very common medical issue is the evaluation of the worker's

condition. Though many types of conditions are assessed by MRPs, back conditions are the ones most commonly involved.

The WCB receives about 400 requests for Medical Review Panels per year. Of approximately 300 MRP decisions per year, about 50 percent uphold or partially uphold the WCB's previous decision.

Appeals Beyond the Board

Applications for judicial review can be made to the court system on the grounds that WCB decisions have deprived the litigant of his/her right to "natural justice" in the WCB administrative process. These applications would be to the British Columbia Supreme Court and the British Columbia Court of Appeals. In practice these appeals are not common, with only 2-3 cases annually. The Act contains a very strong privative clause prohibiting court review of the WCB decisions. WCB decisions are overturned where the court finds that the WCB has failed to comply with principles of natural justice or if it has rendered a patently unreasonable judgment.

Role of Lawyers

Aside from the three offices created by law to assist workers and employers in coping with the workers' compensation system (Workers' Advisers, Employers' Advisers, Ombudsman), persons also have access to private lawyers. However, WCB policy prohibits paying legal fees in workers' compensation cases. Nevertheless, lawyers represent the clients in about 15 percent of the appeals to the WCRB. Unlike most jurisdictions in the United States, there is no trial bar domination of workers' compensation adjudication or appeals systems. Part of the reason for this may be historical, but much of it is likely due to the strong posture in the Act and by the WCB that it should administer the law in an inquiry, rather than an adversarial, manner. The prohibition of legal fees and the virtual absence of lump-sum awards also surely play some role. It is apparent that the provision of public Workers' Advisers, and a tradition of representation by union representatives, along with an active office of the Ombudsman limit the perceived need to retain private lawyers to redress the inevitable

errors of a system as large and complex as the workers' compensation system of British Columbia.

Incentives

In this section, we will reconsider the British Columbia workers' compensation system with a focus on the incentives present in the system. Incentives for employers to prevent accidents, for employees to return to work, provider incentives, and litigation incentives will each be considered. This discussion will help to frame the comparative analysis to be presented later.

Safety and Prevention Incentives -- Mainly Employer

The WCB relies more on direct standards setting and enforcement mechanisms to promote safety and prevention activities than on indirect financial incentives. The "collective liability" principle and labor's strong philosophical opposition to experience rating dictate this result. Employers have some financial incentive to improve their safety and health performance, but the most they could achieve (assuming they start at maximum demerit) would be a 50 percent reduction in their workers' compensation assessment bill.

The WCB Prevention Division conducted nearly 55,000 work site visits during 1993, resulting in over 60,000 orders written. Penalties and fines levied for violation of occupational health and safety standards in British Columbia in 1993 totaled \$1.5 million. A field services staff of nearly 200 persons provides sufficient coverage to insure that every business in the province could be inspected about once in every three years. This is a much higher level of enforcement effort than exists in any jurisdiction in the United States.

Return-to-Work Incentives -- Mainly Employee

There are reduced incentives for injured workers to return to work in British Columbia. Wage replacement is quite generous at 75 percent of gross, and some workers actually realize more in spending power when disabled than when working, due to the high marginal tax rates in Canada. This is not meant to imply that injured workers do not have

other incentives to return to work. In the first instance, the treating physician makes a medical determination whether an injured worker is ready to return to work at least every two weeks. Then the WCB claims Adjudicator makes a judgment as to whether a return to work is indicated by the whole record. There are also social and personal incentives that motivate individuals to seek an early return to work. However, repeated empirical studies in the U.S. environment have indicated that duration of disability is sensitive to income replacement rates. Both over time and across jurisdictions, the higher the average replacement rate, the higher the duration of disability, other things equal.¹¹

Also, since the WCB adjudicates the injured worker's claim, there is less pressure than in the U.S. from the employer to foster return-to-work. Unlike U.S. jurisdictions, the employer in British Columbia does not have the opportunity to influence the first determination of compensability. This is thought to provide a "softer" test of disability than in U.S. jurisdictions. While this initial employer/insurer decision is subject to public agency scrutiny or review, it is still very different from the decision a public agency might make. In addition, there is the specific provision in the Act, that the benefit of the doubt is to be resolved in the worker's favor when adjudicating workers' compensation claims.

Provider Incentives

Providers in British Columbia are essentially on a negotiated fee contract basis. They will be compensated for any procedure they perform on an injured worker, the only question is whether it will ultimately be paid by the provincial health plan or the WCB. If it is the latter, they will receive an additional 4 percent reimbursement, plus direct payment for the required medical reports. Since the "form fees" are quite large, it seems there are incentives to continue treatment until the patient cannot benefit from treatment any longer.¹² Given this possibility of

¹¹See Worrall and Butler (1985), Butler and Appel (1990), Johnson and Ondrich (1990), Curington (1994).

¹²See Hunt, Barth, and Leahy (1996), Chapter 5.

perverse incentives, it is unlikely that much pressure is generated to encourage providers to urge workers to return to work.

Litigation Incentives

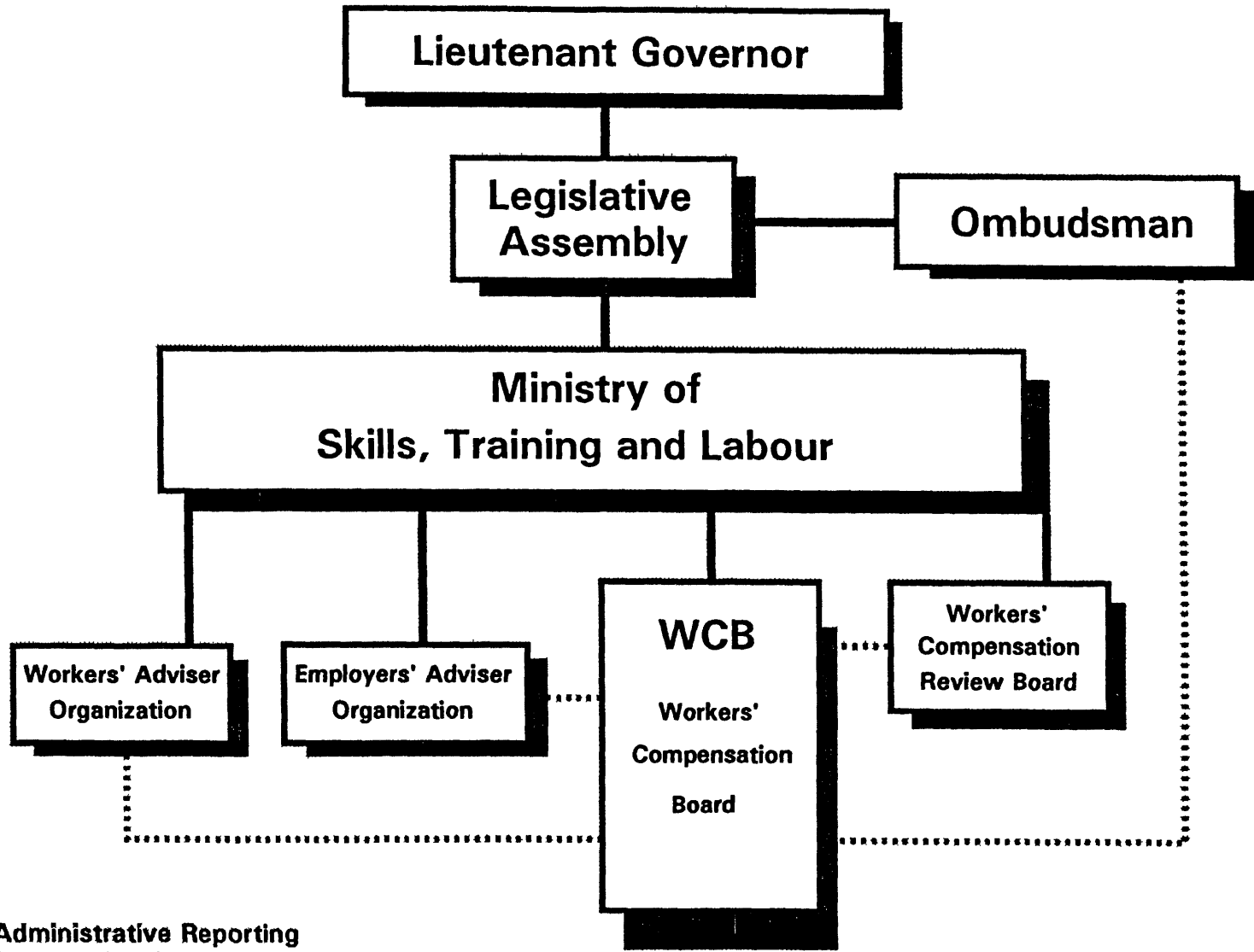
There are some incentives for litigation in the British Columbia system. Relatively few claims are denied, but for those that are, the cost of appeal is low. The Workers' Compensation Review Board will most likely reconsider the case, and 50 percent of the original WCB decisions are overturned. So there is a very good chance for a "second bite at the apple." In addition, the British Columbia provincial legislature has seen fit to provide public alternatives to private lawyer representation in workers' compensation matters. Because of the Workers' Advisers Organization, and the active representation of injured workers by their unions, injured workers should not experience difficulty in pursuing their appeal rights. On the other hand, the WCB has been granted a strong role in the system that is not easily overturned, particularly not based on the facts. So, on balance, one would have to say that incentives for litigation in the British Columbia system are also low.

Table 2.1 Reason for Appeal and Allow Rate at WCRB, 1990

Reason for Appeal	Percent of Sample	Allow Rate
Claim Disallowed - No compensable injury	25%	45%
Reopening Denied	19%	39%
Wage-Loss Benefits Terminated	13%	41%
PPD Award Insufficient	12%	52%
Other	30%	47%
Total Sample Size = 2,322		
Source: Workers' Compensation Review Board		

Figure 2.1

Organization of Workers' Compensation System in British Columbia, Canada

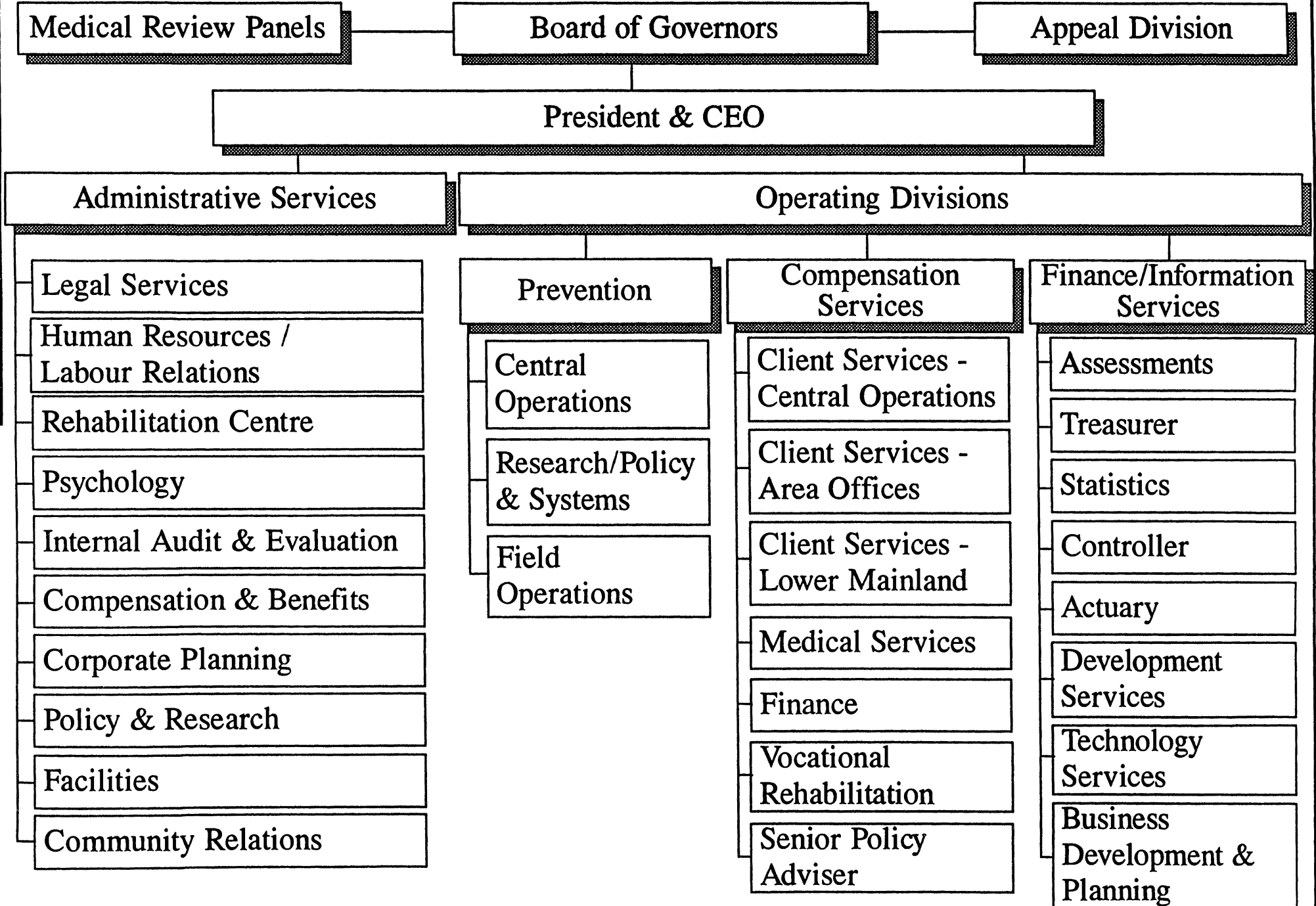


14-11

— Administrative Reporting
..... Cooperation / Interface

Figure 2.2

Organizational Structure of the Workers' Compensation Board



III. BRITISH COLUMBIA (PUBLIC) INSURANCE MODEL

Introduction

The sophisticated economic analysis of market structure, conduct, and performance that will be presented in Section V below for the private market-oriented workers' compensation system in Michigan is simply not appropriate for the British Columbia environment. There is only one insurance carrier, so the market structure is that of a monopoly. Further, this insurance carrier is also the workers' compensation administrative agent, so there are few issues of market conduct, and they tend to arise in different ways than in a private market system. Since the state controls the market, there is little or no need for regulation, particularly regulation that is designed to ensure that the private market provides a socially desirable outcome. Thus, the discussion of the public monopoly insurance model of workers' compensation in this section (British Columbia) is much briefer than that of the private market insurance model in Section V (Michigan). These very different workers' compensation systems need to answer the same fundamental questions, but they go about it in very different ways.

The WCB of British Columbia operates a workers' compensation system under the principle of "collective liability." This means that all employers share the responsibility for paying compensation benefits to injured workers. In historical terms, this is referred to as the German, or Bismarck, system as opposed to the English "individual responsibility" system that is more dominant in the United States. In practice, this has meant the development of an elaborate assessment system to determine each employer's financial contribution to the collective liability.

However, there were major exceptions to this principle of collective liability, right from the beginning. The Workmen's Compensation Act of 1917 in British Columbia provided for 12 separate classes of employers for the assessment of revenues sufficient for the payment of workers' benefits, not one rate for all employers as the pure collective liability principle would suggest. Thus, back in 1917, there was a basic policy choice made that the collective liability principle was not absolute. In particular, it should allow room for another fundamental

principle, that the cost of workers' compensation should be somehow proportional to the hazard rate. This provides, at least theoretically, that the price of the goods and services produced should include the cost of compensating and rehabilitating workers injured in producing those goods and services.

The objective of the WCB Assessment Department is stated in the *Assessment Policy Manual* as follows:

The primary objective of the Assessment Department is to maintain the Accident Fund at a sufficient level required to administer the provisions of the Workers' Compensation Act. This objective must be met through the orderly and equitable collection of assessments from the employers under the Act, since the underlying economic theory of workers' compensation is that the economic loss through personal injury or industrial disease resulting from employment should be borne by industry, and considered a component of production costs. (Section 10:20:00)

This section of the report will describe the WCB assessment procedure and consider its performance. The overall adequacy of funding (macro) will be considered, as will the question of equity among and between classes of employers within British Columbia.

WCB Assessment Structure and Function

As shown earlier (Figure 2.2), the Assessment Department of the WCB reports to the Vice President, Finance and Information Systems. It is responsible for registering and canceling employer accounts, administering the classification system, establishing the assessment base, collecting assessment receivables, maintaining data on employers, and ensuring employer compliance. In short, it is the job of the Assessment Department to determine who is an employer, their assessable payroll, the assessment rate to be applied to that payroll, and the collection of assessments due.

Registration and Classification

The Registration Section is really the front line of the WCB in terms of its relationship with employers. It is the Registration Section that new employers first encounter when they seek information about their obligations under the Workers' Compensation Act. It is up to the Registration Section to determine: (a) whether they are mandatory for coverage, (b) whether they might be eligible for Personal Optional Protection, or (c) whether they are not allowed to be covered under any circumstances because they are in an excluded category, such as casual workers (less than 8 hours per work) or professional athletes.

Once employers are determined to be subject to the Act, then it is up to the Assessment Department to assign them to one of 71 particular sub-classifications for purpose of determining their basic assessment rate. Under the collective liability system, members of a given sub-class bear all the claim costs, and appropriate *pro rata* share of administrative and other costs, for the workers of all employers in the sub-class. The WCB of British Columbia maintains a classification system with 71 sub-classes for which separate assessment rates are determined.

As shown in Table 3.1, other Canadian provinces range from a minimum of 6 rate classes (Yukon) to 321 classes (Quebec), with most jurisdictions providing more rating classes than British Columbia.¹³ In a rough sense, the number of classifications can be taken as an expression of the degree to which the individual versus collective liability principle is maintained. The fewer the number of classifications, *ceteris paribus*, the more likely there will be significant cross-subsidization effects between employers because they will be grouped into a smaller number of classification units with more diversity.

The *Assessment Policy Manual* offers the following general guidelines for assigning classifications.

Classifications are assigned to accounts on the basis of the industry in which the employer is operating. In assigning the classification, some of the factors considered are the type of product or

¹³U.S. jurisdictions would generally maintain 300 to 350 active classifications.

service that is being provided and the type of industry with which the employer is in competition. It is desirable that the assessment classification system not be an economic factor in the way business is conducted in the province. (Section 30:20:10)

However, the Manual also contains the following; “This manual does not contain the specific criteria for putting a firm in a particular classification, because of the immense number and detailed nature of these rules.” (Section 30:20:10) This is an explicit recognition of the complexity of the classification decisions, and of its significance for the employers involved. Once the Assessment Department has determined the sub-class (or classes) to which an employer will be assigned, the base assessment rate is set. These rates are changed each year according to the collective experience of each sub-class and the system as a whole.

Audits and Collections

Employers in British Columbia report their payrolls, and calculate and send in their WCB assessments on either a quarterly or annual basis. These payments are on a retrospective basis, they are for past insurance coverage. Those firms whose total assessment is expected to be under \$500 file annually; those with larger assessments file quarterly.¹⁴ Since the WCB Assessment system is a self-reporting system, there is a need for an audit function to ensure that all employers are meeting their reporting requirements and payment obligations in an accurate and timely manner. The audits are the “enforcement” side of the Assessment Department, but they also serve a vitally important equity function by assuring employers that everyone is carrying their fair share of the load.

The audits are performed by Assessment Officers, who are the WCB field representatives for assessment matters. They audit a variety of financial, payroll, and other records of registered firms to determine the accuracy of the reported assessable earnings.

¹⁴Some smaller firms also file quarterly. These are in industries characterized by wide swings in assessments, such as logging, construction, etc.

Depending on the outcome of the audit, they adjust assessments as necessary and communicate this information to the employer involved. They also review the industry classification of the audit target firm, and perform other related assessment functions, as needed. About 10 percent of registered firms are audited annually.

The Collections Section is responsible for collecting delinquent employer accounts, i.e. those who have failed to send in their WCB assessment payments on time. About 10 percent of employer accounts involving 4 percent of WCB assessments are delinquent at the end of each year. About 60 percent of this money will be recovered and 25 to 30 percent written off during the following 12 months. In addition, this Section performs the “clearance” function where employers, for purposes of contract or sub-contract, need to certify that they have current WCB coverage. The WCB processes approximately 100,000 clearance requests annually from registered employers to prove that they are registered and current in their WCB obligations, mostly for sub-contract purposes.

Self-Insurance at the WCB

As discussed above, British Columbia and other Canadian jurisdictions, have adopted the principle of collective liability among employers for workers’ compensation benefits. This means that British Columbia employers as a whole have the responsibility of paying for workers’ compensation benefits to injured workers, rather than the individual employer holding this responsibility.

Section 42 of the Workers’ Compensation Act provides that:

The board shall establish subclassifications, differentials and proportions in the rates as between the different kinds of employment in the same class as may be considered just; and where the board thinks a particular industry or plant is shown to be so circumstanced or conducted that the hazard or cost of compensation differs from the average of the class or subclass to which the industry or plant is assigned, the board shall confer or impose on that industry or plant a special rate, differential or assessment to correspond with

the relative hazard or cost of compensation of that industry or plant, and for that purpose *may also adopt a system of experience rating*. (emphasis added)

From the beginning of workers' compensation in British Columbia, separate classifications were maintained for the railroad operating companies. These classes are the progenitors of today's Deposit Accounts, which include the provincial government, Canadian Pacific Limited, Air Canada, and the railroads.

These accounts involve a "deposit" of approximately two month's benefit costs, and then monthly billing by the WCB for benefit payments on behalf of the firm involved, plus a *pro rata* share of administrative costs.¹⁵ In effect, these firms are self-insured for workers' compensation benefits, with the WCB acting as the claims administrator and guarantor of benefits. Self-insurance is not available to any other firms in British Columbia. Deposit Accounts have generated 5 to 7 percent of assessment revenues in recent years.

Experience Rating (ERA)

The first experience rating plan for employers subject to the collective liability principle was adopted for the forest industry in 1932. In 1941, this plan was extended to include metal mining. By 1957, the logging portion of the forest industry was able to secure its own experience rating plan, i.e. separate from the general forest industry plan, and in 1960 yet another plan was extended to the construction industry.

In 1986, this piecemeal approach was swept away by the introduction of the new simplified ERA (Experience Rated Assessment) experience rating program. Employer interests had long favored such a move on the basis of equity among employers with different accident and claims experience. They argued that it was counter-productive to force an employer with a good safety and claims record to pay the same WCB assessment rate as an employer with a bad record.

¹⁵Pension awards, however, are capitalized and billed immediately.

During 1986-88 the WCB gradually phased in a universal experience rating plan after extensive public consultation. The ERA plan was moderate in its provisions; it sought to encourage individual employers to create safer workplaces, but without unduly compromising the fundamental principle of collective liability. The maximum merit and demerit was set at 33 percent; that is, the best (worst) employers would receive merits (demerits) of 33 percent, and hence would be assessed up to one-third less (more) than the average for their sub-class. This means that the worst employers in a sub-class pay exactly twice the assessment rate paid by the best employers in that sub-class. It should be noted that this is far less than the variance within classifications in the U.S.¹⁶

The WCB applies ERA prospectively, as a reward for good performance in the past, rather than retrospectively, to try to balance the individual employer's claims cost with his/her assessments after the fact. The WCB also uses two years of claims data to determine the ERA merit/demerit as a compromise between the two opposing goals of quick feedback (suggesting a short term) and actuarial credibility (suggesting a longer term). Further, the ERA plan is designed to be balanced, that is, each sub-class is supposed to show a balance between costs and revenues on an annual basis, after all positive and negative deviations are summed. However, this goal has not been achieved with 10 of 63 sub-classes showing at least \$10 million unfunded liabilities as of the end of 1993. Three sub-classes had surpluses of \$10 million or more on the same date.¹⁷

An additional compromise was made on the participation of smaller firms in the ERA program. Actuarial credibility argues against the participation of small firms, since their short-term accident and claims record reflects a much greater influence of chance than is true for larger firms. But equity and policy objectives argue that they should also have the opportunity to reduce their workers' compensation costs through effective injury prevention programs, or pay more if their performance is inadequate. The WCB allows smaller employers a reduced degree of participation in ERA. Those employers with aggregate assessable payrolls of less

¹⁶There is perhaps a tenfold to twentyfold variation within most classifications in Michigan.

¹⁷The cross-subsidization issue at the WCB will be examined in more detail below.

than twice the maximum assessable wage base for each of the past two years (\$98,600 CD in 1993) participate in ERA, but only at the 50 percent level. This means that their maximum merit/demerit is only one-sixth of the average assessment rate.¹⁸

To keep the claims experience upon which the merit/demerit is based as recent as possible, two years of actual incurred claims costs are the basic determinant of experience rating.¹⁹ Further, since there must be some specific point in time at which the ERA merit/demerit factor is calculated, the WCB adopted June 30 as the cutoff point for claims cost accumulation when calculating the relative claims costs for ERA purposes. This means that long duration claims will not count against an employer's ERA merit/demerit beyond the two and one-half year maximum period. It also means that if inefficient claims adjudication, retarded medical recovery, or slow appeal procedures delay the award of a permanent disability pension beyond two and one-half years from date of injury, this amount will not count against the employer's experience rating evaluation.

In addition, industrial diseases with average latencies of two years or more are excluded from the calculations on the theory that it is inappropriate to punish employers for the mistakes of the distant past, since there is nothing they can do now to correct these mistakes. Therefore, the feeling is that this does not encourage safer workplaces, but merely operates as a punitive measure. However, the aggregate impact of these various exclusions is estimated by the Assessment Department to result in only about one-third of all claim costs figuring in the ERA determination. Another way of interpreting this is that British Columbia employers' experience rated workers' compensation assessments are determined more by the frequency of injuries than by their severity.

¹⁸Farm industry classifications have an additional step. The smallest firms only participate in ERA at the 25 percent level.

¹⁹Versus three to five years in U.S. jurisdictions.

Personal Optional Protection Program

Personal Optional Protection (POP) is available to individuals who do not require mandatory coverage, and who are not prohibited from coverage. Generally speaking, these are individual owner/operators engaging in contract work, or proprietors or partners involved in small businesses. Because of the need by contractors to require proof of WCB coverage from all sub-contractors, so as to insure they do not inadvertently acquire WCB liability for such individuals, there is a large demand for POP accounts from individuals who are entering sub-contractor status. This means that they need to be registered, classified, and absorb all the administrative effort that goes into setting up a new employer account.

Relief of Cost Applications

Under Section 39(1)(d) and (e) of the Act, employers are entitled to “relief of cost” for assessment purposes when claims are paid that involve pre-existing conditions, or that result from disasters. Because of ERA experience rating, employers have a direct financial interest in the claims that are charged against their account. If they can shift responsibility for a particular claim, their ERA merit/demerit will be proportionately affected. Over the last five years, an aggressive consultation industry has grown up to help employers find examples of, and file applications for, relief of these costs, thereby lowering their assessment bills retrospectively. The consultants generally receive one-third the firm’s recovery as a contingent fee.

There are a number of unfortunate aspects to this situation. First, it feeds the fears of labor that ERA’s major impact is to encourage “claims avoidance” behavior rather than accident prevention. Second, it is obvious that these allocations affect individual employer costs, but it is hard to see what difference it makes to the general welfare whether a given claim is charged to one individual employer or to the sub-class as a whole. In fact, since the WCB can not go back and reassess everyone for the relevant time period, it could be argued that these after-the-fact adjustments threaten the adequacy of claim reserves.

Performance Issues

The major performance issues that arise in the British Columbia (or other public monopoly) system are two: “Are sufficient revenues raised to finance the scheme?” and “Are they raised from the right sources?” The first is usually expressed in the unfunded liabilities of the scheme, at least in North America. The second is a question about class equity; are costs being allocated fairly, or are there significant cross-subsidizations occurring? This section will consider these two issues as they relate to the workers’ compensation system of British Columbia.

Revenue Sufficiency

Table 3.2 lays out 10 years of experience on the assessment revenue side, together with the statement of cumulative unappropriated balance/unfunded liability at the end of each year. British Columbia began the decade with an unfunded liability of \$241 million (CD) and ended it with an unfunded liability of \$191 million (CD). However, for nearly the entire decade in between the fund maintained an unappropriated balance ranging from \$50.9 million to \$291.9 million. Further, this was done with very substantial reductions in average assessment rates (37 percent) from 1985 through 1990, followed by a 20 percent rise through 1993. So for the entire decade, the average assessment rate fell by 3.0 percent per year.

The table also shows that this was done on the basis of a 5.9 percent annual increase in the maximum assessable wage and a 9.8 percent annual growth in total assessable payrolls. Actual assessment income grew by 4.8 percent per year for the decade shown in Table 3.2. In fact, the performance of the WCB fund was so strong that \$115 million (CD) was returned to employers in the form of special rate abatements in 1987 and 1988. The decade ends with a 3 percent unfunded liability, in other words 97 percent of expected future benefit payments have been collected and are invested for the time they will be needed.

Table 3.3 shows how important the investment income from those reserves has been in furthering the WCB’s financial performance. Investment revenues have grown at 9.1 percent annually, rising from 25 percent of total income in 1984 to 37 percent in 1990, then falling back slightly to 33 percent in 1993. The result has been that assessments have had to grow at

only 4.8 percent per year, while compensation expenses grew more than twice as fast, at 10.8 percent per year. The operating surplus/deficit column shows that the WCB operated with a surplus in 4 of the 10 years. The only clouds in this rosy picture are a rapid rise in administrative costs (12.0 percent annually) and the fact that recent years have tended to deficit rather than surplus.

Cross-Subsidization Issues

While the overall financial performance of the WCB has been outstanding by North American standards, Table 3.4 indicates that there may be some problems at the sub-class level. The table shows the estimated assessment income and claims costs for each of the 64 sub-classes in use for calendar year 1993.²⁰ A *pro rata* share of administrative expenses and investment income are added to these figures to derive the current year surplus or deficiency. Investment income should be offsetting long-term claim costs, so this current year measure tells us the adequacy of assessment income to meet current costs. Table 3.4 reveals that only 14 sub-classes showed a surplus for 1993, while 46 show a deficit. The total current year deficit for all classes during 1993 was estimated at \$97.3 million (CD), or about 16 percent of claim costs in that year.

While any given sub-class in a single year may be subject to adverse experience based on policy changes, natural disasters, etc., the fact remains that the goal is to achieve overall balance and sufficiency of funding over time. From that perspective, the data in the last column of Table 3.4 are somewhat concerning. According to these data, fully half the sub-classes are in long-term surplus or deficit (unappropriated balance/unfunded liability), amounting to more than 1-year's claims costs for the sub-class. Further, 21 of these are in a state of unfunded liability (deficit), while only 9 show an unappropriated balance (surplus).

²⁰The table includes the deposit class employers as well, but they will not be considered in this discussion.

This tendency to unfunded liability has plagued most of the public workers' compensation systems in North America.²¹

The difficulty of tackling these persistent problems in a public system can be illustrated by the recent British Columbia experience with sub-class 6-21, Retail Stores. It has been obvious that there was a persistent imbalance in this class since about 1991. The unfunded liability mounted steadily from 1989 and reached nearly \$64 million (CD) by the end of 1994. Also, it was common knowledge that the large food supermarkets in the province were virtually all at maximum demerit and therefore were being subsidized by the rest of the firms in the sub-class.

This problem was attacked recently by the WCB when a decision was reached to split the sub-class into three parts; supermarkets, department stores, and general retail. This will provide more accurate pricing for these different lines of business and reduce the implicit cross-subsidization that has been going on. The Board adjusted the assessment rates to reflect past claims experience, setting the supermarket base rate at \$2.57 per \$100 (CD) of payroll, the department store rate at \$1.36 per \$100 (CD) and the general retail rate at \$1.01 per \$100 (CD), compared to the old combined sub-class rate of \$1.31 per \$100 (CD). But, to resolve the unfunded liability problem, the WCB elected to levy a special 5-year assessment of \$.30 per \$100 (CD) on all previous members of the 6-21 sub-class to pay down the accumulated deficit. Since general retailers had about 63 percent and department stores 14 percent of the total payroll in the old sub-class, this meant that only a minority (approximately 23 percent) of the unfunded liability would be assessed against those employers who were directly responsible.

Needless to say, the general retailers and department stores are extremely unhappy about this decision. The need for a general classification study and review at the WCB was cited in the 1992 Assessment Department Administrative Inventory (Hunt, 1992), but facing the political fallout of "correcting" such inequities is not a pleasant task. More importantly, this example illustrates the difficulty of making significant marginal adjustments in the status quo. Most public workers' compensation agencies in North America have not been willing to

²¹See Vaillancourt (1994) for an analysis of the Canadian experience.

do so, and the result is huge unfunded liabilities, the most noteworthy and best-documented being the Ontario WCB deficit of \$11.5 billion (CD) at the end of 1993. This is a problem that public workers' compensation systems need to resolve.

Table 3.1 Canada Jurisdictional Summary

	Number of Sector/ Classes	Total Number of Rate Groups
Alberta	12	151
British Columbia	14	71
Manitoba	8	249
New Brunswick	5	58
Newfoundland	7	84
Northwest Territories	8	37
Nova Scotia	9	150
Ontario	9	219
Prince Edward Island	6	38
Quebec	5	321
Saskatchewan	11	86
Yukon	6	6
Source:	Association of Workers' Compensation Boards of Canada, "Workers' Compensation Industry Classifications, Assessment Rates, and Experience Rating Programs in Canada, 1995," p. 11.	

Table 3.2 WCB Assessment Performance, 1984-93

Year	Maximum Assessable Wage \$(CD)	Total Assessable Payrolls \$Billion (CD)	Average Assessment Rate \$ (CD)	Assessment Income \$Million (CD)	Unappropriated Balance (Unfunded Liability) \$Million (CD)
1984	\$30,200	\$16,244	\$2.78	\$480.1	(\$241.1)
1985	\$32,400	\$16,764	\$2.77	\$478.2	\$50.9
1986	\$40,000	\$18,481	\$2.19	\$421.3	\$291.9
1987	\$41,100	\$20,912	\$1.97	\$323.3	\$249.5
1988	\$41,300	\$23,755	\$1.79	\$442.0	\$228.6
1989	\$42,200	\$26,531	\$1.78	\$520.7	\$243.2
1990	\$43,400	\$28,676	\$1.75	\$551.0	\$131.5
1991	\$45,800	\$29,825	\$1.83	\$575.6	\$66.6
1992	\$48,000	\$34,256	\$1.95	\$645.0	(\$97.0)
1993	\$50,600	\$37,523	\$2.11	\$729.1	(\$191.5)
Annual Rate of Growth	5.9%	9.8%	(3.0)%	4.8%	
Source: <i>WCB Annual Report, 1993.</i>					

Table 3.3 WCB Financial Performance, 1984-93

Year	Income		Expenses		Operating Surplus (Deficit)
	Assessments \$Million (CD)	Investments \$Million (CD)	Compensation \$Million (CD)	Administration \$Million (CD)	\$Million (CD)
1984	\$480.1	\$162.5	\$393.6	\$67.0	\$181.9
1985	\$478.2	\$200.9	\$318.9	\$68.2	\$292.0
1986	\$421.3	\$227.5	\$334.3	\$73.6	\$241.0
1987	\$323.4	\$244.0	\$528.3	\$81.5	(\$42.4)
1988	\$442.0	\$269.9	\$638.6	\$94.2	(\$20.9)
1989	\$520.7	\$310.5	\$712.0	\$104.6	\$14.6
1990	\$551.0	\$324.9	\$858.1	\$129.5	(\$111.7)
1991	\$575.6	\$329.6	\$818.9	\$151.1	(\$64.9)
1992	\$645.0	\$316.1	\$952.3	\$172.4	(\$163.6)
1993	\$729.1	\$356.6	\$994.2	\$186.0	(\$94.5)
Annual Rate of Growth	4.8%	9.1%	10.8%	12.0%	
Source: <i>WCB Annual Report, 1993.</i>					

Table 3.4 WCB Sub-Class Financial Performance, 1993

Class & Sub-Class	Description	Assessments Income	Claims Costs	Administration & Other Expenses	Current Year Excess (Deficiency)	(Unfunded Liability) Unappropriated Balance Dec. 31 Balances
1	Forest Products					
2	Logging	68,464	63,780	18,624	(13,940)	48,563
4	Pulp & Paper	11,687	13,343	3,595	(5,251)	(12,281)
5	Sawmills	41,240	46,393	13,025	(18,178)	(66,485)
7	Plywood Mills	9,286	6,562	2,006	718	(13,316)
9	Shake & Shingle	2,919	4,148	1,019	(2,248)	484
		133,596	134,226	38,269	(38,899)	(43,035)
4	Mining, Quarrying & Mfg					
3	Quarries, Cement Mfg.	5,144	4,290	1,277	(423)	4,338
11	Mining (not coal)	6,971	7,266	3,743	(4,038)	(7,271)
18	Alum. Smelter	1,985	1,317	327	341	(2,946)
30	Coal Mining	4,669	3,864	1,545	(740)	(7,925)
		18,769	16,737	6,892	(4,860)	(13,804)
6	Light Mfg., Service, Trade					
2	Misc. Mfg.	18,547	17,787	4,926	(4,166)	(4,343)

Table 3.4 WCB Sub-Class Financial Performance, 1993 (Continued)

Class & Sub-Class	Description	Assessments Income	Claims Costs	Administration & Other Expenses	Current Year Excess (Deficiency)	(Unfunded Liability) Unappropriated Balance Dec. 31 Balances
3	Light Mfg.	3,287	2,471	950	(134)	3,525
4	Woodwork, Boat Bldg.	10,793	8,400	2,425	(32)	(10,003)
5	Amusement Fac.	619	380	155	84	1,345
8	Beverage Mfg.	3,488	2,863	782	(157)	197
17	Textile Mfg.	392	497	110	(215)	(36)
18	Clothing, Drape Mfg.	895	869	319	(293)	(4,868)
20	Food Prod. Mfg.	5,851	5,664	1,268	(1,081)	1,538
21	Retail Stores	38,293	34,282	7,801	(3,790)	(52,047)
22	Apt. Bldg. Oper.	9,972	8,168	1,682	122	(10,710)
24	Fruit Pack., Dairies	5,898	3,820	1,281	797	(5,157)
25	Laundry Serv.	1,388	997	418	(27)	(2,145)
26	Hospital & Related	63,071	40,314	8,999	13,758	(2,537)
27	Hotel, Restaurant	17,000	15,664	4,363	(3,027)	5,760
31	Surveying	365	764	195	(594)	64
32	Grain, Seed Dealer	2,966	2,289	575	102	247

Table 3.4 WCB Sub-Class Financial Performance, 1993 (Continued)

Class & Sub-Class	Description	Assessments Income	Claims Costs	Administration & Other Expenses	Current Year Excess (Deficiency)	(Unfunded Liability) Unappropriated Balance Dec. 31 Balances
36	Oil Refining/Distr.	966	1,259	699	(992)	778
37	Meat Cutting/Pack.	6,594	3,915	786	1,893	(4,253)
39	Printing	3,737	3,360	1,030	(653)	(4,860)
43	Farming	7,508	7,372	1,511	(1,375)	2,881
46	Theatre Oper.	108	147	53	(92)	(148)
54	Wholesalers	7,778	9,175	2,712	(4,109)	(15,684)
56	Labor/Trade Union	118	304	115	(301)	(680)
57	Builders' Supplies	7,814	6,477	2,034	(697)	(3,373)
58	Domestics	3,314	2,795	530	(11)	(5,645)
59	Auto Sales/Serv.	19,208	19,363	5,879	(6,034)	(6,793)
		239,970	199,396	51,598	(11,024)	(116,947)
7	Heavy Mfg., Construction, Air					
5	Construction Trade	13,467	12,606	4,392	(3,531)	(3,921)
6	Building Construction	64,595	60,244	21,438	(17,087)	(16,701)
7	Heavy Mfg.	58,874	42,245	13,974	2,655	(16,725)

Table 3.4 WCB Sub-Class Financial Performance, 1993 (Continued)

Class & Sub-Class	Description	Assessments Income	Claims Costs	Administration & Other Expenses	Current Year Excess (Deficiency)	(Unfunded Liability) Unappropriated Balance Dec. 31 Balances
11	Electrical Wiring	8,406	6,996	2,489	(1,079)	(5,157)
13	Janitorial Serv.	3,090	2,652	576	(138)	4,285
21	Shipbuilding	6,936	4,896	1,928	112	(19,598)
25	Heavy Construction	2,843	3,037	1,393	(1,587)	(9,029)
26	Road Bldg. & Related	25,919	26,300	8,073	(8,454)	12,977
47	Consulting Eng.	684	407	283	(6)	1,257
48	Oil/Gas Well Drilling	798	1,848	609	(1,659)	9,226
		185,612	161,231	55,155	(30,774)	(43,386)
8	Utilities, Comm., Transp.					
1	Gas/Elec. Supply	4,974	3,652	1,092	230	(6,128)
8	TV/Phone Systems	5,954	2,685	578	2,691	(6,851)
11	Bus Line Oper.	3,817	3,207	752	(142)	(886)
12	Taxi Oper. & Rel.	1,429	1,947	367	(885)	(2,407)
20	Sched. Airline Serv.	886	1,241	254	(609)	19,931
23	Charter Air Service	1,469	1,611	295	(437)	8,933

Table 3.4 WCB Sub-Class Financial Performance, 1993 (Continued)

Class & Sub-Class	Description	Assessments Income	Claims Costs	Administration & Other Expenses	Current Year Excess (Deficiency)	(Unfunded Liability) Unappropriated Balance Dec. 31 Balances
51	Trucking	30,321	30,846	7,264	(7,789)	6,071
		48,850	45,189	10,602	(6,941)	663
9	Water Transport., Fishing					
1	Water Transport.	2,051	3,250	1,109	(2,308)	3,870
2	Wharf Operation	7,966	8,873	1,600	(2,507)	(40)
6	Fish Processing	3,911	3,829	840	(758)	990
9	Marine Shipping Serv.	157	609	76	(528)	265
11	Fishing	6,642	6,376	1,786	(1,520)	(1,677)
		20,727	22,937	5,411	(7,621)	3,408
14	Municipalities					
1	Municipalities	29,620	20,024	5,231	4,365	412
6	School Boards	19,280	16,488	4,514	(1,722)	12,952
		48,900	36,512	9,745	2,643	13,364
38	Fed. Gov't. Works, Grants	278	151	24	103	8,239
Total Classes		696,702	616,379	177,696	(97,373)	(191,498)

Table 3.4 WCB Sub-Class Financial Performance, 1993 (Continued)

Class & Sub-Class	Description	Assessments Income	Claims Costs	Administration & Other Expenses	Current Year Excess (Deficiency)	(Unfunded Liability) Unappropriated Balance Dec. 31 Balances
10	Canadian Pacific	4,014	8,758	1,541	(6,285)	0
12	Canadian Nat'l	7,037	2,343	898	3,796	0
13	Provincial Gov't	26,297	15,483	3,932	6,882	0
18	Burlington Northern	(135)	60	45	(240)	0
19	Federal Gov't	7,644	891	1,877	4,876	0
Total Self-Insured Employers		44,857	27,535	8,293	9,029	0
Total Self-Insured Employers & Classes		741,559	643,914	185,989	(88,344)	(191,498)
2	Silicosis					
3	Coal Mining	(3,378)	0	0	(3,378)	0
4	Metal Mining	(9,125)	0	0	(9,125)	0
		(12,503)	0	0	(12,503)	0
Rounding		5	6	(3)	2	21
Grand Total		729,061	643,920	185,986	(100,845)	(191,477)
Source: <i>WCB Annual Report, 1993</i>						

IV. OVERVIEW OF MICHIGAN (U.S.) WORKERS' COMPENSATION MODEL

Introduction

Michigan adopted its Workmen's Compensation Act in 1912. The entire Act was reorganized in 1969 and called the Worker's (sic) Disability Compensation Act of 1969. Employers with one or more full-time employees (35 hours per week) are subject to the law. The Michigan system is a "voluntary pay" system, which means that employers or their insurance carriers are expected to pay compensation claims voluntarily, i.e. without intervention by the state. This ideal is achieved in more than 80 percent of compensable claims.

Organization of the Workers' Compensation System

The Bureau of Workers' Disability Compensation (BWDC) is the administrative agency in the Department of Labor responsible for administering most aspects of the Workers' Compensation Act. This includes monitoring benefit payments by insurance carriers and self-insured employers, providing mediation for disputes and supporting the formal adjudication by the Board of Magistrates, providing public information, determining self-insurance status, and other functions. The BWDC is headed by a director, who is appointed by the governor for a 3-year term with the advice and consent of the Senate and reports to the director of the Department of Labor. Figure 4.1 shows the overall organization within state government. Costs of administering the system are borne principally by the State General Fund, with supplementary funding from redemption fees and penalties.

Organizational Structure of the BWDC

As shown in Figure 4.2, the BWDC is organized into five divisions. The Claims Processing Division administers the Act as it relates to voluntary payment claims and litigated cases. It processes injury reports, handles inquiries from claimants and employers, sets and serves applications for mediation or hearing, and sends out decisions and orders. It also

maintains the automated database, which serves the needs of both the BWDC and the Board of Magistrates. During 1993, the Claims Processing Division received 765,695 pieces of correspondence, including 88,259 Employer's Basic Report of Injury. A total of 60,541 new wage-loss claims were established (initial payments made in 1993). The Division also set and served 22,496 new applications for mediation or hearing. They mailed out 9,251 decisions, 8,900 mediation orders, and 15,542 redemption orders.

The Mediation Division handles a variety of situations. Foremost among these are formal mediation hearings, in which an application for hearing has been filed and the case is referred to a mediator in an attempt to resolve the case before a trial is scheduled with a magistrate. Informal mediations are those in which the parties request a conference to resolve the case without a formal application for hearing. In addition, the Mediation Division handles vocational rehabilitation, health care service, and other miscellaneous disputes. During 1993, the Division held 8,069 formal hearings (resolving 44 percent) and 1,252 informal hearings (resolving 73 percent). They also were involved in settling 462 vocational rehabilitation disputes and over 5,000 disputes involving health care services rules. The Division also held hearings on over 1,000 cases referred by magistrates and logged over 68,000 phone calls related to workers' compensation issues.

The Insurance Division is responsible for verifying insurance coverage for insured employers and certifying self-insurance eligibility for individual and group applicants. There are over 600 self-insured employers in Michigan, plus about 9,000 smaller employers in 35 different group self-insurance funds. The self-insured employers, including self-insured groups, made 46 percent of all wage-loss payments in Michigan during 1993.

The Health Care Services Division is responsible for administering the *Workers' Compensation Health Care Services Rules* as established under Section 418.315 of the Act. The rules establish reimbursement amounts for health care providers and require carriers to maintain certified professional utilization review programs. They also collect data on medical costs and conduct training seminars for insurers and providers. The Division was responsible for oversight on over 525,000 medical claims during 1993, at an average cost of \$696 (US)

per claim. The Division estimates that their activities saved Michigan employers some \$70 million (US) in health care costs during 1993.

The Vocational Rehabilitation Division monitors vocational rehabilitation efforts by private carriers and self-insured employers in Michigan. This unit provides referrals to certified private and public sector vocational rehabilitation providers, and responds to requests for information and assistance. During 1993, the Division reported that the average vocational rehabilitation success rate was 38 percent, resulting in a total of 3,621 injured workers assisted back to work through rehabilitation programs.

Other Organizations in the Workers' Compensation System

As shown in Figure 3.1 the Board of Magistrates, the Appellate Commission, and Funds Administration are separate entities who play major roles in the workers' compensation system in Michigan. In addition, the Bureau of Safety and Regulation provides safety standards setting and enforcement and voluntary consultation on safety and health matters under terms of the Michigan and federal Occupational Safety and Health Acts (MIOSHA and OSHA).

Board of Magistrates

The Board of Magistrates is an autonomous entity in the Department of Labor that conducts hearings and issues decisions in workers' compensation cases in which there is an unresolved dispute. Each of the 30 Magistrates is appointed by the Governor with confirmation by the Michigan Senate. The Qualifications Advisory Committee (QAC) evaluates the performance of magistrates and makes recommendations for magistrate appointments. It is quite unusual in the U.S. for the first-level hearing officers to be political appointees, but this was part of a move in the mid-1980s to make the Michigan system more responsive to political changes in the state. Magistrates are appointed to 4-year terms for a maximum of 12 years total service. The term limit was another move designed to prevent the establishment of a permanent bureaucracy, unresponsive to political forces in the state. The Chairperson has general supervisory control and serves at the pleasure of the Governor. During 1993, the Board of Magistrates received 22,034 petitions for hearing. It produced

23,580 dispositions during the year, including 8,338 decisions and 15,065 redemption approvals. There were 24,162 cases pending at the end of the year, approximately one year's output.

Appellate Commission

An Appellate Commission of seven members serves as “an independent body with the authority to review the orders of the BWDC Director and the orders and opinions of the Magistrates.” Members of the Appellate Commission are recommended by the Qualifications Advisory Committee and appointed by the Governor, with the advice and consent of the Senate, and they must be attorneys who are members of the state bar as well. They serve 4-year terms, limited to a maximum of 12 years total service. The Chairperson of the Commission has general supervisory control and is in charge of the employees of the Commission. The chairperson also assigns and schedules the work of the Commission.

In its review process, the Commission functions as a panel of three members, randomly assigned to each case. The decision reached by a majority of the three member panel is the final decision of the Commission. The Appellate Commission does not take direct testimony. They review the written record of the case and determine whether the law has been correctly applied. Attorneys have the right to move for oral argument, but this is rare. By statute, the findings of fact by the magistrate are to be overturned only on the basis of “substantial evidence.” In cases that may establish a precedent with regard to workers' compensation, or any matter which two or more members of the commission request, is reviewed and decided by the entire Commission. During 1993, the Appellate Commission received 1,178 claims for review, disposed of 636 cases by opinion and 475 by order (generally minor issues). At the end of the year, a backlog of 1,197 cases remained, approximately one year's output.

The decisions of the Appellate Commission can be appealed to the Michigan Court of Appeals, whose decisions can, in turn, be appealed to the Michigan Supreme Court. The Supreme Court typically issues three or four decisions per year in workers' compensation cases.

Other Agencies

Other agencies carry out limited responsibilities in the Michigan workers' compensation system. The Attorney General represents the special funds and the BWDC in legal matters. The Insurance Commissioner regulates workers' compensation insurance providers. Funds collected from fees on redemption settlements are kept in a revolving fund with the State Treasurer's office. The Bureau of Safety and Regulation, Michigan Department of Labor enforces the Michigan Occupational Safety and Health Act (MIOSHA), Act 154 of 1974. It also provides safety information and holds seminars and on-site consultation with employers and employees on the subject of preventing workplace injuries. It is not directly associated with the workers' compensation system, but both agencies report to the same Deputy Director of the Labor Department. The Public Health Department promulgates and enforces occupational health standards and supports the Labor Department in promoting safe and healthy workplaces in Michigan.

Funds Administration

There are four separate funds relevant to workers' compensation claimants in Michigan: the Second Injury Fund; the Silicosis, Dust Disease and Logging Industry Compensation Fund; the Self-Insurers' Security Fund; and the Compensation Supplement Fund. The first three fall under the authority of the Funds Administration, while the last one is administered by the Claims Administration Division of the Bureau of Workers' Disability Compensation.

The Funds Administration is legally separate from the BWDC, but works closely with BWDC administrators. The Funds are governed by a 3-member Board of Trustees consisting of one representative of the insurance industry, one representative of self-insured employers, and the director of the BWDC. The first two are appointed by the Governor with the advice and consent of the Senate, while the director of the BWDC is an *ex officio* trustee.

The Funds operate like a pay-as-you-go insurance system with a variable assessment level. The difference is that generally speaking they are reimbursing carriers or self-insured employers for payments made to individuals with entitlements. The Second Injury Fund makes

payments directly to permanently and totally disabled claimants, and to claimants in multiple employer cases. As might be expected, there is a significant amount of litigation involved in the administration of these funds. The Attorney General represents the Funds for legal purposes, plus the Fund employs part-time attorneys on a geographically dispersed basis to represent the Funds as necessary, under the direction of the Attorney General.

Second Injury Fund

The Second Injury Fund (SIF) in Michigan has a number of responsibilities. First, the SIF compensates those permanent and total disabilities that result from a subsequent injury. If an employee has a permanent disability in the form of the loss of a hand, arm, foot, leg, or eye and subsequently has another disability resulting in another of these losses, he/she is deemed to be totally and permanently disabled and the SIF pays the benefits for permanent and total disabilities after completion of payments for the second injury. In addition, SIF is responsible for the payment of limited inflation adjustment benefits to claimants who are permanently and totally disabled. These payments are designed to bring claimants up to the maximum weekly benefit payable at the time of their injury.

The Second Injury Fund also is involved in paying workers' compensation benefits for disability beyond 52 weeks (104 weeks for those hired before July 30, 1985) to persons who have been certified as "vocationally handicapped individuals" prior to their (re) injury. This provision is designed to encourage the employment of individuals with pre-existing impairments of the back or heart, or who are subject to epilepsy or diabetes.

The Second Injury Fund is financed by assessments on workers' compensation insurers and self-insureds in Michigan according to the total indemnity payments (excluding medical, rehabilitation, and death benefits) in the previous year. Carriers and self-insured employers are assessed a sum equal to their *pro rata* share of 175 percent of the total disbursements made from the fund during the preceding calendar year, less net assets in excess of \$200,000 at the end of the year. By statute the assessment shall not exceed 3 percent in any year. For 1993, total assessments were \$29.3 million.

Silicosis, Dust Disease, and Logging Industry Compensation Fund

The Silicosis, Dust Disease and Logging Industry Compensation Fund has responsibility for various occupational diseases and special circumstances. The Silicosis and Dust Disease Fund reimburses carriers and self-insured employers for weekly benefits paid in excess of \$25,000 for employees disabled due to silicosis or other dust disease. The Logging Industry Compensation Fund was established effective January 1, 1982 and provides for reimbursement of weekly benefits to insurers for indemnity costs greater than \$25,000 for a single claim in the logging industry. Total assessments during 1993 by the Silicosis, Dust Disease, and Logging Industry Compensation Fund were \$9.5 million.

Self-Insurers Security Fund

The Self-Insurers Security Fund provides for payment of workers' compensation benefits to employees of private, self-insured employers who have become insolvent. Payments from the Self-Insurers Security Fund are raised by assessment against private, self-insured employers only and totaled \$3.2 million in 1993.

BWDC Compensation Supplement Fund

The Compensation Supplement Fund pays inflation adjustment supplements in cases involving injury dates between September 1, 1965 and January 1, 1980. The supplement is computed using the total annual percentage change in the state average weekly wage from the year of injury (but not earlier than 1968) to 1981. The supplement is limited to 5 percent or the inflation rate, whichever is smaller, compounded for each calendar year in the adjustment period. It is paid as a percentage of the weekly compensation rate by the carrier or self-insurer and reimbursed by the Compensation Supplement Fund. Lump-sum payment cases (i.e. redemptions) are not eligible for supplement payments. During calendar year 1993, reimbursements were processed for about 8,000 claims totaling \$14.8 million.

Claims Administration

In the event of a workplace injury, an employee should provide a notice of injury, either oral or written, to the employer within 90 days after the occurrence of the injury. Most injuries are reported much sooner, usually on the same day as the injury. The absence of such notice, however, does not preclude the injured worker from receiving benefits. In the event of a workplace injury that results in disability extending beyond seven consecutive days, or an injury that results in a death, or a loss of body member enumerated in a schedule, the employer is required to submit a report of injury to the BWDC. It is the employer's responsibility to see that notice is given to the workers' compensation insurer, if any, that is carrying the risk on behalf of the employer.

A claim for compensation may also be made directly by the employee to the BWDC, and a copy is mailed to the employer. A claim for compensation is not valid unless made within two years from the date of injury, or the date the disability manifests itself, or the last day of employment with the employer against whom the claim is being made. The employee must also obtain and furnish to the employer and/or insurance carrier, a report setting forth the medical history, the diagnosis, the prognosis, and other information reasonably necessary to properly evaluate the injury. Usually this is not an extra burden since the employee must go to the employer-chosen physician for treatment in the first 10 days of the disability. Thereafter, at reasonable intervals, not more than 60 days, the employee must obtain and furnish a current medical report containing the same information.

Once the insurer or self-insured employer is notified of the injury, and assuming there is no dispute, payment is required within 30 days, or else a penalty may be assessed. It is possible that the employer will be responsible for payment of the penalty if it is found that it failed to notify the carrier of the claim; however, this is rare in actual practice.

It is sometimes the case that the first notice of a claim that the BWDC receives is by way of a request for a hearing. In recent years, about 10 percent of case files have started by this method. This indicates that the employer is unaware of the injury alleged (especially in the case of an occupational disease or cumulative trauma claim) or simply has not filed a notice of injury, and the employee has not filed a claim for compensation.

In most instances where there is compensable lost time, benefits for temporary total disability, specific loss, or death benefits commence with no controversy. In that case the self-insurer or insurer is required to file a Bureau informational form on the day after the first payment is disbursed. The BWDC enters the information into its computerized database for future tracking. Weekly compensation rates and other audit checks are also performed at this time. Additionally, if a death occurs as a result of the workplace injury, a supplemental report of fatal injury is filed by the insurer or self-insured employer.

If the employer or insurer chooses to contest compensability of the claim, it can simply refuse to commence payment. To protect against possible penalties, they would also file a Notice of Dispute with the BWDC. If the employee persists with the claim, he/she may request a hearing or mediation on the issue. At the time of filing an application for hearing, the claimant must provide the carrier or employer with any medical records relevant to the claim that are in his/her possession. The BWDC will then set the matter for hearing by the Board of Magistrates and send out a notice of mediation or pre-trial. The opposing party to a request for hearing or mediation must file an answer within 30 days of receipt of notice from the BWDC, along with all copies of medical records in its possession.

Once weekly payments have begun, they continue until the worker returns to work and no longer experiences a loss of wages, or the insurer or self-insured employer files a notice of stopping compensation along with a medical report that releases the worker to return to work.²² If the payment of compensation is a result of a final order directing payment of benefits “until further order,” benefits may not be terminated until a hearing can be held based on the filing of a petition to stop. Otherwise, the initiative lies with the employer or insurance carrier.

If a worker objects to the stopping of compensation, the burden is then on the worker to prove in a hearing that his/her disability continues and payment of compensation should be resumed. The injured worker generally attempts to prove this through his/her testimony,

²²In the case of a specific loss or death claim, benefits continue for a specified number of weeks. An individual receiving benefits for a specific loss may, however, be evaluated at the end of the specified time period for general disability benefit eligibility.

together with a medical report from a physician that contradicts that of the defense (sometimes referred to as “dueling docs”). In such cases, the worker is nearly always represented by an attorney.

Workers’ Compensation Benefits

The Michigan Workers’ Disability Compensation Act authorizes six different types of benefits. They are:

- medical benefits
- wage-loss benefits
- total and permanent disability benefits
- specific loss benefits
- death benefits
- rehabilitation benefits

Medical Benefits

The Act provides that the employer shall furnish reasonable medical treatment for employees injured at work. It also states that after ten days from the inception of medical care, the employee may treat with a physician of his or her choice. This means that the employer is able to choose the physician who will provide treatment during the first 10 days.

The right to medical treatment begins immediately and continues indefinitely as long as the condition is related to a compensable injury or occupational disease. Disputes over medical treatment are relatively infrequent. The disputes generally result when the employer denies any relationship between the work and the claimed injury, or asserts that, after a certain time, the continuing medical problems are no longer related to the compensable injury. In these cases it is the responsibility for the medical bills, as well as compensability of the disability that is at issue.

Wage-Loss Benefits

Wage-loss benefits are based on the weekly compensation rate. For injuries and illnesses occurring after January 1, 1982, this rate is equal to 80 percent of an injured

worker's after-tax average weekly wage and is subject to stated maximum and, in some instances, minimum benefit levels. The value of fringe benefits (those that do not continue during the disability) are to be included in the base average weekly wage. Wage-loss benefits are free of all state and federal tax.

The after-tax average weekly wage on which benefits are based is defined as the average weekly wage (for the best 39 of the last 52 weeks) reduced by the weekly amount that would have been paid for federal Social Security taxes and state and federal income taxes, based on the employee's number of dependents. A table of the average weekly wage and 80 percent of after-tax average weekly wages is published annually to simplify conversion of an average weekly wage into a weekly compensation benefit.

The maximum benefit for all benefit types is adjusted once each year in accordance with the change in the state average weekly wage in covered employment. Workers with an injury occurring in any given year are subject to the maximum benefit rate as established for that year for the duration of their claim; there is no inflation adjustment for general benefits. The maximum rate is established as 90 percent of the state average weekly wage for the 12 months prior to the previous June 30, adjusted to the next higher multiple of \$1.00. The maximum weekly benefit was \$475 in 1994. The minimum benefit differs depending on the type of benefit. There is no minimum for general disability benefits. For total and permanent or specific loss benefits the weekly minimum is \$132, and for death benefits the minimum was \$264 in 1994.

Benefits commence on the eighth day after the injury. If the incapacity continues for 2 weeks or longer, compensation is paid from the date of the injury (i.e. a 7-day waiting period). If a disabled worker returns to work and earns wages equal to or greater than his or her pre-injury average weekly wage, no wage-loss compensation is payable. If the disabled worker returns to work and earns wages lower than the pre-injury average weekly wage, the amount of compensation will depend on what the current earnings are. A partially disabled worker receives the difference between 80 percent of the after-tax value of the current average weekly wage and 80 percent of the after-tax value of the pre-injury average weekly wage. This would continue for the duration of any wage loss due to disability.

Generally, wage-loss benefits extend for the duration of the disability. However, for workers' compensation recipients of retirement age, benefits are reduced 5 percent each year, beginning with the year of the worker's 65th birthday and continuing until the 75th birthday. By that time, benefits will have been reduced by 50 percent; they then continue at that level. This reduction does not apply if the worker is not eligible for federal Social Security benefits, or if the worker's compensation benefit is being coordinated with other income maintenance benefits.

Total and Permanent Disability

The Michigan legislature has created a conclusive presumption that a worker is totally and permanently disabled if he or she fits into a specifically listed impairment category.²³ Those meeting this criterion are compensated according to the formula described above, but in addition their benefits are partially indexed to the state average weekly wage. These "differential benefits" are paid by the Second Injury Fund and are designed to bring weekly benefits up to the maximum benefit allowed at the time of disablement. They should be distinguished from those partial inflation adjustment benefits paid by the Compensation Supplement Fund described earlier.

An injured worker who is totally and permanently disabled may receive benefits for life. However, the conclusive presumption of total and permanent disability extends only for 800 weeks (just over 15 years). This means that for 800 weeks an injured worker who is deemed totally and permanently disabled will receive benefits, even if he or she is working and receiving wages. At the end of 800 weeks, either the employer or Second Injury Fund can file a petition and seek to prove a change in the plaintiff's condition. The burden of proof,

²³These conditions are:(a) total and permanent loss of sight of both eyes; (b) loss of both legs or both feet at or above the ankle; (c) loss of both arms or both hands at or above the wrists; (d) loss of any 2 members of faculties in subdivisions (a),(b), or (c); (e) permanent and complete paralysis of both legs or both arms or of one leg and one arm; (f) incurable insanity or imbecility; (g) permanent and total loss of industrial use of both legs or both hands or both arms or one leg and one arm; for the purpose of this subdivision, such permanency shall be determined not less than 30 days before the expiration of 500 weeks from the date of injury.

however, is on the employer or the fund to establish that the plaintiff is no longer totally and permanently disabled.

Specific Loss Benefits

The Act also provides a precise number of weeks of benefits for certain specific losses.²⁴ Benefits are paid for the number of weeks specified, regardless of whether or not wages are being earned. The rate of weekly benefits is determined as with any other disability. When the specific loss period expires, an injured worker may be entitled to continuing wage-loss benefits if the disability continues to cause reduced earnings. If the worker suffers successive specific injuries, benefits are paid consecutively rather than concurrently. A worker who suffers concurrently from a specific loss and a separate general disability may receive concurrent benefits. Payments of specific loss benefits commence with the time that the hope of restoring the member is abandoned.

Death Benefits

If death results from a work-related injury, weekly benefits are paid to persons wholly dependent on the worker for a period of 500 weeks.²⁵ If there are no dependents, the only compensation due is a burial allowance of \$1,500. The benefit rate is calculated in the same manner as general disability benefits. If at the expiration of the 500-week period any dependent person is still less than 21 years of age, the dependent may continue to receive weekly compensation until the dependent reaches age 21. If the worker leaves dependents that are only partially dependent upon his or her earnings, the weekly compensation is equal to the same proportion of the weekly benefits payable to wholly dependent persons as 80 percent of the amount contributed by the employee to such partial dependents bears to the annual earnings of the deceased at the time of injury. Wholly dependent persons are defined as a spouse who

²⁴The specific losses enumerated in the schedule include loss of fingers, toes, hand, arm, foot, leg, or an eye.

²⁵Most U.S. jurisdictions do not restrict death benefits to a specific term. This provision is an anachronism.

lives with the deceased worker at the time of death, or is found to be living apart for justifiable cause, and a child under the age of 16, or over 16 if he or she is physically or mentally incapacitated from working.

Rehabilitation Benefits

Michigan was one of the first states to include vocational rehabilitation in its workers' compensation act, in 1965. The statute mandates that if a worker is unable to perform work for which he or she has been trained as the result of a workplace injury, he or she is entitled to such vocational rehabilitation services as may be reasonably necessary to restore them to useful employment. If such services are not voluntarily offered and accepted, the BWDC on its own motion or upon application of the employee, carrier, or employer may refer the employee to a Bureau-approved facility for vocational rehabilitation services. The self-insured employer or insurance carrier pays for the vocational rehabilitation expenses.

The statute mandates that vocational rehabilitation services shall not extend for more than 52 weeks, except in cases when the director of the BWDC has made special provision. If there is an unjustifiable refusal to accept rehabilitation pursuant to a decision of the BWDC, there may be a loss or reduction of compensation, in an amount determined by the BWDC for each week of the period of refusal (except for specific loss or total and permanent disability compensation). Disputes over vocational rehabilitation issues can be heard by mediators or at a magistrate hearing. The vast majority of the disputes are resolved voluntarily -- without the need for a formal order.

Coordination of Benefits

Michigan has one of the most aggressive benefit coordination programs in the U.S.²⁶ An employer's workers' compensation liability is reduced proportionately for virtually any other benefits the worker receives that were financed by the employer. Specifically, the employer's obligation to pay weekly benefits is reduced by:

²⁶British Columbia does not coordinate benefits, except for certain retired workers.

- 50 percent of the amount of the old-age insurance benefits received under the Social Security Act;
- the after-tax amount of the payments received under a self-insurance plan, or under a disability insurance policy provided and paid for by the employer;
- the proportional amount, based on the ratio of the employer's contributions to the total insurance premiums for the policy period involved, of the after-tax amount of the payments received pursuant to an insurance policy provided by the employer;
- the after-tax proportional amount of the employer's contributions to a pension plan or retirement plan;
- the after-tax proportional amount of the employer's contributions to a profit sharing plan.

This coordination of benefits, combined with a rebuttable presumption that retired workers did not suffer wage loss, significantly reduced a problem with retirees that were securing benefits in the Michigan worker's compensation system prior to this reform.²⁷

Total Benefit Payments

Injured workers in Michigan received about \$934 million (US) in indemnity benefit payments in 1993, \$505 million (US) of which was paid by carriers (54 percent), and \$429 million (US) was paid by self-insurers (46 percent). Total medical payments to workers' compensation claimants were \$374 million (US) in 1993. Thus, medical payments are about 29 percent of all workers' compensation benefit costs, relatively low by U.S. standards.

Dispute Resolution

A dispute may arise on a variety of issues on any type of claim. The resolutions of these disputes are also diverse. Sometimes, issues are resolved by the parties themselves, without any agency intervention at all. The claim may be accepted voluntarily by the insurer, or withdrawn by the worker. Other times, mediation or a pre-trial hearing will provide the opportunity for the parties to work things out. In a minority of cases, about 6 percent in 1993,

²⁷See Hunt (1986), pp. 76-77.

a formal Board of Magistrates' decision is required. The emphasis in Michigan is on getting the parties to agree on a solution, rather than imposing one.

The most common resolution of disputed claims in Michigan is the "redemption agreement." This compromise and release settlement "redeems" the employer's liability for the claim in exchange for the payment of an agreed sum of money, generally a lump sum, and possibly though not usually future medical benefits. Nearly 60 percent of disputed cases in 1993 were settled with a redemption agreement. The Board of Magistrates requires a review of redemption agreements, but these hearings are very simple, with the Magistrate simply insuring that the claimant understands that he/she is releasing the employer and/or insurer from any further liability for the injury in question.²⁸

An application for hearing cannot be denied; if either party requests a hearing, the Board of Magistrates is obligated to provide it. At present, it is taking approximately 12 months from application to receive a formal hearing on a workers' compensation dispute in Michigan, although there is some variation across magistrates. Cases that come from mediation tend to be scheduled for earlier trial dates than cases that go through the pre-trial conference procedure.

Formal Hearings

The hearings use formal rules of evidence, and a transcript is prepared by a court reporter. However, the atmosphere is less rigid than in a court of law, and normally there is a fairly easy give-and-take among participants. Decisions are based on a preponderance of the evidence and the magistrates' findings of fact are final. Both parties are nearly always represented by attorneys, although occasionally a plaintiff, and very rarely a defendant, will appear without benefit of counsel. As outlined earlier, magistrate decisions can be forwarded to the Appellate Commission for a decision on whether the law was correctly applied to the facts, as determined by the magistrate.

²⁸Such agreements are not allowed in British Columbia.

Medical testimony is taken by deposition (sworn interrogatory), but the claimant usually is asked to testify on his/her own behalf. There may be other witnesses called to testify as well, depending on the nature of the claim or the strategy of the defense. However, it is quite common that the plaintiff will be the only person to testify. Magistrates are supposed to issue their written opinions within 30 days, but this goal is frequently not achieved.

About 70 percent of the hearings result in redemption orders (compromise and release settlements). Generally, redemptions include a final release from liability of the insurer for the injuries claimed in the petition for hearing. A lump-sum payment is made to the claimant, less attorney's fees (generally 15 percent of settlement) and litigation costs (usually several hundred dollars for medical depositions or other costs). In addition, there is a \$100 (US) redemption fee paid to the BWDC by each party to a redemption.

About 30 percent of the formal hearings result in BWDC decisions or other dispositions (ignoring withdrawals and dismissals). Generally, this involves an order by the magistrate directing the carrier or self-insured employer to begin paying weekly compensation to the claimant, or denying the claim if it is found to be not meritorious. There are also orders involving medical costs, vocational rehabilitation issues, and other matters.

The gap between the number of applications for hearing and the number of magistrate dispositions is accounted for by washouts and pending claims. Washouts are those petitions that are withdrawn or dismissed for lack of prosecution. Little is known about these claims, but they may re-enter the system at a later date. The system absorbs extra petitions for hearings by lengthening or shortening the queue for hearings.

Role of Attorneys

Attorneys are involved in almost all cases with disputes. Typically an attorney gets involved when an insurer denies compensation to a claimant. Given the degree of litigation in the system, it would be surprising if most claimants did not know that they could resort to an attorney to help them win benefits. There is some advertising by attorneys for workers' compensation claimants in Michigan. Attorneys fees in Michigan are a contingent percent fee, and depend on the final outcome of the case. For cases "tried to completion" a maximum fee

of 30 percent of accrued compensation, after deducting the costs of litigation, is specified by administrative rule. For redemptions, a fee of 15 percent of the first \$25,000, and 10 percent of any amounts over \$25,000 is conventional, again after deducting the costs of litigation from the total amount. Typically the attorney pays the costs of litigation for cases that are not compensated.

Incentives

In this section, we will reconsider the Michigan workers' compensation system with a focus on the incentives present in the system. Incentives for employers to prevent accidents, for employees to return to work, provider incentives, and litigation incentives will each be considered. This discussion will help to frame the comparative analysis to be presented later.

Safety and Prevention Incentives -- Mostly Employer Side

The Michigan system provides strong incentives for employers to prevent injuries. Large employers in Michigan are very likely to be self-insured, which provides the maximum connection between the employer's cost and performance in preventing workers' compensation claims.²⁹ Those large employers that are not self-insured will be fully experience rated by their workers' compensation insurance carrier. This means that an employer's actual premium level will adjust to the claim costs he or she experiences over time. Most experience rating plans in Michigan are based on 3 to 5 years of loss experience. The range in experience modification factors in Michigan is approximately tenfold, that is, the worst employer in a class will pay up to ten times what the best employer will pay for equivalent insurance coverage. In addition, large employers are likely to receive significant loss-reduction services from their carriers designed to assist them in reducing claims costs.

However, for smaller employers the picture is different. Below a premium level of \$4,000 annually, experience rating is generally not provided. The justification for this is that

²⁹Most self-insured employers will also have some kind of excess, or reinsurance, policy to protect them against catastrophic claims.

the experience of such small employers is dominated by random events rather than their own efforts at prevention. Thus, smaller employers are only class rated.³⁰ The obvious problem with class rating is that it dilutes the financial incentives for prevention.³¹ If a small employer constitutes an insignificant percent of the class, his or her experience will have no significance for the costs of the class as a whole. Thus, their individual performance will not impact the cost of insurance coverage and the incentive to prevent injuries is accordingly reduced.

The existence of group self-insurance can mitigate this lost incentive effect. To the extent that the group is small enough that each employer believes he/she matters to the overall performance, or to the extent that the group administrator makes this clear to members of the group, the incentives for prevention can be restored. In Michigan, a number of self-insured groups are known to screen applicants for their past claims experience and their current commitment to safety and prevention activities. This probably means that the insured sector in Michigan is subject to rather heavy adverse selection tendencies.

Return-to-Work Incentives -- Mostly Employee Side

Paralleling employers' prevention incentives, are employer and employee incentives to return to work as soon as possible. From the employer perspective, the cost savings from early return to work can be nearly as great as the incentives to prevent the injury in the first place. One study that sought to quantify these effects among a cross-section of Michigan employers found that the payoff to return-to-work policies was about half the size of the payoff to prevention strategies. (Hunt, Habeck, Scully, and VanTol, 1993) Based on comparisons among a random sample of 222 establishments in seven industries, the study concluded that 10 percent better performance on safety diligence was associated with nearly 17 percent fewer lost workdays per 100 employees. On the other hand, 10 percent better performance on proactive return-to-work behaviors was associated with just over 7 percent fewer lost workdays per 100

³⁰There is a "merit" rating in Michigan for employers with premiums of \$500 to \$4,000 per year, but it provides very limited premium swings (\pm 10 percent).

³¹As in a public monopoly system without experience rating, or with restricted experience rating, as in British Columbia.

employees. Both results control for a large number of objectively measurable employer specific factors that were included in the estimation models.

There is a growing recognition among employers that they can influence their workers' compensation costs. This has been assisted by a program in the Michigan Department of Commerce that urged employers to "shop around" for their workers' compensation coverage. This became critically important after the introduction of open competitive rating for workers' compensation insurance in 1983.

Employee incentives promoting return to work are not so straight forward. However, the policy justification for replacing less than 100 percent of lost earnings in temporary disability cases is to maintain the economic incentive to return to work. In Michigan, with a replacement rate of 80 percent of estimated spendable earnings, this incentive seems strong. Using spendable earnings as the basis for a tax-free income benefit ensures that no injured workers will benefit financially from staying away from the job. For workers with earnings above the average weekly wage, this incentive is even stronger since they actually receive less than 80 percent due to the imposition of the benefit maximum.

Some would argue that the 7-day waiting period before income replacement benefits begin also constitutes an incentive to return to work swiftly. However, the fact that all days of disability are compensated if the disability lasts beyond 14 days may negate this. Once a disability has lasted for 5 or 6 days, the incentive is very strong to remain off 14 days or more.

In addition, Michigan has gone farther than any other U.S. state in coordinating workers' compensation with other benefits paid for by the employer. The only benefit that is not coordinated by BWDC is Social Security Disability Insurance, and that is because the federal government enacted a statute that allowed them to coordinate first.³² Thus, federal Disability Insurance payments will be reduced to reflect any workers' compensation payments for Michigan workers, rather than the other way around. Employer financed pensions, unemployment insurance, even Social Security Old Age and Survivors Insurance benefits are

³²States that enacted coordination of benefit provisions before the federal statute continue to coordinate.

coordinated with workers' compensation benefit payments in Michigan. The purpose of these provisions is to reduce employer's costs and maximize employee incentives for return to work.

Last, it is clear that giving the employer (or insurance carrier) the initiative in stopping benefits (assuming medical evidence justified this action), allowing the employer to stop benefits if the worker refuses an offer of reasonable alternative employment, requiring the worker to cooperate with vocational rehabilitation efforts, and other such provisions all operate to reinforce the financial incentives for injured workers to return to work as soon as they are able. In sum, there are substantial incentives for early return to work in the Michigan system.

Provider Incentives

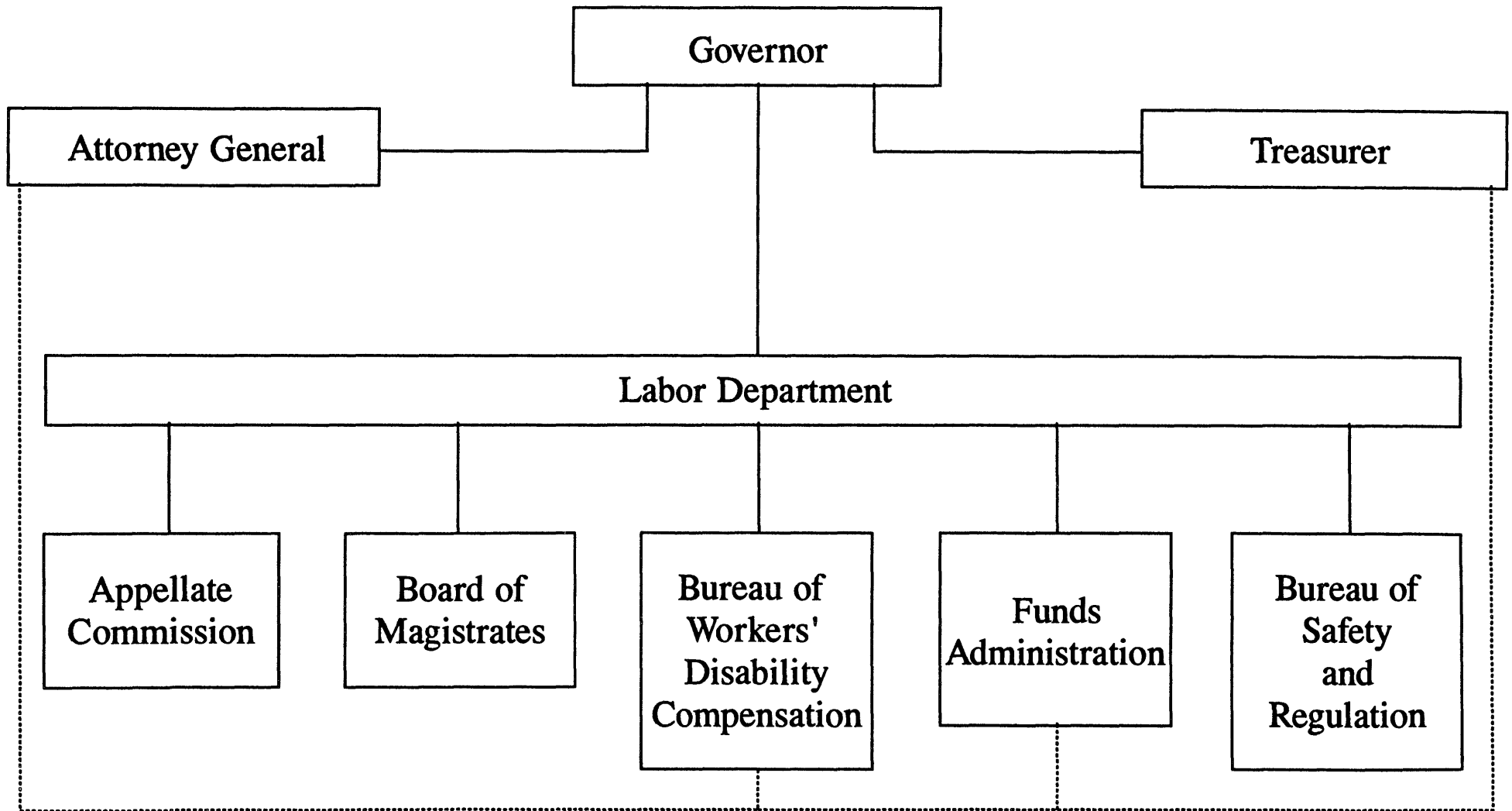
Incentives for various service providers are also built into the system, either explicitly or implicitly. Fees for medical treatment are controlled in Michigan by a fee schedule and utilization review procedures. Since fees are easier to monitor than utilization, it is a logical deduction that the incentive effect is to promote extra treatment at a fixed cost. Whether this promotes more rapid return to work is not clear.

Litigation-Settlement Incentives

Attorneys also affect and are affected by incentives in the workers' compensation system. Since claimant's attorney fees are regulated as a percentage of the award (15 percent of lump-sum settlements and 30 percent of accrued liability in weekly payment cases), the attorney clearly has an incentive to make the disability liability as large as possible. The attorney understands that the size of the settlement depends crucially on how badly disabled the worker is. Therefore the emphasis, at least through the hearing date, is on demonstrating disability, not the residual work ability that remains.

Figure 4.1

Organization of Workers' Compensation System in Michigan



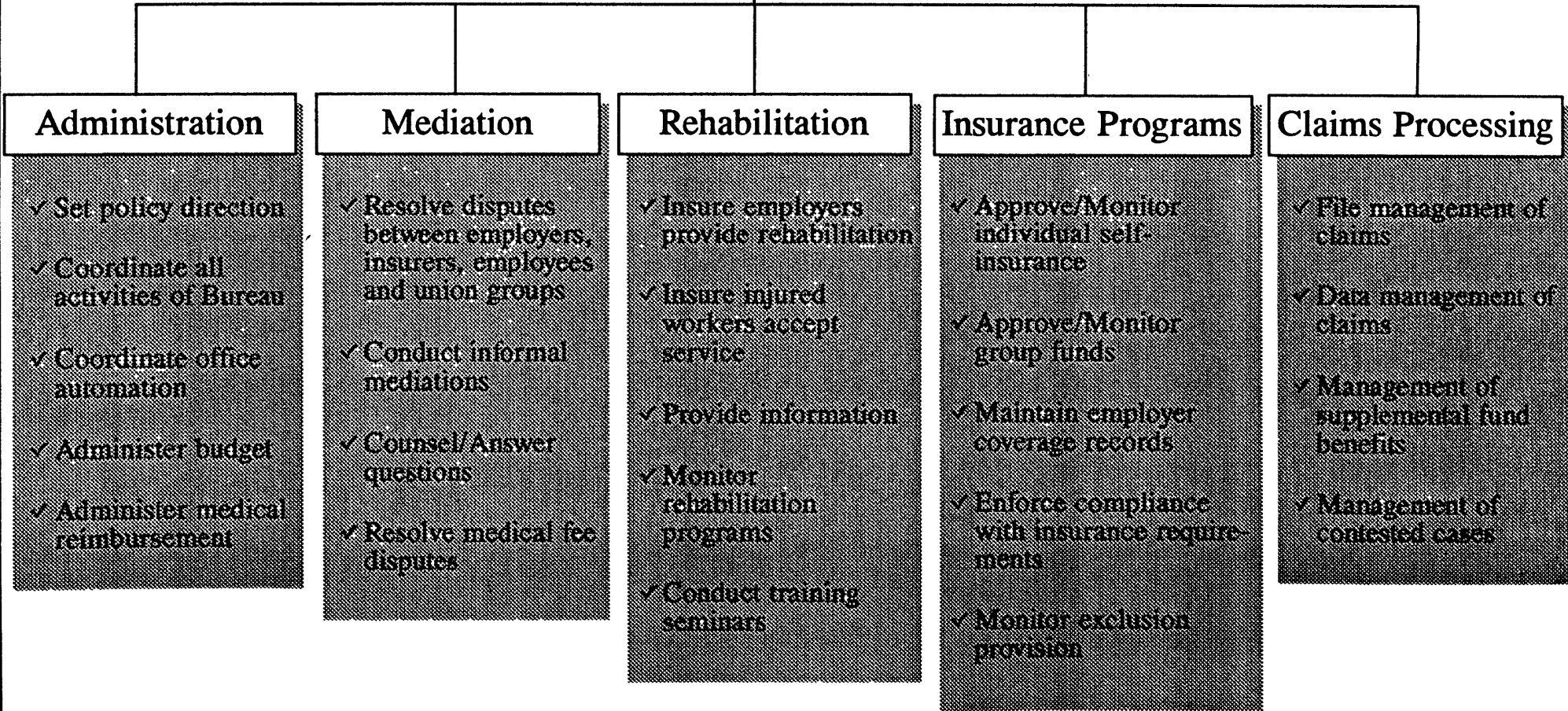
— Administrative Reporting
- - - Cooperation/Interface

Figure 4.2

Organizational Structure and Function of BWDC

Deputy Director, Labor Department

Director, Bureau of Workers Disability Compensation



V. MICHIGAN (PRIVATE) INSURANCE MODEL

The Structure-Conduct-Performance Paradigm

The analysis of private systems for providing workers' compensation insurance presented here is based on principles of market function commonly used by industrial organization economists. Economists postulate a theoretical relationship between market structure and market results, which is labeled the "structure-conduct-performance hypothesis." The basic hypothesis is that market structure determines market conduct, which determines market performance. An atomistic market structure causes firms to behave independently and competitively, which in turn leads to good market performance.

- Market structure encompasses the number of buyers and sellers and their size distribution, the height of barriers to entry into (and exit from) the market, cost structures, the degree of vertical integration, the character of buyer and seller information, and the degree of product differentiation.
- Market conduct refers to the actual behavior (i.e., degree of independence) of firms in setting prices and output levels, product design, advertising, innovation, and capital investment.
- Market performance covers price, profit, and output levels, production and allocative efficiency, the rate of technological progress, and equity. The solvency of firms and the availability of coverage also are important performance parameters in insurance markets.

The empirical analysis of markets is complicated by the presence of regulation and other forms of government intervention, which affect structure, conduct and performance. It is important to identify and evaluate government institutions and policies that may significantly influence market behavior. This is often a difficult task, given the complex interaction between regulation and market forces, but it is necessary to understanding all of the relevant determinants of market outcomes.

Market Structure

The first step in understanding how well workers' compensation markets function is to examine their underlying structure. This examination starts with looking at the number of insurers and their size distribution to determine whether insurers possess sufficient market power, individually or collectively, to affect market price and output levels. This is followed by an analysis of entry and exit conditions to assess whether entry or the threat of entry helps to impose competitive discipline on workers' compensation markets.

Number and Size of Firms

The workers' compensation insurance market in the U.S. has a large number of competitors at the national level. At least 359 private insurers wrote workers' compensation insurance in 1993.³³ In addition, 26 state funds provided workers' compensation coverage as of 1993. Among the states, the average number of workers' compensation insurers was 92. There were 107 carriers in Michigan. The number of carriers in a state tends to vary with the size of the market.

The degree of concentration in the market is more significant than the number of firms. Workers' compensation insurance in the U.S. is not dominated by one or a handful of insurers, but there typically are several leading carriers which write a significant share of the market in the various states. These leading carriers vary somewhat from state to state, and their positions change over time. Table 5.1 shows the top 20 writers of workers' compensation in Michigan in 1993. The Michigan State Accident Fund was the largest writer with a 16 percent market share in 1993. The America Group and the Liberty Mutual Group were the second and third largest carriers with 9.7 percent and 7.2 percent market shares, respectively.

Market concentration is typically measured in terms of "concentration ratios," which represent the combined market share of some given number of the largest sellers, or in terms

³³As used here, the term "insurer" refers to a group of affiliated companies under common ownership or control or a stand-alone company that is not a member of a group. This figure is based on insurers filing annual financial statements with the NAIC. There may be a small number of other insurers who write workers' compensation but do not file a statement with the NAIC.

of the Herfindahl-Hirschman Index (HHI), which is the sum of the squares of the percentage market shares of each firm. The HHI reflects the distribution of the leading firms' market shares as well as the composition of the rest of the market. The HHI also weights the market shares of the larger firms more heavily, which better reflects their relative market power.³⁴

While neither economic theory nor experience establish a critical level of concentration for the absence of competition in a particular industry, the U.S. Department of Justice has established merger guidelines for industries which refer to the HHI (DOJ, 1984). Under the Justice Department guidelines, a post-merger market with an HHI in excess of 1,800 is considered highly concentrated. A proposed horizontal merger between two firms that would result in such a market is likely to provoke a challenge from the Justice Department, depending on other circumstances. A post-merger market with an HHI between 1,000 and 1,800 is considered to be moderately concentrated. A proposed horizontal merger resulting in this kind of market would be less likely to be challenged. A post-merger market with an HHI of less than 1,000 is considered to be unconcentrated. A horizontal merger resulting in such a market is unlikely to encounter opposition. It should be pointed out that these criteria have been developed to evaluate mergers in national industries, broadly defined. Higher concentration levels may be expected and acceptable in smaller state insurance markets where there is a greater threat of entry that undermines insurers' ability to exert market power.

Table 5.2 shows Michigan, state average, and U.S. concentration ratios and HHIs for workers' compensation insurance for the period 1982-1993. All insurers writing workers' compensation are reflected in the U.S. figures.³⁵

³⁴For example, a market with four firms, each with a 25 percent market share, would have an HHI of 2,500. If the firms' market shares were 50, 30, 15 and 5 percent, then the HHI would be 3,650. The highest possible HHI is 10,000 which would occur when one seller has the entire market, i.e. a monopoly.

³⁵States with monopolistic state funds are excluded from the state average to avoid distortions. Arguably, because state funds are generally managed to provide coverage at the lowest possible cost or to serve other public policy objectives, their effect on market concentration should be considered separately.

Market concentration in workers' compensation insurance at the national level increased during the early and mid-1980s but has declined in recent years.³⁶ The increase in concentration is the result of extremely soft market conditions in 1983 and 1984, which drove some carriers out of the market. In 1993, the top four insurers accounted for 20.3 percent of the workers' compensation premiums written nationwide and the top eight insurers accounted for 34.6 percent. The HHI fell from 309 in 1988 to 238 in 1993, which is considerably below the Justice Department threshold for even moderate concentration.

As expected, concentration is higher at the state level, but generally not high enough to cause concern about the structural competitiveness of state markets. The average four-firm concentration ratio (CR4) among the states in 1993, including competitive state funds, was 47.2 percent and the average eight-firm concentration ratio (CR8) was 63.6 percent. Excluding monopolistic fund states, state HHI values ranged from 307 in Indiana to 4,702 in Rhode Island; all but 12 states had HHIs below 1,000. The states with high market concentration tend to have small markets and/or competitive state funds with large market shares. The average state HHI in 1993 was 1,198, including competitive state funds, and 918, excluding all state funds.

While concentration is declining at the national level, it appears to be on the rise at the state level. This reflects some insurer withdrawals from and retrenchment in state workers' compensation insurance markets. It also could reflect the growth in the residual market which concentrates more direct business in the hands of a limited number of larger companies which are servicing carriers for residual market mechanisms.

Michigan's workers' compensation market is relatively unconcentrated compared with other states. The top four insurers (including the state accident fund) wrote 38.1 percent of the Michigan market, and the top 20 insurers wrote 76.3 percent. The 1993 Michigan HHI was 548, including the state fund, and 293, excluding the state fund.

³⁶Market concentration estimates are based on direct premiums written by insurers. There is a possibility that market concentration estimates are affected by the growing amount of residual market business assigned to authorized servicing carriers which are a limited group of large insurers.

Concentration has increased in Michigan as it has in other states. In 1983, 117 insurers wrote workers' compensation insurance in Michigan and the HHI was 352, excluding the state fund. The increase in concentration is due to the significant growth in the state fund.

Entry and Exit Conditions

In some respects, entry and exit conditions appear to be relatively conducive to competition in workers' compensation insurance. The property-casualty insurance industry generally is not characterized by significant barriers to entry. The initial investment in physical facilities needed to start an insurance company is relatively small compared with other industries. Almost 80 percent of property/casualty insurers' assets are held in cash, bonds and stocks that can be quickly sold to pay claims. Insurers can easily move their capital from unprofitable to profitable markets. The amount of capital that most states require insurers to have to sell insurance ranges from \$500,000-\$6,000,000, which is a small amount compared to the premium volume of most insurers. For safety and competitive reasons, new insurers are generally capitalized at higher levels than state regulatory minimums but even these levels do not impose a significant barrier.

Insurers do incur costs in setting up marketing, underwriting and claims operations to service various markets, but they can also take advantage of "economies of scope." Independent agency companies can essentially plug into the agency network in any given state in order to market their policies.³⁷ Entry for direct writers is more difficult in that they must set up their own agent network to sell policies. However, both agency companies and direct writers can use the same facilities and personnel to market several different lines of insurance. In commercial lines, the economies of scope involved in packaging several types of coverage, including workers' compensation, may be more significant than efficiencies achieved from being a direct writer. Carriers also can utilize regional or central underwriting and claims

³⁷Independent agents sell insurance for more than one insurance company. Alternatively, direct writers sell insurance through exclusive agents or agents who are employees of the direct writer.

facilities to service insureds in various states. This greatly facilitates entry into and exit out of a specific state.

The experience insurers gain in writing workers' compensation business, generally, and certain occupations or industries, specifically, represents an investment which could serve as a deterrent to entry and exit. Insurers also acquire private information about the specific employers that they write. Cummins and Danzon (1991) hypothesize that insurers holding private information about favorable risks are able to maintain prices above competitive levels. If the policyholders return to the market to seek insurance from a different company, much of this private information is lost. Policyholders with favorable risk characteristics may be charged a higher price in the open market because other carriers do not have as much information on the policyholders' risk characteristics. Thus, policyholders may be willing to pay a supra competitive price without switching. This kind of informational barrier may be less significant in workers' compensation than in other lines of insurance, given that historical workers' compensation experience information on employers is available to all insurers through mandated experience reporting.

There are also costs involved with exit. Insurers will lose the value of any sunk investments they have made in establishing operations in the market from which they withdraw. These costs will serve as some deterrent to entry. They also may induce insurers to sustain inadequate profits for a period of time before withdrawing from a market. Government exit restrictions also can discourage entry. At present, exit restrictions in workers' compensation are generally limited to prior notice requirements and residual market assessment obligations. While these restrictions should not prevent insurers from withdrawing from a market, they can delay and/or raise the cost of withdrawal.

Data on the frequency of entries into and exits from workers' compensation markets in the U.S. suggest that barriers have not been high enough to significantly restrict insurers' movement. Table 5.3 shows the pattern of entries into and exits from workers' compensation insurance markets in Michigan, states on average, and the U.S., over the period 1983-1993. There have been some entries and exits every year at the national level, with marginally more exits than entries. The highest level of exits occurred from 1987 to 1988 in response to the soft

market and declining profits that occurred in 1983 and 1984. On average, over the period 1985-1993, 21 insurers have entered the U.S. market and 24 insurers have left the market every year. These figures represent approximately 5.6 percent and 6.3 percent of the insurers selling workers' compensation insurance countrywide, respectively.

As would be expected, the rate (in percentage terms) of entry and exit is somewhat higher at the state level than at the national level. Over the period 1985-1993, seven insurers entered and nine insurers exited the average state market every year. These figures represent 7.9 percent and 9.3 percent of the average number of insurers operating in a state, respectively. Exits have out paced entries to a greater degree at the state level than at the national level, reflecting the fact that some carriers have reduced the number of states in which they write workers' compensation business. This is consistent with an overall industry trend in which insurers are consolidating their operations in states where they have a more significant market presence. A large number of market exits have been concentrated among a minority of states with significant market problems. Klein, Nordman, and Fritz (1993) found that only half of the states experienced a net decrease in workers' compensation writers over the period 1986-1991, and only five states lost more than 10 percent of their carriers.

Entries and exits have occurred at a somewhat slower pace in Michigan. On average, 5 insurers have entered and 6 insurers have exited the market every year over the period 1983-1993. These figures represent 4.3 percent and 5.5 percent of the total number of carriers in the Michigan market, respectively. Michigan experienced a relatively large number of exits (11) in 1983 after the introduction of competitive rating and lost 12 carriers in 1986 at the tail of the soft market.

These data tend to support the view that entry and exit barriers are not significant impediments to competition in workers' compensation insurance. At the same time, the costs of entry and exit are not incidental and could have some effect on the industry's performance. To the extent that entry and exit are costly, competition could be impaired, resulting in higher prices. The impact on prices will be limited by the magnitude of entry and exit costs.

Conduct

The second major area that is examined is the market conduct of workers' compensation insurers. This aspect is more elusive than structure and performance because it involves assessing whether insurers are making pricing and output decisions independently and not taking other strategic actions to impede competition. This study examines two sources of evidence on the conduct of workers' compensation insurers: (1) the distribution of insurers' manual rates and their "competitive" adjustments to those rates; and (2) observations on insurers' efforts to develop innovations to improve service and lower costs.

Pricing

Evaluating market conduct in workers' compensation insurance is difficult because of the complexity of the product and the pricing system. One parameter that is sometimes examined is the degree of independence in insurers' pricing. If a market is competitive, insurers will not be able to set their prices in concert to increase profits or protect inefficiency. Historically, workers' compensation insurers were forced to use uniform bureau rates with little opportunity for deviation. Regulation of bureau rates substituted for competition. In recent years, many states have moved away from administered pricing systems, although they may still review and approve advisory rate filings. Today, in most states, insurers can file independent rates or deviations from advisory rates. In states with "loss cost" systems, insurers must file full independent rates or multipliers applied to advisory loss costs. Insurers also can compete through various kinds of adjustments to manual rates to determine the premium for a specific employer. At the same time, the publication of advisory rates or loss costs and other advisory rating information could serve as a focal point for insurers' pricing systems and diminish independent price competition.

The rates and rating rules filed by insurers with regulators are based on extensive analysis of a huge amount of data. Historical data on losses, expenses and premiums are developed to a current basis and then projected forward to the period in which the filed rates will be in effect. This projection considers the effect of medical cost and indemnity trends, law changes, payroll trends, investment income and many other factors. If projected costs,

including a provision for insurers' cost of capital, exceed projected premiums, a rate increase is requested. If projected premiums exceed projected costs, a rate decrease is filed. The indicated rate change is allocated to the various classifications according to their relative historical costs.

It is difficult to ascertain whether insurers are setting prices independently simply by looking at the distribution of prices. In theory, in a perfectly competitive market, all insurers will charge the same price for a common policy. The structure of insurance markets is more akin to monopolistic competition than perfect competition, however. Even in workers' compensation, insurers are differentiated by their quality of service and underwriting standards, and their prices should vary accordingly. Hence, in a monopolistically competitive workers' compensation market, we would expect to see a range of prices among insurers. On the other hand, similar employers would not be expected to pay widely varying prices for the same coverage, unless acquisition of information about rates is very costly.

Detailed information on insurers' pricing structures for workers' compensation has not been compiled and summarized at the national level. However, information on the distribution of insurers' workers' compensation prices has been compiled in Michigan, as part of its competition monitoring efforts. Table 5.4 reproduces an exhibit from the most recent Michigan report, which shows the distribution of policies by insurers' manual rates for the 100 largest classes in 1993. This table shows the highest and lowest rate for each class as well as the percentage of policies written at rates in each of five equal divisions between the low and high rates. The distribution of prices tends to be skewed towards lower rates but some policies are written at relatively high rates. On average, 88 percent of all policies were written at rates within the lowest three divisions. Nine percent of all policies were written in the first division and 36 percent of all policies were written in the second division. These data indicate that insurers' manual rates for a given classification range widely.

While these data do not suggest that workers' compensation insurers are engaging in concerted pricing in Michigan, the Michigan report expresses concern that employers with "similar" operations pay such different manual rates, depending on which insurer they place their business with. There is a problem if some insureds are paying excessive premiums for

the amount of coverage and quality of service that they receive. Unfortunately, this cannot be discerned from manual rate distributions alone. As the Michigan report observes, there are a number of possible explanations for manual rate differences that would not represent a market failure. First, differences in manual rates could be offset by differences in the other rating adjustments that insurers apply in calculating final premiums. Second, insurers with higher manual rates could offer better service in terms of loss prevention, claims adjustment, financial strength, etc. Third, experience rating and schedule rating adjustments may not fully account for differences in risk among employers within the same rating classification. Consequently, insurers with lower rates will tend to apply tighter underwriting standards, which forces higher-risk employers towards higher-rate carriers. Finally, some variation in prices is to be expected in a dynamic market affected by changes in external factors, requiring pricing adjustments which take time to implement.

Some information is available on the “competitive” pricing adjustments insurers make to the advisory manual rates approved by regulators. Insurers use these adjustments to fine tune the price for a particular employer to respond to the employers’ particular risk characteristics as well as competition from other insurers. Thus, even in states that appear to maintain uniform rates across employers, there may be more variation in final, realized prices than appears at first glance.

Deviations are pricing adjustments made by individual insurers to the manual rates filed by the advisory or rating organization. They are applicable only in states that still allow the advisory organization to file full manual rates that include expense and profit loadings. A deviation is a departure, usually downward, from the rates filed on the insurer’s behalf by the advisory organization. Many insurance departments require that deviations be supported by appropriate loss and expense information. Often insurers will file a deviation for one or more affiliated insurers within a group. This allows the insurer group to have more than one set of manual rates on file within the group. Having more than one set of manual rates on file allows underwriters to place an employer in a company with a filed downward deviation if the risk represents a better than average exposure to loss.

“Schedule rating” attempts to reflect risk characteristics that are not included in the experience rating plan. It attempts to measure such variables as: condition and care of the premises; type of equipment and its care and condition; classification peculiarities; cooperation of management with respect to medical facilities and safety programs; and selection, training, supervision and experience of employees. Although some states have taken measures to ascertain that schedule rating plans have been appropriately applied, these plans are often used for competitive purposes when an insurer wants to reduce the price it is quoting to an employer. This is evidenced by the fact that schedule rating typically results in a credit (as opposed to a debit) in those states where it is allowed.

The competitive pricing adjustments discussed above are front-end adjustments. Policyholder dividends are back-end price adjustments that occur after the policy has already expired to reflect favorable loss experience of the insurer. The insurer and the policyholder contractually agree to participation in the dividend program. In most jurisdictions, the insurer is prohibited by law from guaranteeing that dividends will be paid. Actual payment of dividends is not determined until the board of directors of the insurer has reviewed the insurer’s loss experience over the time period for which the dividend is being calculated. Flat dividend plans pay a certain percentage of premium back to each policyholder, regardless of the policyholder’s loss experience. Loss-sensitive plans pay dividends based on the favorable loss experience of the policyholder. These plans are usually based on a schedule that returns a certain percentage of premium for achieving a certain loss ratio after application of the individual experience modification, if any.

Table 5.5 tracks these competitive pricing adjustments as a percentage of standard earned premium for Michigan and all NCCI states combined over policy years 1984-1993. These data indicate that competitive pricing adjustments in all NCCI states fell from 12.9 percent, in 1984, when the soft market bottomed out, to 6.4 percent, in 1991, and then rose slightly to 6.9 percent in 1993. In Michigan, competitive pricing adjustments fell from 18.2 percent in 1984, to 7.3 percent in 1987, and then rose to 9.4 percent in 1993. The use of these adjustments indicates that insurers exercise some further discretion in pricing workers’ compensation insurance, beyond setting different manual rates.

At the same time, the cyclical pattern revealed in the use of these adjustments suggests that insurers' pricing decisions are not completely independent. As noted in Section I, the cyclical nature of commercial lines, pricing is a topic of considerable discussion among industry observers. Analysts differ on the question of whether these price movements are driven primarily by external economic factors (i.e., changes in interest rates, loss shocks, etc.) or rising and falling tides of competition (Cummins, Harrington, and Klein, 1991).

Product Service/Design

Economists sometimes evaluate the pace of innovation in an industry as an element of market conduct. In a competitive market, firms are expected to explore new products and services to meet consumers' needs and new technologies to lower production costs. Insurance companies innovate by developing more efficient ways to market and distribute their products, underwrite, handle claims, and provide loss prevention services. Insurers also innovate by developing new products and services that help policyholders tailor their transfer of risk and related functions to fit their particular circumstances. Because of statutory restrictions, the ability of insurers and employers to vary policy provisions is somewhat more constrained for workers' compensation than for other commercial lines.

Despite these restrictions, workers' compensation insurers have managed to find ways to vary their products and services. Innovations have occurred in the form of policies that allow employers to retain greater risk for lower premiums, and in the unbundling of insurance services so that employers need only purchase those that they cannot perform efficiently for themselves. Under a retroactive rating plan, an employer's premium varies within a prescribed range, depending on the employer's claims experience under the policy. With a large deductible policy, an employer reimburses the insurer for losses up to a certain amount. These types of policies allow employers to lower their premiums by purchasing less than full insurance. This can ultimately lower costs for these employers to the extent that they are induced to more effectively prevent accidents or reduce claim costs and also are able to avoid insurers' expense and profit loadings on the loss costs retained by the employer. Some insurers have enhanced their loss prevention and claims management services to better control claims

costs and lower premiums. Insurers also have unbundled and sold loss prevention and claims services to self-insured employers. These innovations suggest that the conduct of workers' compensation insurers is responsive and adaptive to economic forces in ways that improve the efficiency of the market.

Performance

According to economic theory, a competitive market will achieve an optimal allocation of resources. Specifically, this means that the market price will equal the cost of producing the last unit of output, each firm will produce at a level of output where its average cost is at a minimum, and investors will receive a rate of return just equal to the cost of the capital they have invested.

While competition ensures that prices will be as low as possible, it does not ensure that a given commodity will be "affordable," or that prices will not rise over time. Indeed, an unavoidable increase in the cost of production requires an increase in the market price. Hence, the efficiency of workers' compensation insurance markets should be judged in terms of the relationship of premiums to the benefits received by employers and their employees. The level and growth of claim costs, the availability of coverage, and insurer solvency also are important aspects of workers' compensation market performance.

Prices

The level and rate of growth of workers' compensation insurance premiums are not, by themselves, indicative of the market's efficiency, but they can be symptomatic of market problems. This is definitely an issue in the U.S., where workers' compensation rates have risen rapidly in many states in recent years. Table 5.6 shows benefit payments and workers' compensation costs to employers, each as a percentage of covered payroll, for the period 1982-1993. Costs rose fairly steadily over this period in the U.S. until 1991 from \$1.75 to \$2.40. In 1992, however, the tide turned as employer costs fell to \$2.31 and then to \$2.30 in 1993. This is consistent with NCCI filings for rate/loss cost decreases in a number of states in response to system reforms and improving experience.

In Michigan, prices declined from 1982 as competitive rating was instituted, then rose faster than the national trend in 1984-1987. Michigan prices dropped relative to the U.S. average again through 1990. As for the country as a whole, Michigan rates declined absolutely in 1992 and 1993. Rising workers' compensation premiums have been a significant issue in many states, imposing political pressure on the rate regulatory process and benefit provisions, as well as inducing employers to look for lower cost alternatives to standard insurance coverage. Some analysts contend that regulatory suppression of voluntary and residual market rates has diminished employers' incentives to contain costs, which in turn has contributed to cost inflation.³⁸ It appears that the economic and political pressures to contain workers compensation costs have had some effect and reversed the steady upward trend since the early 1980s.

Benefit Costs

Benefit costs represent the largest portion of the total costs of the workers' compensation system in the U.S. and are the principal driver of the premiums paid by employers. In evaluating the efficiency of different workers' compensation systems, it is too simplistic to start from a premise that "high" benefit costs are either good or bad. Ideally, the system should adequately compensate workers for their medical costs and lost wages due to injury, while also encouraging and facilitating their rapid return to work. Thus, benefits costs that are too low can be just as much of a problem as benefit costs that are too high. Unfortunately, it is very difficult to determine whether the "right" amount of benefits are going to the "right" workers. The amount and distribution of benefits is primarily determined by statute and workers' compensation administrators, but the way in which benefits are funded and provided also has an impact.

In theory, private workers' compensation insurers should have an incentive to minimize benefit costs consistent with state law. Insurers also should seek to provide these benefits efficiently by minimizing their loadings for nonbenefit costs. This implies that a higher ratio of

³⁸See Hager (1991) for an overview of this and other troubling policy issues as seen by the NCCI.

benefit costs to total premiums represents greater efficiency, but that is not necessarily the case. Insurer expenditures for claims adjustment and loss prevention, up to a point, might yield more than commensurate savings in benefit costs and result in a lower benefit/cost ratio. Hence, it is necessary to evaluate the level of benefit costs in relation to system provisions and other relevant economic variables, as well as the relationship between benefit costs and premiums.

As was shown in Table 5.6, benefit costs as a percentage of covered payroll have risen over the past decade in Michigan and the U.S. In Michigan, benefit costs increased from 1.59 percent, in 1984, to 1.99 percent, in 1991, representing a 25 percent increase (3.3 percent annually). Benefit costs have increased at a faster pace in the U.S. as a whole, from 1.21 percent to 1.79 percent, representing a 48 percent increase (5.8 percent annually). Benefit costs in the U.S. increased further in 1992 to \$1.82 then fell sharply in 1993 to \$1.68, following the drop in overall employer costs.

Rapidly rising costs in workers' compensation have been blamed on a number of factors, including: more frequent workplace accidents and occupational illnesses; emergence of new types of compensable injuries; medical cost increases and cost shifting; high benefit levels that encourage claims; excessive litigation; and fraud (Burton, 1992). Inadequate rates and the lack of cost containment incentives for residual market servicing carriers also have been identified as contributing factors (Harrington, 1992; and Klein, Nordman and Fritz, 1993). Additionally, cost pressures in the insured sector could be exacerbated by adverse selection, if low-risk employers are moving to self-insurance to lower their workers' compensation costs. The recent decrease in benefit costs could be the result of system reforms as well as private insurer and employer cost containment efforts, particularly with respect to managed care (Burton, 1995).

Table 5.7 provides information on the ratio of benefits (i.e., losses incurred) to direct premiums earned for private insurers and selected state funds for Michigan and the U.S. for the period 1982-1993. The benefit/premium ratio has been somewhat volatile over this period in Michigan, ranging from 59.4 percent to 102.0 percent. The benefit/cost ratio was 68.6 percent in 1993, which was somewhat below the historical average of 77.9 percent. The ratio

for private insurers has been generally lower than that for the state fund in Michigan. Benefit/cost ratios have been higher at the national level, both for private insurers and state funds, These ratios were 80.2 percent and 94.8 percent respectively for private insurers and state funds for the period 1982-1993.

Expenses

The second largest component of workers' compensation insurance cost is insurers' expenses. Insurers perform a variety of functions in administering insurance policies that generate costs. These functions include marketing, distribution/acquisition, loss prevention, claims adjusting, investing, and general administration. Some of these are services that employers might otherwise have to perform for themselves, such as loss prevention, claims administration, and investing funds accumulated to pay losses. Other activities are necessitated by the use of government or private entities as risk-pooling mechanisms. Of course, only competing private insurance companies are forced to incur marketing costs; these are precluded if all insurance is provided through a private or government monopoly.

Evaluating the relative costs of monopolistic versus competitive insurers involves a difficult calculation. Competitive insurers incur additional marketing and acquisition costs and also may not fully exploit all potential economies of scale. On the other hand, market competition may be a more cost-effective way to achieve maximum efficiency in the performance of insurance functions than the government oversight required for monopolistic insurers. Of course, that is one of the major questions of this paper.

It is impossible to conclusively judge the relative efficiency of the different insurance mechanisms in the U.S. from the information available. Detailed financial data on private insurers' expense costs are available but there is no comparable metric on the quantity and quality of services provided. Hence, it is hard to discern whether higher expenditures on claims adjustment, for example, are due to better service or greater inefficiency. The analysis is complicated by the fact that different jurisdictions have different legal and administrative requirements which necessitate different levels of service. Another consideration is that higher expenditures on some services, such as loss prevention and claims adjustment, may yield more

than commensurate savings in loss costs. Consequently, lower benefit/premium ratios and higher expense/premium ratios may actually reflect more efficient provision of workers' compensation benefits to injured workers.

With these considerations in mind, insurer expense data are reviewed here to gain some perspective on the cost of the different functions performed by insurance carriers. While it is not possible to reach definitive conclusions about the relative efficiency of different systems with these data, relatively high expenses would raise the possibility of inefficiency and would invite further investigation.

Table 5.8 shows expense costs reported for Michigan and the U.S. for 1992 and 1993. The largest portion of these costs is allocated loss adjustment expense, which was 15.9 percent of direct losses incurred in Michigan in 1993, compared to 16.2 percent in the U.S. Sales expense was somewhat higher in Michigan, 9.7 percent of direct premiums earned compared to 8.1 percent nationally. State taxes on workers' compensation insurance were lower in Michigan, 2.9 percent of premiums earned compared to 3.9 percent nationally.

These costs have been drifting upward in the last three or four years. The increase is due primarily to higher loss adjustment expenses, which could reflect more vigorous cost containment efforts on the part of insurers.

Profits

Unfortunately, it is not easy to measure insurers' profitability for workers' compensation. Most insurers do not confine their operations to one line of insurance, so it is necessary to allocate expenses and investment income from insurers' total operations to estimate profits for a specific line such as workers' compensation. An additional complication is that insurers' surplus must be allocated to each line in order to estimate total profits and a rate of return on net worth. Further, insurer financial data are primarily reported on a calendar-year basis, but calendar-year profits are a very imperfect measure of insurers' performance. Premiums are collected over the relatively short term of a policy year, but claim payments associated with that policy will stretch out over a number of years. Calendar-year profits reflect premiums and investment income earned, losses incurred and expenses paid

during the course of the calendar year. For a given calendar-year, these amounts originate from a mix of policies written in many different years.

Understanding these limitations, two different measures of profitability are analyzed - operating profits as a percentage of premiums earned and the estimated rate of return on net worth. Table 5.9 shows these measures for Michigan and the U.S. for the period 1985-1993. The data are taken from the NAIC's Report on Profitability By Line and By State and are adjusted from a statutory reporting basis (SAP) to a generally accepted accounting principles(GAAP) basis to facilitate comparisons with other industries which are subject to GAAP accounting.³⁹

The first measure reflects the portion of employers' premium dollars that insurers retain as profits, after inclusion of all investment income and payment of all taxes. Investment income represents a considerable portion of insurers' total income and is an important factor in their pricing decisions. This is particularly true for long-tail lines such as workers' compensation, where insurers hold policyholders' funds in reserve for long periods to pay claims. Here we also see the cyclical nature of workers' compensation profitability, driven by cyclical pricing. Despite its highly competitive market structure, profits in Michigan have been higher than in the U.S. as a whole. In Michigan, total profits as a percentage of net premiums earned varied from 21 percent in 1985 to -0.1 percent in 1991, and then rose again to 23.2 percent in 1993. Michigan profits averaged 13.3 percent over the entire period, compared to 7.3 percent nationwide. Of course, the national average could be a reflection of low or negative profits in some states because of high loss costs and regulatory constraints on prices.

Estimating the rate of return on net worth for workers' compensation insurers permits rough comparisons with the rates of return for the property/casualty insurance industry and other industries. Figure 5.1 compares the estimated rate of return on workers' compensation insurance, in Michigan and the U.S., against the estimated rate of return for all property/casualty insurance and Fortune 500 companies for the years 1985-1993. This analysis

³⁹These GAAP adjustments are only an approximation based on statutory financial information. See NAIC (1994) for explanation of the methodology used.

confirms that insurers' profits for workers' compensation in the U.S. as a whole have fallen below the rates of return in other industries. The estimated average U.S. rate of return on net worth for workers' compensation for the period 1985-1993 was 8.3 percent, which was below the estimated 10.8 percent rate of return for all property/casualty lines for that period and the 12.1 percent rate of return earned by the Fortune 500 companies. Property/casualty insurance profits have been depressed by recent catastrophes as well as soft markets in certain commercial lines, so the Fortune 500 average may be a better benchmark. The 1985-1993 Michigan rate of return for workers' compensation was 12.9 percent, which does not suggest that workers' compensation profits in Michigan were excessive compared with the return that investors might earn in other industries. The relatively high profits in Michigan in the mid-1980s may reflect the rebound in rates that occurred after significant price cutting in the years immediately following the introduction of competitive rating. (See Table 5.6)

Profitability differs substantially by state. Table 5.10 suggests that there is a strong relationship between increases in benefit costs and operating losses. The ten most profitable states in 1990 had an average operating profit of 37.1 percent and only an 11.1 percent increase in average benefit costs over the period 1985-1989. The ten least profitable states had an average operating loss of 15.9 percent and a 39.5 percent increase in average benefits costs over this same period.

A positive relationship between operating losses and rising loss costs could be explained by insurers' failure to accurately project future loss costs and set adequate prices or it could be caused by government constraints on insurers' ability to increase prices to match expected cost increases, or some combination of both. There is some evidence to suggest that insurers have underestimated rising loss costs. The NAIC's examination of the National Council on Compensation Insurance (NCCI), the primary industry advisory organization, concluded that NCCI rate making procedures have, on average, underestimated loss development by 3-5 percentage points and trend by 8-10 percentage points (Milliman & Robertson, 1991). NCCI studies also suggest that insurers' reserves are substantially understated which could cause insurers' loss projections to be underestimated.

The differential performance of state funds contributes to the variation in state market results. Some state funds are run at substantial deficits. In 1991, loss ratios ranged from 63.3 percent for the Minnesota state fund to 288.6 percent for the Nevada state fund. State funds had a combined loss ratio of 109.7 percent compared to a loss ratio of 85.6 percent for private insurers. There is a concern that several state funds are building up sizeable liabilities that will have to be paid either by taxpayers or special assessments on employers and/or private insurers (Kenney, 1991). This reflects a problem with the politicization of rates for some government insurers.

Availability

Availability is a very important aspect of market performance in insurance, particularly in lines such as workers' compensation where coverage is mandatory for most employers in most states, but no mandatory service requirements are imposed on private insurers. Availability is a general term which can be interpreted in various ways. In theory, availability could be defined in terms of whether the supply of insurance is adequate to meet the quantity of insurance demanded at competitive prices. Strictly speaking, virtually all employers have some source of workers' compensation insurance coverage available to them through residual market mechanisms. However, the residual market has a number of disadvantages for employers and is generally not a desirable source of coverage.

A more meaningful indicator is the availability of workers' compensation coverage in the voluntary market. However, this variable is not easily observable from empirical data. Different employers may face quite different circumstances in terms of the number of carriers that are willing to offer them coverage and the terms they offer. A commonly used proxy for availability is the proportion of total premiums written through the residual market. This is a less than perfect proxy for availability as some risks may actually choose to obtain coverage through the residual market when they could purchase coverage in the voluntary market. This can occur when residual market rates are inadequate and some employers can obtain a lower premium by insuring through the residual market. Still, the residual market share serves as an important barometer of market conditions, recognizing that it is influenced by a number of

factors including the relative competitiveness of the residual market. A large and growing residual market indicates significant problems which can ultimately lead to the collapse of the voluntary market.

As shown in Table 5.11, the proportion of direct premiums written in the residual market in the U.S. increased sharply from 9.9 percent in 1985 to 28.5 percent in 1993.⁴⁰ Operating losses for the residual market in NCCI states, as calculated by the NCCI, mushroomed from \$0.4 billion for policy year 1983 to \$2.3 billion (excluding Maine) for policy year 1989, and then fell back to \$1.0 billion in policy year 1993, as residual and voluntary market reforms took hold. Insurers are assessed to cover these operating losses based on their voluntary business. The countrywide residual market burden (operating losses divided by voluntary market premiums), according to the NCCI, increased from 10.3 percent of voluntary premiums written in policy year 1985 to 18.3 percent in policy year 1989, and then fell back to 8.7 percent in policy year 1993.

The large growth in the residual market in the U.S. could be a function of both diminished availability of voluntary market coverage as well as regulatory policies that have made the residual market the preferred source for coverage for some employers. Increases in voluntary and residual market rates appear to have reduced operating losses and should improve the availability and desirability of voluntary market coverage as insurers and employers respond to improved incentives.

If premiums in the residual market are insufficient to cover losses and servicing carrier fees, then an operating deficit will necessarily occur. This deficit, in turn, must be recovered through assessments on insurers. To the extent that insurers are able to recover the assessments through higher voluntary market rates, the burden of the residual market is borne by employers who purchase workers' compensation coverage. This increases employers' incentive to self-insure. Alternatively, to the degree that insurers are not allowed to recover assessments through higher rates, they are induced to decrease their voluntary market

⁴⁰It should be noted that the residual market share of premiums will be affected by the types of risks written and the level of rates charged in the residual market.

business. This can force the voluntary market into a “death spiral” in which growing residual market losses feed further shrinkage of the voluntary market which in turn increases residual market losses. The NCCI has suggested that, historically, a state residual market share in the range of 30 percent appears to be a critical threshold, beyond which further residual market growth and losses escalate rapidly.

Regulators do not deny the potential for a death spiral to occur but they also raise other issues about the performance of the residual market. Regulators have expressed significant concerns about the quality of service that residual market risks receive and the incentives servicing carriers have to properly administer policies and control costs. This can exacerbate cost pressures as more employers are thrust into the residual market. Regulators also have expressed concerns that an inordinate number of smaller employers are forced into the residual market.

The severity of the residual market problem varies significantly among the states. In some states, the residual market is virtually nonexistent while in other states it accounts for almost half of the business written. In 1993, the residual market share ranged from 2.6 percent in Idaho to 48.0 percent in South Carolina. Similarly, the residual market burden for policy year 1993, as evaluated by the NCCI, ranged from zero in New Mexico to 47.9 percent in Kentucky. While these results indicate significant market problems in some states, they are considerably improved from several years ago when the markets in a few states, like Maine, were threatened with total collapse. Several factors can influence the size of the residual market and the burden it imposes on the voluntary market in a given state. These factors include: the adequacy of/and relationship between voluntary market and residual market rates; the stringency of residual market application requirements; the presence and underwriting standards of a state fund; and the general condition of the voluntary market.

Insurers contend that the residual market growth and operating losses are caused by inadequate voluntary and residual market rates. If insurers are unable to charge a premium to an insured that is sufficient to provide a fair return on investment, they will be disinclined to offer coverage voluntarily. The greater the degree of rate inadequacy, in this view, the greater the number of employers that will be thrust into the residual market.

Solvency

An insurer's solvency is critical to the integrity of its contracts. State insurance regulators' primary responsibility is to protect policyholders and claimants against insurer insolvencies. This responsibility is met through financial regulation and state guaranty funds. While guaranty funds ensure that the workers' compensation claims against insolvent insurers will be paid, they diminish employers' incentives to purchase coverage from low-risk insurers. Regulation must compensate by stringently monitoring and limiting insurers' insolvency risk.

State regulators seek to reduce but not necessarily eliminate the incidence and cost of insolvencies. There is a need to balance insolvency risk with the cost and availability of insurance. Some possibility of failure is inherent in a competitive market. Insolvency costs paid by guaranty funds are initially passed back to solvent insurers through uniform *pro rata* assessments on premiums. Some states allow insurers to recoup guaranty fund assessments through higher rates while others allow premium tax offsets. Either way, a large number of failures of workers' compensation insurers will impose significant costs on employers and/or taxpayers.

As shown in Table 5.12 the number and proportion of insolvent insurers, with workers' compensation as their principle line of business, increased during the middle to late 1980s. It is not clear what these figures indicate with respect to the relationship between workers' compensation market conditions and insolvencies. The insolvency of workers' compensation writers may or may not have been caused or significantly influenced by their workers' compensation experience. It is interesting to note that the number of insolvencies represented by workers' compensation writers peaked at 9 in 1985, following the extremely soft market conditions in 1983 and 1984.

Some analysts contend that regulatory suppression of workers' compensation rates poses a significant threat to insurer solvency (Fein, 1991; and Kramer, 1991 and 1992). Kramer claims that financially weaker and insolvent insurers tend to write a greater portion of their business in states subject to rate suppression. While Kramer's data indicate a relationship between poor financial performance and concentration in low profit workers' compensation markets, his methodology does not necessarily support the conclusion that low profits and

insolvency are caused solely or primarily by rate regulation (See Klein, 1992b). Regardless of the underlying cause, workers' compensation losses do pose a solvency threat to insurers with a large portion of business in this line. This threat has not escaped the attention of insurance company rating agencies. In 1992, Moody's downgraded Liberty Mutual from an Aa2 to an Aa3 rating and Kemper National from an Aa2 to an A1 rating because of their concentration in the workers' compensation market.

Regulation

The reliance on private insurers to provide workers' compensation coverage necessitates a regulatory scheme to ensure reasonable rates, fair market practices, availability of coverage, and solvent insurers. This section outlines the principal areas of regulation that affect workers' compensation markets in Michigan and other states. It also discusses the important considerations in shaping regulatory policies to promote good market performance as well as the public objectives for the workers' compensation system.

Entry/Exit

Entry into state workers' compensation insurance markets is regulated principally by minimum capital and surplus standards and other financial requirements that determine whether an insurer will be issued a certificate of authority to do business. Insurers are required to obtain a certificate of authority for every state in which they do business. The minimum capital and surplus requirement to become licensed to write workers' compensation in most states is less than \$2 million, and in Michigan it is \$1.5 million. These amounts are not significant in relation to the premium volume of most U.S. insurers, and their effect on entry is probably minimal.

Other solvency requirements, however, affect an insurer's ability to enter a market and retain their authority to sell insurance. States also regulate insurers' investments, and reserving practices and may take informal or formal action against companies determined to be in hazardous financial condition. Many states require insurers to set aside a certain amount of reserves for workers' compensation claims, based on a statutory formula.

These regulatory actions have an impact on insurer pricing and underwriting decisions for workers' compensation. To the extent that solvency regulation forces an insurer to commit more capital, increase loss reserves, or choose more conservative investments, insurers will be compelled to reduce their supply of coverage and raise their rates. Regulators also may force an insurer to raise prices and/or tighten its underwriting selection for financial reasons.

Pricing

Because employers are required by law in most states to carry workers' compensation insurance, there is an implicit governmental responsibility to ensure that coverage is available at "reasonable" rates. This, in turn, has led to fairly close regulation of workers' compensation rates and policy forms and other government involvement in the workers' compensation market. Every state requires insurers to file workers' compensation rates with the insurance commissioner. Historically, the primary concern was that workers' compensation coverage should be available for employers and employees, rather than that rates be "reasonable" or "affordable." Indeed, the main regulatory objective was to prevent destructive price competition and ensure adequate rates. This was to prevent insolvencies and a contraction of the market, which would leave employers without a source of workers' compensation coverage. In the 1970s, the concern began to shift to excessive prices, as benefit costs and rates began to climb rapidly in many jurisdictions.

Before 1980, every U.S. state that permitted private workers' compensation insurance effectively had an "administered pricing" system. This is a system where all insurers use uniform rates, filed by a rating bureau, which received the prior approval of the state insurance department. Some states allowed deviations from bureau rates, and insurers typically retained flexibility with respect to dividends paid to policyholders, but aside from these exceptions, true price competition was essentially nonexistent.

The NCCI has been the primary advisory/rating organization in workers' compensation insurance and provides full services in 32 states and limited services in approximately half of the others. State advisory/rating organizations serve regulators and insurers in the other states that do not have monopolistic state funds. Advisory/rating organization activities include: the

compilation and distribution of statistical data; development and filing of supplementary rating information and manuals; development and filing of standard policy forms and endorsements; administration of a uniform classification plan and experience rating system; administration of the residual market; and research and public information activities.

Since 1980, a number of states have increased competition by easing requirements for adherence to bureau rates and permitting insurers to file deviations. Other states, including Michigan, went further and instituted a competitive rating system in which rates are not set by a rating bureau or subject to prior approval, but are essentially governed by market forces.⁴¹ From a procedural standpoint, under competitive rating, insurers' rates are generally subject to file and use (or use and file) requirements but are typically not disapproved. Under most competitive state rating laws, including Michigan's, the commissioner must find that the market is not competitive before disapproving a rate filing or reinstating prior approval requirements.

Under competitive rating, an advisory/rating organization files either advisory final rates or advisory loss costs or both. In the first case, insurers can either adopt the advisory rates, file a deviation from the advisory rates, or develop and file their own rates. If the advisory/rating organization files loss costs only, insurers must develop their own final rates which are usually a combination of the advisory loss costs and their expense and profit factors. Alternatively, insurers may base their rates on their own loss costs or the advisory loss costs modified by some factor. Under a loss cost system, advisory/rating organizations continue to perform many of the functions they perform under the traditional bureau rate or advisory rate system.

The movement to competitive rating began with the National Association of Insurance Commissioner's (NAIC) adoption of a model competitive rating act in 1982 which included workers' compensation insurance. A separate model competitive rating act for workers'

⁴¹Some analysts use the term "competitive rating" broadly to include prior approval states where insurers are allowed to deviate from bureau or advisory rates. In this report, the term is used more narrowly to encompass only systems where rates are not subject to prior approval regulation.

compensation was adopted in 1983. Both the original “all lines” model and the separate workers’ compensation model provided for file and use approval of rates and a loss cost system. In 1993, the NAIC incorporated workers’ compensation into the “all lines” competitive rating model act.

Since 1982, 31 states have instituted competitive rating laws and/or loss cost systems for workers’ compensation. Michigan had the distinction of being one of the first states to enact a competitive rating and loss cost system in workers’ compensation which became effective in 1983. Table 5.13 summarizes state rate regulatory systems for workers’ compensation insurance. States vary somewhat in their approaches to competitive rating and advisory rates/loss costs. Michigan’s approach is the most competitive in terms of minimizing insurers’ reliance on advisory organization services.⁴²

Regardless of the type of system, regulators are charged with the responsibility to ensure that rates are not excessive, inadequate, or unfairly discriminatory. Regulators scrutinize rate filings to determine whether these standards are met.⁴³ Hearings are often held either as contested cases or on a fact-finding basis. In assessing whether a filing is excessive, regulators evaluate the quality of the underlying data as well as the assumptions used by the filer with regard to loss development, trend, expense and profit loadings. Legitimate disputes often arise over the choices made by filers in developing their final rates. Actuaries often disagree over appropriate methodologies and assumptions contained in the filings. Because rate making involves developing a forecast or a “best guess” of the appropriate rate level to be charged for a future time period, only hindsight will reveal the accuracy of the rates being proposed. Disagreements that affect the overall rate level most often center around the choice of trend factors, expense assumptions and profit loadings.

⁴²See Klein (1991) for a review of states’ approaches to loss cost systems.

⁴³The intensity of the review depends on the type of rate regulatory system and the filing. Advisory/rating organization filings typically get close review, regardless of the type of system. Generally, under competitive rating systems, regulators will not intensively analyze individual insurer filings, although this is not true in all cases. In competitive rating states, regulators tend to focus their efforts on monitoring insurers’ prices and market conditions, rather than dissecting insurers’ rate filings.

It is important to point out that the way in which states administer their rate regulatory statutes also varies. For instance, although voluntary market rates are subject to file and use approval in some states, residual market rates are always subject to prior approval and regulators may or may not allow them to exceed voluntary market rates. Consequently, residual market rates effectively serve as a regulatory ceiling for voluntary market rates.

Prior approval states also vary in terms of how stringently they regulate rates. Insurers and some analysts contend that a number of states suppress workers' compensation rates below a competitive level (Fein, 1991; Harrington, 1992; Kramer, 1991 and 1992). It is argued that the business climate and political pressures cause regulators to enforce inadequate rates. Klein, Nordman and Fritz, (1993) determined that regulation has lowered premiums in some states but also found evidence to indicate that rising costs and fierce price competition have hurt insurers' profitability.⁴⁴

While the evidence suggests that regulation is not the sole source of depressed profits in workers' compensation in the U.S., there is no doubt that rate regulation can become politicized with adverse consequences for the long-term performance of the market. Unfortunately, complex and highly technical rate regulatory decisions must be made in a politically charged environment where various groups have significant economic interests at stake. Workers' compensation can be expensive for some employers, particularly in high-risk industries and high-cost states. Business groups often argue that workers' compensation rates can have significant implications for a state's economic climate and its ability to compete nationally and internationally for jobs. Economic competition with bordering states can be a particular concern. Groups which have a considerable economic stake in rate regulatory decisions exert substantial political pressure on the process.

Government involvement with workers' compensation insurance rates extends beyond the insurance commissioner in many states. Historically, state legislatures had confined their involvement to setting the statutory parameters for rate regulation, but in recent years they

⁴⁴Klein, Nordman and Fritz (1993) discuss the different perspectives on the issue of regulatory rate suppression and the contribution of other factors to market problems in workers' compensation.

have become directly involved in setting insurance rates. Legislators also may seek to influence regulatory decisions through more informal means, e.g. exerting leverage through the appropriation process, threatening to withhold passage of insurance legislation, or voting against confirmation of regulatory appointments. Governors also have actively intervened in workers' compensation rate regulatory decisions because of concerns about the economic effect of rate increases.

Until recently, there has been little empirical research on the effects of alternative regulatory systems in workers' compensation. The primary reason for this is that no state had a competitive rating and/or loss cost system until 1982 and only a handful of states had established such systems by 1985. Consequently, relatively few states have had a sufficiently long experience with alternative rate regulatory systems to permit an empirical evaluation of their long-term impact. While the conclusions of the researchers who have looked at this question are not unanimous, they do not make a strong case for retaining strict control of workers' compensation insurance prices.

Early studies by Klein (1986) and Hunt, Krueger, and Burton (1988) found that competitive rating lowered workers' compensation premiums and profits in Michigan. The General Accounting Office (1986) reviewed a number of state reports on the impact of competitive rating which reached similar conclusions. Subsequent studies by Burton (1990), Klein (1991), and Roberts and Madden (1992) suggest that there may be somewhat of a rebound effect after competitive rating has been in place for several years. This research indicates that prices and profits fall rather significantly in the years immediately following deregulation, but then begin to rise again, although not necessarily to the same level they were at before deregulation. Carroll and Kaestner (1995) also found evidence that competitive rating decreases workers' compensation insurance prices, where prices are measured by the ratio of premiums earned (minus dividends to policyholders) to the number of work-related injuries or employees.

However, cross-section studies by Appel, McMurray, and Mulvaney (1992) and Schmidle (1995) found some weak evidence that net workers' compensation costs to employers may be higher and no evidence that costs are lower in competitive rating states, where

employer costs are measured by adjusted manual rates. The different indication of these studies compared with the other studies may stem, in part, from their use of different employer cost or price measures, different specifications of regulatory and other explanatory variables, and data from different time periods.

Research by Klein, Nordman and Fritz (1993) indicates that prior approval regulation lowers loss ratios (i.e., raises prices) in some states and raises loss ratios in other states, depending on the degree of regulatory stringency. This result would be consistent with, although it does not necessarily prove, the industry's contention that some states have suppressed prices below competitive levels. On the whole, the research literature does not provide strong support for the view that administered pricing or prior approval rate regulation is necessary to prevent excessive prices in workers' compensation insurance.

Quality of Service and Market Practices

States regulate other aspects of the workers' compensation insurance market besides rates, including policy forms and market conduct. To the extent that workers' compensation benefits are set by statute, workers' compensation policies are more regimented than other commercial policies. Recently, some states have permitted large deductible workers' compensation insurance policies, and several states have enacted or are considering legislation that would permit some form of 24-hour coverage that combines workers' compensation insurance with accident and health insurance.

Market conduct regulation deals with insurers' marketing/sales, underwriting, and claims adjustment practices. Regulators respond to consumer complaints and conduct examinations to check whether insurers are charging correct premiums (according to their approved rating plans) and paying claims appropriately. States generally do not interfere with insurers' decisions with respect to which employers they accept for coverage, although Missouri recently attempted to promulgate rules which would have required insurers to accept employers which met certain minimum criteria. Also, states typically do not regulate ancillary services provided by insurers such as safety consulting, loss prevention, or third-party claims administration for self-insured employers.

Data Reporting and Advisory Organizations

In the U.S., statutory data reporting requirements help to ensure that public officials have adequate information to regulate private insurance markets. Statistical data collection is an important component of any insurance system, public or private. In workers' compensation, statistical data are used to determine prices and evaluate system performance. Historical information on losses and premiums by state and classification are collected and used to develop overall rate levels, classification rate differentials, and factors for other rating adjustments. Expense data, which also are used in these rate calculations, are reported on a statewide basis for some categories of expenses (allocated loss adjustment expense, acquisition costs, state taxes and fees, and dividends to policyholders) and on a countrywide basis for others (unallocated loss adjustment expense, general expense). In addition, these data, along with other insurer financial information, are utilized to monitor market structure, conduct and performance.

Data on individual employers' loss histories are collected and maintained for the purposes of experience rating. Access to these data allow insurers to determine price and perform appropriate experience rating adjustments for an employer even if they have not previously insured the employer. Maintenance of a common data base on the loss experience of individual risks is critical to maintaining competition in workers' compensation and helps to reduce the informational barriers to competition that are present in other lines of insurance.

Another area that is somewhat unique to workers' compensation is the collection of detailed data on claims which are used to track cost drivers and evaluate the potential impact of changes to benefits and other system provisions. These data are collected through the NCCI's Detailed Claims Information (DCI) system which was substantially expanded in 1989 to meet requirements established by a new NAIC model law and regulation on workers' compensation data reporting. The NAIC models were further refined in 1994.

Insurers are compelled by law to report statistical data according to a standardized format. State rating laws authorize the insurance commissioner to require insurers to report any statistical information deemed necessary to ensure that rates comply with the standards contained in the laws. The commissioner may designate a statistical agent to collect the data

according to an established statistical plan promulgated or approved by the commissioner. In practice, data collection for workers' compensation has been delegated to advisory/rating organizations, recognizing the close association between statistical and rating functions. Supplementary financial data also are obtained through the annual and quarterly financial statements that insurers are required to file with state insurance departments and the NAIC.

The NCCI functions as a multi-state statistical agent for workers' compensation and coordinates with the state advisory organizations to pool their data with the national data. This is important for some components of rate analysis where individual state loss data is not sufficiently credible to produce reliable cost estimates. The NCCI utilizes a uniform statistical plan for all states for which it collects data with supplemental state reports to respond to unique state requirements.⁴⁵ In Michigan, the Compensation Advisory Organization of Michigan (CAOM) is the designated statistical agent for workers' compensation, although it contracts with the NCCI for some actuarial and data processing services.

The CAOM is supervised in its data collection and distribution functions by the Data Collection Agency (DCA), which consists of stakeholder representatives who approve the format and content of the loss cost data distributed to insurance carriers. Seats are designated for representatives of large, medium and small insurers, employers, the public, the Governor and the Insurance Bureau (regulatory authority). The DCA must also approve the methodology used in developing the advisory loss cost figures (termed "pure premiums") which insurers presumably use in setting their individual rates. This structure was put in place at the same time as competitive rating was started in 1983 and has provided some additional "public" oversight of actuarial procedures in Michigan.

Role of State Funds

State funds play an important role in the workers' compensation insurance market in the U.S. State funds are classified either as exclusive (monopolistic) or competitive. Nevada,

⁴⁵A uniform statistical plan means that all insurers in all states governed by the plan report the same standard data elements according to a common set of instructions and definitions. Uniformity (or at least consistency) is essential to pooling data among different insurers for different states.

North Dakota, Ohio, Washington, West Virginia and Wyoming have exclusive funds which are essentially the sole providers of workers' compensation insurance in those states, as is true of all provinces in Canada.⁴⁶

Twenty other states have competitive state funds which compete with private carriers. In 1991, competitive state fund market shares ranged from 6.2 percent in South Carolina to 73.5 percent in Montana. Michigan had a competitive state fund until 1994, when the state sold it to Blue Cross-Blue Shield of Michigan. The Michigan State Accident Fund, as a state government created entity, was the leading writer of workers' compensation in Michigan with 16 percent of the market in 1993. State funds are significant writers in most of the states in which they operate.

State funds were established initially to ensure the availability of workers' compensation coverage to employers. Some have continued to operate as the insurer of last resort. Others have relinquished that role with the establishment of other residual market mechanisms, but still may be used as a means to provide coverage at a lower cost to promote economic development or other public objectives. Some competitive state funds, such as Michigan's, have tended to specialize in insuring small employers who traditionally have had greater difficulty in obtaining voluntary market coverage. State funds have been established recently in Louisiana, Maine, New Mexico, Rhode Island, Tennessee and Texas, and have been considered in several other jurisdictions as a solution to market problems.

The decision to private the Michigan State Accident Fund is interesting given its relative market success and the recent trend in other states to establish state funds where they have not existed before. Michigan is thus seen to be "swimming upstream" on this policy matter. In fact, the policy decision taken reflects a strong philosophical commitment to the private sector on the part of the Governor. He was elected on a "less government is more" platform in 1992 and has regarded the Michigan State Accident Fund as a needless public

⁴⁶Private carriers in exclusive fund states may still provide excess coverage to self-insured employers or write special sub lines or classes such as longshore workers.

competition with private enterprise. When the Governor's party secured control of both houses of the legislature in 1994, he moved directly to divest the state of the Accident Fund.

Residual Market Mechanisms

Residual market mechanisms play an important role in workers' compensation insurance in the U.S. and have contributed significantly to market problems in recent years. As discussed above, the size and growth of the residual market varies widely among the states, and in some jurisdictions it has come close to swallowing the entire market. Nationally, the residual market share of total market premiums has grown at an alarming rate from 5.5 percent in 1984 to 28.5 percent in 1993. Michigan has fared better in this regard than many states with a residual market share of 15.4 percent in 1993.

The existence of residual market mechanisms in most states reflects policy makers' recognition that insurance should be available to all employers given that they are required by law to carry this coverage for their employees. It also reflects the regulatory policy which allows insurers to refuse to sell coverage to certain employers, leading to the possibility that some employers may not be able to find any insurer who will insure them. Consequently, residual market mechanisms were established to ensure that employers who were unable to secure coverage from the "voluntary market" would have an alternative source of coverage.

In most states, workers' compensation residual market plans are authorized by law. The residual market plan of operation in each state is filed with the insurance commissioner and subject to regulatory approval. Plan activities subject to regulatory oversight typically include approving rates, monitoring classifications, and monitoring the process used to assign risks to servicing carriers.

Several states use their competitive state funds as the market of last resort, either by custom or statutory obligation. The need for a residual market mechanism is obviated in the exclusive fund states.

The day-to-day functions of the residual market are delegated to servicing carriers who must meet certain qualification and performance standards. Servicing carriers perform the normal insurer functions, such as issuing and underwriting policies, paying and servicing

claims, providing loss prevention or loss minimization services to policyholders, auditing, and supervising litigation and other defense duties. Servicing carriers also are required to file quarterly reports on premiums written, losses paid and known outstanding losses. Servicing carriers receive fees for performing these functions.

The NCCI administers the residual market in many states subject to regulatory oversight. There are nine states where independent rating bureaus administer the residual market mechanism. The role of each of these independent rating organizations is similar to that of the NCCI in administering residual market plans.

The funding of residual market mechanisms is a critical issue and can have significant implications for the structure and performance of the voluntary market. Residual market rates are set separately from voluntary market rates (particularly in competitive rating states) and may or may not fully reflect any cost differential between the risks in these two markets. Insurers are assessed for any shortfall in premium income necessary to support the residual market mechanism. The residual market operating loss is determined by subtracting incurred losses and the servicing carrier cost allowance and other pool operating expenses from earned premium and then adding pool interest income on cash flow (NCCI, 1991). An insurer's assessment is typically based on its voluntary market share.

The magnitude of the residual market deficit (and implicitly the subsidy to residual market risks) and its distribution between insurers and voluntary market risks affects insurers' incentives to supply coverage and employers' demand for that coverage. If insurers are not able to fully recoup residual market assessments through rate adjustments, the supply of voluntary coverage will shrink, forcing more employers into the residual market. To the extent that residual market assessments are passed through to voluntary market employers through higher rates, those employers will be induced to reduce payrolls or self-insure. Either way, the effect is to shrink the voluntary market and expand the residual market and residual market burden, which exacerbates the problem.

Residual market administration also influences servicing carriers' incentives to properly handle residual market risks and control claim costs. Historically, servicing carriers have had limited incentives to control their assigned risk claim costs because these costs are fully ceded

to state or national pools. In effect, a servicing carrier “pays” only a small fraction of its assigned risk claim costs through the quota share reinsurance arrangement. Further, inadequate residual market rates can diminish the incentives of residual market risks to limit claim costs. These factors can become significant cost drivers in states with large residual markets and help to propel the deterioration of the voluntary market.

Self-Insurance

Regulations governing an employer’s ability to self-insure for workers’ compensation can also have an impact on the performance of the voluntary insurance market. In self-insurance, a firm or group of firms sets up a fund to cover losses rather than purchasing coverage from a private carrier or state fund. In effect, self-insurance is a substitute for and competes with purchased insurance. Self-insurance may be cheaper for a given employer because of: (1) administrative efficiencies it can achieve through funding its losses; and/or (2) market inefficiencies created by structural barriers or government-imposed cross subsidies in the rating structure. State regulatory criteria determining which employers are allowed to self-insure also affect the size of this segment of the market.

Some self-insurance activity is expected, even under ideal market conditions, because of efficiencies achieved through eliminating distribution and other transaction and administrative costs when employers fund their own losses. Self-insurance also can give an employer a greater incentive and ability to control losses. Of course, insurers also offer potential efficiencies through their ability to spread risk and achieve economies of scale and scope in loss prevention and servicing claims. Purchased insurance also offers some tax advantages in that insurers can deduct discounted reserves for future claims payments as a business expense, but self-insured employers cannot unless they establish a captive insurer. Self-insurance tends to be more economical for large employers who can achieve lower unit costs in claims administration and who are in a better position to sustain a large loss without going bankrupt than small employers. In addition, self-insurance is facilitated by the availability of separate loss prevention and claims services as well as excess insurance coverage to reduce risk.

The ability to self-insure gives large employers greater bargaining power in negotiating price concessions from workers' compensation carriers. Consequently, insurers have been forced to develop various devices to lower premiums for large employers and allow them to retain a greater portion of their risk as an alternative to self-insurance. These devices include premium discounts, experience rating, retrospective rating plans, dividend plans, schedule rating and large deductible policies.

Despite the use of these pricing adjustments, the use of self-insurance for workers' compensation has grown dramatically in the last several years. This increase is at least partially attributable to rising workers' compensation insurance rates and higher residual market assessments. According to estimates by Johnson & Higgins (1992), the proportion of U.S. workers' compensation premiums accounted for by self-insurance grew from 18.1 percent in 1980 to 29 percent in 1991. Self-insurance accounts for a relatively large proportion of workers' compensation benefit payments in Michigan (39.7 percent in 1989), but this proportion has remained fairly steady during the last half of the 1980s. This high incidence reflects the presence in Michigan of a significant number of very large manufacturing firms, particularly in the auto industry. Michigan allows both individual and group self-insurance.

The growth of self-insurance has important implications for the private workers' compensation insurance market. A problem arises when low-risk employers are induced to self-insure because market rates are not actuarially fair. In this instance, the movement to self-insurance can accelerate the deterioration of the voluntary market.

Table 5.1 Michigan - 20 Leading Workers' Compensation Insurers, 1993*

	1993	1993
	Market	Cumulative
Insurer	Share	Share
Michigan State Accident Fund	16.0	16.0
America Group	9.7	25.7
Liberty Mutual	7.2	32.9
CNA Insurance Group	5.2	38.1
Amerisure Companies	4.6	42.8
CIGNA Group	3.6	46.4
Auto Owners Group	3.0	49.4
Frankenmuth Mutual Insurance Company	2.9	52.3
Hartford Fire & Casualty Group	2.9	55.1
Employers Insurance of Wausau	2.5	57.6
Kemper Insurance Group	2.4	60.1
Continental Corporation	2.3	62.4
Hastings Mutual Insurance Company	2.1	64.5
Fireman's Fund Group	1.9	66.4
Michigan Farm Bureau Insurance Companies	1.9	68.3
American International Group	1.9	70.2
Travelers Insurance Companies	1.7	71.9
Reliance Insurance Group	1.7	73.6
Aetna Life & Casualty Insurance Companies	1.4	75.0
Home Insurance Group of New York	1.3	76.3
*Market shares based on standard premiums from policy declarations or unit statistical reports.		
Source: Michigan Insurance Bureau		

Table 5.2 Number of Insurers and Market Concentration 1982-93

(a) Michigan*					
	No. of				
Year	Insurers	CR4	CR8	CR20	HHI
1982	122	23.6	41.2	67.7	326
1983	117	24.6	42.3	67.1	352
1984	119	25.5	43.2	69.8	351
1985	114	29.4	47.5	73.9	402
1986	106	35.2	52.2	77.1	496
1987	110	37.3	54.6	77.5	542
1988	109	38.7	54.4	76.9	538
1989	107	37.9	53.4	75.7	532
1990	104	39.1	57.8	79.9	600
1991	108	38.6	56.6	78.7	552
1992	112	38.2	55.1	77.1	531
1993	107	38.1	52.3	76.3	549
* 1982-1991 market shares based on standard premium from unit statistical reports.					
1992-1993 market shares based on total estimated annual premium from policy declarations.					
Source: Michigan Insurance Bureau					

Table 5.2 Number of Insurers and Market Concentration 1982-93 (Continued)

(b) States' Average*					
	No. of				
Year	Insurers	CR4	CR8	CR20	HHI
1982	105	37.4	54.3	80.6	696
1983	111	36.1	53.0	79.1	654
1984	106	36.3	53.2	80.4	670
1985	105	38.3	55.7	82.1	714
1986	99	41.7	60.0	85.2	842
1987	98	43.0	61.8	86.4	883
1988	95	44.3	62.6	86.5	967
1989	96	44.5	62.8	86.2	964
1990	96	45.0	63.0	86.2	992
1991	95	45.3	63.2	86.2	1,032
1992	92	46.5	63.3	85.5	1,090
1993	92	47.2	63.6	85.6	1,198
* Market shares based on direct premiums written from annual statements.					
Source: National Association of Insurance Commissioners					

Table 5.2 Number of Insurers and Market Concentration 1982-93 (Continued)

(c) U.S.					
	No. of				
Year	Insurers	CR4	CR8	CR20	HHI
1982	377	20.8	32.9	58.4	230
1983	393	19.8	33.1	58.3	226
1984	388	19.5	33.6	60.8	241
1985	380	20.8	35.5	62.9	259
1986	381	22.5	38.2	65.6	291
1987	382	24.0	39.9	66.9	306
1988	367	23.9	39.8	67.5	309
1989	370	22.6	38.7	66.5	295
1990	368	22.1	38.6	65.1	290
1991	365	22.6	38.0	65.1	285
1992	360	20.9	35.9	61.4	254
1993	359	20.3	34.6	60.0	238
* Market shares based on direct premiums written from annual statements.					
Source: National Association of Insurance Commissioners					

Table 5.3 Entries and Exits, 1983-93

(a) Michigan							
Year	No. of Insurers	Entries	Percent*	Exits	Percent*	Net Change	Percent*
1983	117	6	4.9	11	9.0	-5	-4.1
1984	119	7	6.0	5	4.3	2	1.7
1985	114	3	2.5	8	6.7	-5	-4.2
1986	106	4	3.5	12	10.5	-8	-7.0
1987	110	7	6.6	3	2.8	4	3.8
1988	109	5	4.5	6	5.5	-1	-0.9
1989	107	1	0.9	3	2.8	-2	-1.8
1990	104	3	2.8	6	5.6	-3	-2.8
1991	108	7	6.7	3	2.9	4	3.8
1992	112	7	6.5	3	2.8	4	3.7
1993	107	3	2.7	8	7.1	-5	-4.5
Average	110	5	4.3	6	5.5	-1	-1.1
* Percent of previous year's insurers.							
Source: Michigan Insurance Bureau							

Table 5.3 Entries and Exits, 1983-93 (Continued)

(b) States' Average							
	No. of					Net	
Year	Insurers	Entries	Percent*	Exits	Percent*	Change	Percent*
1985	97	9	9.3	11	11.3	-2	-2.1
1986	92	7	7.2	12	12.4	-5	-5.2
1987	91	9	9.8	10	10.9	-1	-1.1
1988	88	7	7.7	10	11.0	-3	-3.3
1989	89	7	8.0	6	6.8	1	1.1
1990	89	7	7.9	7	7.9	0	0.0
1991	88	6	6.7	7	7.9	-1	-1.1
1992	87	6	6.8	7	8.0	-1	-1.1
1993	87	7	8.0	7	8.0	0	0.0
Average	90	7	7.9	9	9.3	-1	-1.4
* Percent of previous year's insurers.							
Source: National Association of Insurance Commissioners							

Table 5.3 Entries and Exits, 1983-93 (Continued)

(c) U.S.							
	No. of					Net	
Year	Insurers	Entries	Percent*	Exits	Percent*	Change	Percent*
1985	380	23	5.9	31	8.0	-8	-2.1
1986	381	24	6.3	23	6.1	1	0.3
1987	382	24	6.3	23	6.0	1	0.3
1988	367	17	4.5	32	8.4	-15	-3.9
1989	370	19	5.2	16	4.4	3	0.8
1990	368	19	5.1	21	5.7	-2	-0.5
1991	365	18	4.9	21	5.7	-3	-0.8
1992	360	21	5.8	24	6.6	-3	-0.8
1993	359	24	6.7	21	5.8	3	0.8
Average	370	21	5.6	24	6.3	-3	-0.7
* Percent of previous year's insurers.							
Source: National Association of Insurance Commissioners							

Table 5.4 Distribution of Policies by Manual Rates, 1993

Class	Class	No. of	High	Low	Percentage of Policies by Range (Low to High)				
Code	Description	Policies	Rate	Rate	1	2	3	4	5
0011	Farm-Mkt or Truck	2083	7.84	3.01	28	61	10	0	0
0042	Landscape Gardening	2678	11.43	5.36	4	26	60	7	3
0129	Dairy/Livestock Farm	2192	14.03	6.33	18	79	2	0	0
1925	Die Casting Mfg	42	15.54	10.64	14	26	29	5	26
2003	Bakeries	590	9.3	5	23	25	44	4	3
2157	Bottling Softdrinks	15	19.94	13.31	47	7	20	20	7
2501	Misc Sewing Mfg	275	7.87	4.81	6	25	49	13	6
2790	Pattern/Shoe Mfg	286	4.1	1.58	13	29	42	10	6
2812	Cabinet Mfg	392	10.1	5.79	16	64	15	4	2
2881	Wooden Goods Assembly	247	8.85	3.86	4	56	26	13	1
3076	Metal Goods Assembly	407	5.77	3.58	15	37	15	16	16
3096	Tool Mfg	986	6.52	3.69	35	51	9	5	0
3113	Tool Mfg-NOC	345	6.18	3.68	34	46	16	2	2
3116	Tool Mfg DiesJigsFx	864	6.26	3.1	18	44	30	7	2
3145	Screw Mach Pro Mfg	233	8.02	4.13	24	11	33	24	9
3146	Hdw Mfg-NOC	287	9.06	6.04	8	37	31	10	14
3179	Elec App Mfg-NOC	289	8.14	4.1	34	21	29	15	1

Table 5.4 Distribution of Policies by Manual Rates, 1993 (Continued)

Class	Class	No. of	High	Low	Percentage of Policies by Range (Low to High)				
Code	Description	Policies	Rate	Rate	1	2	3	4	5
3257	Mfg With Wire	86	14.75	8.69	47	31	10	6	6
3400	MetalGoods Mfg-NOC	230	16.91	11.4	11	53	15	10	11
3612	Pump & Machine Mfg	150	9	5.66	31	15	25	23	6
3628	Machinery Mfg NOC	633	6.26	3.34	0	15	64	18	3
3629	Mach Parts Mfg-NOC	806	5.18	2.64	17	39	35	6	3
3632	Machine Shop-NOC	1060	11.99	6.31	2	71	14	8	5
3634	FlowMeter& Valve Mfg	78	8.01	3.03	14	42	29	12	3
3635	Metal Grinding Mfg	63	8.58	4.56	17	29	29	22	3
3643	Elec Pwr Equip Mfg	254	9.13	2.26	3	67	21	8	1
3681	Tele/Elc-ApprtsMfg	106	9.74	4.27	16	17	32	32	3
3685	Instr Mfg-NOC	212	4.16	2.11	33	37	20	9	0
3724	Apparatus Installtn	815	18.76	7.64	0	47	34	19	0
3827	Auto Engine Mfg	34	7.67	3.22	6	3	62	15	15
4299	Printing	1523	5.23	2.89	3	25	58	7	7
4361	Photographer	464	2.15	1.23	23	49	22	3	2
4459	Plastics Mfg-Basic	110	9.73	4.44	18	45	23	14	1
4484	Molded Plastics Mfg	409	16.81	8	15	58	12	12	3
4511	Analytical Chemist	903	2.91	1.18	1	43	30	22	4

Table 5.4 Distribution of Policies by Manual Rates, 1993 (Continued)

Class	Class	No. of	High	Low	Percentage of Policies by Range (Low to High)				
Code	Description	Policies	Rate	Rate	1	2	3	4	5
4558	Paint or Putty Mfg	48	4.51	2.7	4	13	56	13	15
4817	Chemical&Die Mfg-NOC	5	4.34	0.75	20	0	0	40	40
5022	Masonry Erection	1316	25.84	13.88	43	45	9	3	1
5183	Plumbing Instl&Serv	2270	10.32	6.17	38	28	27	6	2
5190	Elec Wiring Instltn	2132	8.12	3.08	0	1	66	31	2
5191	Office Mach Instl	1418	3.33	1.44	5	15	27	41	12
5221	Concrete Work Floors	1832	15.16	9.03	5	27	57	8	3
5403	Carpentry-NOC	1297	21.76	9.07	0	36	56	7	0
5437	Carpentry-Finishwrk	1639	17.25	6.84	61	28	10	1	0
5445	Wallboard Instltn	795	17.29	10.42	65	27	6	1	1
5476	Painting/Papering	1490	19.65	12.39	28	52	15	3	2
5538	ShtmtlWrkErctn-NOC	1136	13.64	8	4	36	52	7	1
5606	ExecSupervsr Contrt	1926	5.62	2.65	3	37	52	7	0
5645	Carpentry-Detached	4705	18.93	10.62	21	73	4	1	0
6217	Excavation-NOC	1537	20.99	9.3	2	30	58	8	2
7208	Drivers-Trckng-NOC	837	24.16	14.56	3	18	74	3	1
7219	Trckng NOC-No Drvr	201	24.16	14.32	12	26	48	7	6
7230	Parcel Delivery	25	9.83	6.91	16	24	44	12	4

Table 5.4 Distribution of Policies by Manual Rates, 1993 (Continued)

Class	Class	No. of	High	Low	Percentage of Policies by Range (Low to High)				
Code	Description	Policies	Rate	Rate	1	2	3	4	5
7380	Drivers NOC	10368	12.24	5.22	1	35	54	10	1
7403	Air Carrier Noncrew	24	5.61	3.68	25	4	33	33	4
7600	Elec Line Stringing	211	9.34	2.87	16	27	38	15	3
7610	Radio/TV Broadcasting	362	1.58	0.7	4	36	40	18	2
7720	Police Officers	655	8.59	4.22	2	88	8	1	1
8001	Florist	867	3.4	1.68	31	42	25	3	0
8006	Retail Grocery	1446	4.69	2.94	21	46	28	3	3
8008	Retail Clothing Store	1519	2.25	1.12	1	57	34	6	2
8010	Hardware Store	4136	3.66	1.8	8	49	37	5	0
8013	Store-Jewelry	548	1.09	0.6	15	24	46	12	3
8017	Retail Store-NOC	9569	2.91	1.44	3	22	66	8	1
8018	Wholesale Store-NOC	1011	10.01	5.21	1	7	49	31	13
8033	Supermarket	1100	6.37	3.05	11	83	5	1	0
8039	Department Store	35	3.38	1.95	14	6	14	34	31
8044	Furniture Store	571	6.96	3.69	40	41	18	1	1
8106	Iron/Steel Merchant	166	16.01	8.67	10	4	20	45	22
8227	Contractor's Yard	1328	9.63	4.61	3	66	24	4	4
8232	Bldg Materials Yard	613	10.81	5.47	7	54	23	9	6

Table 5.4 Distribution of Policies by Manual Rates, 1993 (Continued)

Class	Class	No. of	High	Low	Percentage of Policies by Range (Low to High)				
Code	Description	Policies	Rate	Rate	1	2	3	4	5
8292	Storage Warehouse	320	13.84	5.68	8	50	22	15	6
8387	Auto Serv Station	2730	8.54	4.07	9	12	62	15	2
8393	Auto & Trck Body Shop	1402	7.28	3.56	11	58	10	20	1
8395	Auto Repair Shop	5371	8.56	3.79	8	30	60	2	0
8601	Survyr/Engnr/Arch	1410	2.62	0.95	7	21	60	10	1
8742	Outside Sales	25687	1.27	0.48	0	32	50	17	0
8748	AutoSales/Leasing	1070	1.5	0.7	2	7	78	11	1
8755	Labor Union	339	1.74	0.87	73	22	1	3	0
8803	Auditors/Accts	953	0.58	0.2	58	25	11	6	0
8810	Office Clerks	73883	0.61	0.27	2	28	53	13	4
8820	Attorney	2004	0.99	0.29	10	56	30	5	0
8829	Nursing Home	152	10.68	6.68	10	63	11	16	1
8831	Animal Hosp & Grooming	760	3.64	2.1	51	34	11	3	1
8832	Physician	7436	0.86	0.38	18	71	10	1	0
8833	Hospital Prof Emp	217	2.75	1.68	6	12	47	32	4
8835	Domstc & Nursg Servs	521	7.91	2.97	2	18	8	68	4
8868	Schl&Chrch ProEmpl	7417	0.64	0.27	52	28	19	1	1
9015	Janitorial Service	11108	11.27	4.09	9	25	62	4	0

Table 5.4 Distribution of Policies by Manual Rates, 1993 (Continued)

Class	Class	No. of	High	Low	Percentage of Policies by Range (Low to High)				
Code	Description	Policies	Rate	Rate	1	2	3	4	5
9052	Hotel Oth Empls	1335	7.75	4.05	10	72	13	5	0
9058	Food Serv Wrkrs	10664	5.66	2.21	0	74	24	1	0
9060	Prvt Club Empls	700	4.14	2.59	2	19	62	14	3
9061	Clubs-NOC	1181	5.98	3.08	3	24	22	51	0
9101	Schl&Chrch Othr Emp	2477	7.09	3.06	51	24	16	9	0
9403	Refuse Collection	134	25.68	15.74	4	5	9	76	6
9501	Paint Shop Only	372	14.4	5.91	15	31	48	5	0
9519	HshldApplInstl&Serv	787	7.49	2.99	2	71	25	2	0
9522	Upholstering	225	6.74	3.63	51	24	13	5	6
9586	BarberBeautyParlor	1774	1.72	0.63	29	31	37	3	0
9620	Funeral Operation	414	2.34	1.3	43	25	25	5	1
	Weighted Averages		5.1	2.39	9	36	43	10	2
Source of Data: Compensation Advisory Organization of Michigan									

Table 5.5 Michigan & U.S. Competitive Pricing Adjustments, Policy Years 1984-93*

Year	Michigan	U.S.**			
1984	18.2	12.9			
1985	11.1	9.4			
1986	7.7	6.9			
1987	7.3	6.6			
1988	9.0	7.6			
1989	11.3	7.5			
1990	9.4	6.6			
1991	7.3	6.4			
1992	10.9	6.6			
1993	9.4	6.9			
* As percent of standard earned premium.					
Departures from advisory loss costs not included.					
** NCCI states only.					
Source: National Council on Compensation Insurance					

Table 5.6 Michigan & U.S. Benefits & Costs as Percentage of Covered Payroll, 1982-91

	Michigan*			U.S.			MI/U.S. Cost
Year	Benefits	Costs	Ratio	Benefits	Costs	Ratio	
1982	n.a.	2.49		1.16	1.75	0.66	1.42
1983	n.a.	2.18		1.17	1.67	0.70	1.30
1984	1.59	2.01	0.79	1.21	1.66	0.73	1.21
1985	1.68	2.23	0.75	1.30	1.82	0.71	1.22
1986	1.60	2.57	0.62	1.37	1.99	0.69	1.29
1987	1.63	2.75	0.59	1.43	2.07	0.69	1.33
1988	1.78	2.71	0.66	1.49	2.16	0.69	1.26
1989	1.86	2.73	0.68	1.58	2.27	0.70	1.20
1990	1.98	2.79	0.71	1.66	2.36	0.70	1.18
1991	1.99	2.91	0.69	1.79	2.40	0.75	1.21
1992	n.a.	2.86		1.82	2.31	0.79	1.24
1993	n.a.	2.79		1.68	2.30	0.73	1.21
*Insured sector only							
Source: Compensation Advisory Organisation of Michigan, Workers' Compensation Monitor, and Social Security Administration							

Table 5.7 Benefits (Losses Incurred)/Direct Premiums Earned, Michigan & U.S., 1982-93

	Michigan Private	State Fund	Total	U.S. Private	State Funds	Total
1982	59.4		59.4	63.2	96.7	64.7
1983	78.5		85.3	70.2	96.7	83.1
1984	85.1		85.1	83.2	96.7	83.8
1985	74.9	114.8	74.9	82.6	122.5	83.1
1986	76.7	120.0	81.6	84.2	112.6	84.8
1987	76.3	78.3	76.6	83.0	89.0	83.1
1988	85.1	79.5	84.2	85.8	84.7	85.7
1989	79.5	88.7	81.0	85.5	88.2	85.7
1990	85.6	102.0	88.6	85.2	85.6	85.2
1991	102.0	87.9	99.7	85.4	92.9	85.9
1992	62.7	75.4	85.3	82.7	88.0	83.1
1993	68.6	81.5	70.3	72.1	83.9	73.0
Average	77.9	92.0	81.0	80.2	94.8	81.8
Source: National Association of Insurance Commissioners						

Table 5.8 State-Specific Expense Costs Michigan & U.S. Average, 1992-93*

	1993	1992			
Michigan					
Loss Adjustment	15.9	15.4			
Sales	9.7	9.6			
State Taxes	2.9	2.9			
Dividends to Policyholders	2.9	2.8			
U.S.					
Loss Adjustment	16.2	13.6			
Sales	8.1	8.2			
State Taxes	3.9	4			
Dividends to Policyholders	4.6	4.6			
* As percent of direct premiums earned (losses incurred for loss adjustment expense).					
Source: National Association of Insurance Commissioners					

Table 5.9 Profits - Michigan and U.S. 1985-93

	Michigan		U.S.	
Year	Total Profits*	ROR**	Total Profits*	ROR**
1985	21.0	23.7	8.5	11.8
1986	14.8	17.9	8.0	11.1
1987	16.5	18.9	7.3	10.1
1988	10.8	11.2	3.3	4.3
1989	12.2	11.8	4.7	5.5
1990	7.9	7.1	4.4	5.0
1991	-0.1	-0.1	4.6	4.9
1992	13.7	10.1	9.4	8.6
1993	23.2	15.5	15.4	13.4
Average	13.3	12.9	7.3	8.3
* Total profits including investment income attributable to capital and surplus as a percentage of net premiums earned.				
** Total profits as a percentage of estimated net worth.				
Source: National Association of Insurance Commissioners				

Table 5.10 Workers' Compensation Insurance - Distribution of States - Operating Profits

Quintile	1990 Mean Operating Profit (%)	1990 Aggregate Operating Profits (\$000)	Mean Residual Market Share	1989 Average Benefit Cost (\$)	1985-89 Benefit Cost Change (%)	Average Rate Approved/ Filed (%)	Competitive Pricing Adjustments (%)
Top Fifth	37.1	301,005	11.9	2.0	11.1	69.8	6.1
2nd Fifth	7.4	956,862	14.9	1.2	17.3	91.0	5.7
3rd Fifth	0.8	38,284	19.7	1.3	25.2	83.4	7.7
4th Fifth	(3.3)	(185,203)	34.3	1.9	29.8	50.8	6.0
Bottom Fifth	(15.9)	(1,205,099)	46.1	2.1	39.5	38.8	4.6
All States	4.8	(91,151)	27.2	1.7	24.9	69.9	6.0
Source: National Foundation for Unemployment Compensation & Workers' Compensation, National Council on Compensation Insurance, and NAIC							

V-143

Table 5.11 Residual Market Share and Burden - Michigan & U.S., 1982-93

	Michigan		U.S.	
Year*	Mkt. Share**	Burden***	Mkt. Share**	Burden***
1985	6.8	4.4	9.9	10.3
1986	10.5	4.1	16.3	14.7
1987	11.7	2.8	19.0	18.0
1988	10.6	4.1	19.6	16.9
1989	10.1	4.9	20.9	18.3
1990	10.7	3.4	24.1	15.7
1991	10.7	4.4	25.9	12.2
1992	13.1	2.9	28.5	10.7
1993	15.4	2.2	28.5	8.7
* Calendar year for market share and policy year for burden.				
** Percentage of direct premiums written in residual market mechanism.				
*** Residual market net operating loss as a percentage of voluntary premiums written.				
Source: National Council on Compensation Insurance				

Table 5.12 Insurer Failures, U.S., 1982-93

	Total	Workers' Comp. Insurers*		Other Insurers**	
Year	Failures	No.	Pct.	No.	Pct.
1982	8	0	0.0	8	100.0
1983	11	1	9.1	10	90.9
1984	26	4	15.4	22	84.6
1985	49	9	18.4	40	81.6
1986	25	3	12.0	22	88.0
1987	19	6	31.6	13	68.4
1988	35	2	5.7	33	94.3
1989	39	6	15.4	33	84.6
1990	32	3	9.4	29	90.6
* Insurers with workers' compensation as principal line of business.					
** Insurers with principal line other than workers' compensation.					
Source: A.M. Best					

Table 5.13 Workers' Compensation Insurance State Rate Regulatory Systems
As of March 1993

State	Rating System	Role of Rating Organisation	Adherence ^a	Deviations
Alabama	Prior Approval	Loss Costs	Advisory	N/A
Alaska	Prior Approval	Rates	Required ^b	Uniform %
Arizona	Prior Approval	Rates	Required	Uniform %
Arkansas	Prior Approval	Rates	Advisory	Yes ^c
California	Prior Approval	Rates	Required	Min. Rate
Colorado	Prior Approval	Loss Costs	Advisory	N/A
Connecticut	Prior Approval	Loss Costs	Advisory	N/A
Delaware	Prior Approval ^d	Rates	Required	Yes ^c
Dist. of Columbia	Prior Approval	Loss Costs	Advisory	N/A
Florida	Prior Approval	Rates	Advisory	Uniform %
Georgia	File and Use	Rates/Loss Costs	Advisory	No Provision
Hawaii	Prior Approval	Loss Costs	Advisory	N/A
Idaho	Prior Approval	Rates	Required	Uniform %
Illinois	Use and File	Rates/Loss Costs ^e	Advisory	Upon Notice
Indiana	Prior Approval	Rates	Advisory	Yes ^c
Iowa	Prior Approval	Rates	Required	Yes ^c
Kansas	Prior Approval	Rates	Required	Yes ^c
Kentucky	Use and File	Loss Costs	Advisory	N/A
Louisiana	Prior Approval	Loss Costs	Advisory	N/A
Maine	Prior Approval	Rates	Required	Yes ^c
Maryland	File and Use	Loss Costs	Advisory	N/A

Table 5.13 Workers' Compensation Insurance State Rate Regulatory Systems (Continued)

State	Rating System	Role of Rating Organisation	Adherence ^a	Deviations
Massachusetts	Prior Approval	Rates	Required	Yes ^c
Michigan	File and Use	Loss Costs	Advisory	N/A
Minnesota	Use and File	Loss Costs	Advisory	N/A
Mississippi	Prior Approval	Rates	Advisory	Permitted
Missouri	Prior Approval	Rates	Required	Yes ^f
Montana	File and Use	Rates	Advisory	Permitted
Nebraska	Prior Approval	Rates ^e	Required	Uniform % ^g
Nevada	Monopolistic State Fund			
New Hampshire	Prior Approval	Rates	Required	Uniform %
New Jersey	Prior Approval	Rates	Required	No Provision
New Mexico	Prior Approval	Loss Costs	Advisory	N/A
New York	Prior Approval	Rates	Required	Uniform %
North Carolina	Prior Approval	Rates	Required	Uniform %
North Dakota	Monopolistic State Fund			
Ohio	Monopolistic State Fund			
Oklahoma	Prior Approval ^h	Rates	Required	Uniform %
Oregon	Prior Approval	Loss Costs	Advisory	N/A
Pennsylvania	Prior Approval	Rates	Required	Uniform %
Rhode Island	Prior Approval	Loss Costs/ Rates ⁱ	Advisory	N/A
South Carolina	Prior Approval	Loss Costs	Required	N/A
South Dakota	Prior Approval	Rates	Required	Yes ^c

Table 5.13 Workers' Compensation Insurance State Rate Regulatory Systems (Continued)

State	Rating System	Role of Rating Organisation	Adherence ^a	Deviations
Tennessee	Prior Approval	Rates	Required	Uniform %
Texas	File and Use	None	N/A	N/A
Utah	File and Use	Loss Costs	Required	Yes ^c
Vermont	Use and File	Rates/Loss Costs	Advisory	Permitted
Virginia	Prior Approval	Rates	Advisory	Yes ^f
Washington	Monopolistic State Fund			
West Virginia	Monopolistic State Fund			
Wisconsin	Prior Approval	Rates	Required	None Permitted
Wyoming	Monopolistic State Fund			

^a Classified as required when adherence is required for all companies or bureau members. Classified as advisory when adherence is either prohibited or there is no provision for adherence.

^b Alaska does allow the filing of a schedule rating plan as an independent not subject to the adherence provision.

^c Deviations from the class rates, schedules, rating plans or rules respecting any kind or combination of insurance are permitted.

^d Under Delaware law, Delaware is a file and use state. However, traditionally, no rates are used unless first approved.

^e Illinois has a loss rate option available to insurers since 1/84. Insurers are allowed to use either loss costs or rates.

^f Uniform % downward with support, upward deviation not allowed.

^g Loss costs effective 01/01/92, but National Council on Compensation Insurance is exempt from filing loss costs until 7/1/93. There is no provision for deviations, as of yet, in the new regulation.

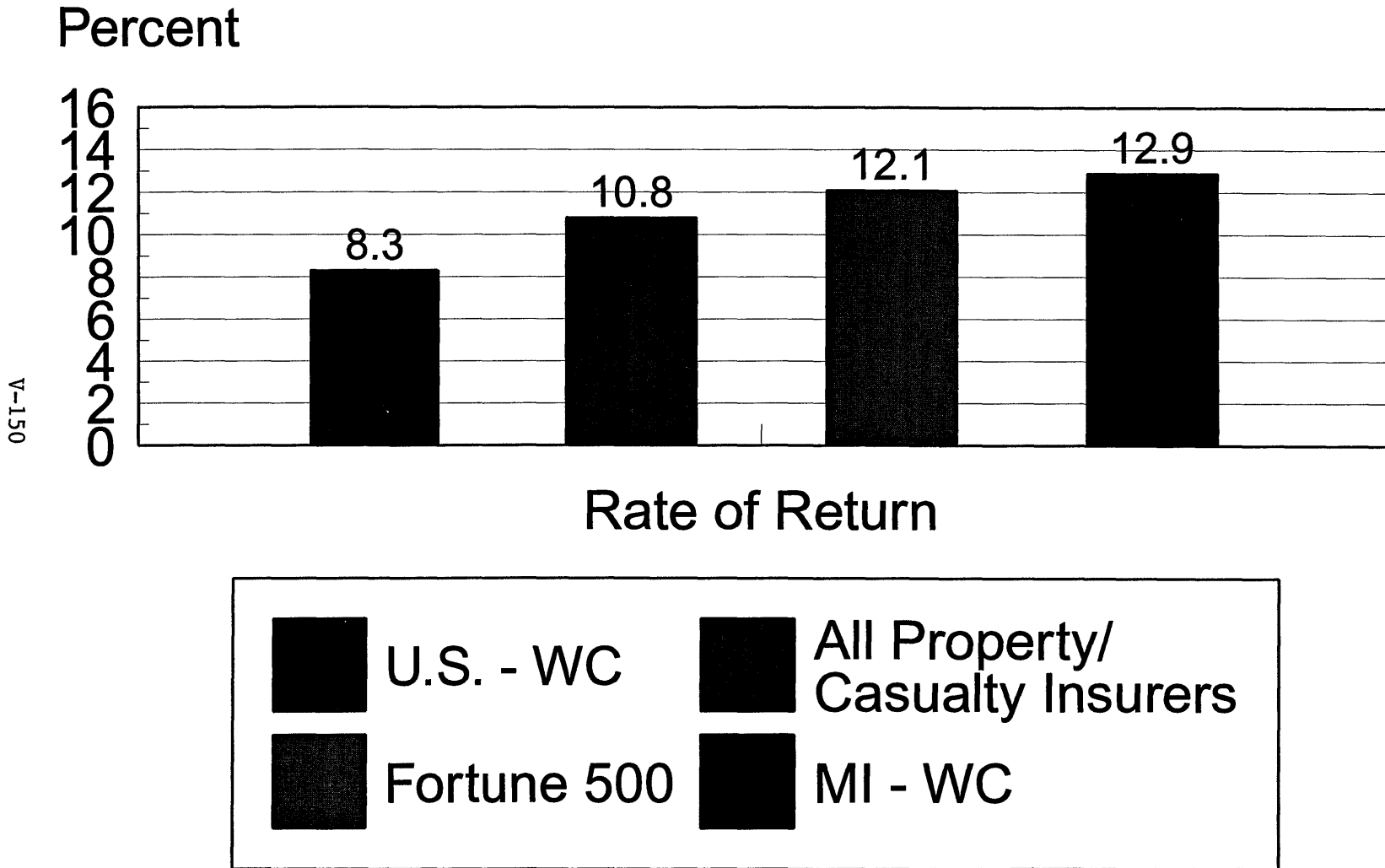
^h In Oklahoma insurers may increase or decrease a filed rate by no more than 15% without prior approval (Flex Filing).

ⁱ Rates are filed for the residual market and insurers with less than 1% market share. Loss costs are filed for insurers with 1% or greater market share.

Source: Klein, Nordman, and Fritz (1993), Table 11.

--	--	--	--	--

Figure 5.1
Rate of Return on Net Worth



Source: National Association of Insurance Commissioners

VI. COMPARATIVE WORKERS' COMPENSATION SYSTEM PERFORMANCE: BRITISH COLUMBIA AND MICHIGAN MODELS

Introduction

Nearly 25 years ago, the U.S. National Commission on State Workmen's (sic) Compensation Laws enunciated the broad objectives for a modern workers' compensation program. They included:

- Broad coverage of employees and of work-related injuries and diseases.
- Substantial protection against interruption of income.
- Provision of sufficient medical care and rehabilitation services.
- Encouragement of safety.
- Effective system for delivery of the benefits and services.

(National Commission, 1972)

Over the intervening years, especially the past decade, the emphasis has shifted somewhat. The goal of cost effectiveness has assumed much greater importance in many jurisdictions. Provision of "sufficient" medical care has come to be defined largely in terms of managed care, employer choice of physician, and other such initiatives. Some states have actually reduced wage-replacement proportions while maintaining that they still provide "substantial" protection against income interruption. The emphasis on early return to work is another example of shifting program values. Nevertheless, the goals enunciated by the U.S. National Commission still provide a framework to evaluate workers' compensation systems today.

An authoritative evaluation on these general principles remains an elusive goal; our objectives in this report are somewhat more modest. We are not trying to definitively evaluate the overall performance of these two workers' compensation systems; we are trying to learn what we can about the ways in which system features and performance seem to reflect the degree of public sector or private sector participation. In particular, we are interested in lessons that can be derived from examining the way in which public monopoly and private market insurance systems influence workers' compensation outcomes. In this section, we

present a comparative analysis of system performance, touching on the general issues identified by the U.S. National Commission. In the final section of the report, we will present observations that relate to workers' compensation insurance issues.

It is important to begin this comparative analysis with some strong cautionary notes. In truth, workers' compensation systems cannot be directly compared, as each system is an organic whole, embedded in a specific legal, political, social, and economic environment. As such, it is clear that there is a danger of improper attribution of specific behavioral patterns to one systemic cause, when there may well be much broader forces at work to shape such behaviors. In addition, making comparisons across systems necessarily highlights some system features and ignores others. In particular, features that can be quantified, whether accurately or not, are more likely to be selected for comparison than features that are more qualitative in nature. This does not mean that the quantitative dimensions are more important, it simply means that they are easier to compare. This report is undoubtedly guilty of these failings, but before proceeding with our comparative analysis, some specific influences that lie behind our comparisons should be made explicit.

Noncomparable Aspects

As discussed earlier, the jurisdictions selected for this comparative exercise were chosen for a number of reasons. While they are "representative" of two different system types (for convenience labeled public and private), they are not "typical" of all the systems that might be called public or private. British Columbia and Michigan workers' compensation systems were selected as "exemplary" models of the public and private approaches to workers' compensation respectively. But as noted in the previous paragraph, no workers' compensation system exists in a vacuum, and it is hazardous to label these two specific systems as "public" and "private" and then imply that conclusions about the characteristics or performance of such systems can be generalized.

It is not possible to be certain which factors are affecting system performance in any specific aspect. Given a particular finding, one cannot be certain that one is looking at a public-private system difference, or a Canadian-U.S. difference, or a West Coast-Midwest

difference, or any of a dozen other competing explanations. We offer our informed observations, based on considerable familiarity with these two workers' compensation systems. It is up to the reader to evaluate this material and decide what is relevant, what is useful, what is valuable for his or her purposes. We urge all readers to keep the following qualifications in mind, as the final sections of the report are digested.

Influence of Self-Insurance

There is a tremendous difference between these two systems that cannot be captured in a satisfactory way. In British Columbia, self-insurance is restricted to a handful of large employers (provincial and federal government, railroads, and airlines), amounting to less than 5 percent of benefit costs in 1993. In Michigan, by contrast, 46 percent of indemnity benefit payments were made by self-insured employers in 1993, the highest proportion in the U.S. Undoubtedly this difference has very significant implications for system performance.

It can be presumed that self-insurance is more attractive to "good risks," since they have more incentive to avoid the "average pricing" effect of the insurance mechanism.⁴⁷ Thus an employer who feels that his/her accident or claims performance would be better than average, might have a financial incentive to self-insure, depending on the experience rating regime available. On the other hand, employers who regard themselves as worse than average performers in this dimension might believe that they derive a financial advantage from accepting the average price, again depending on the experience rating regime. This "adverse selection" issue is also an important influence on mechanisms designed to guarantee that every employer can secure workers' compensation insurance, regardless of safety and claims records. (See Section VII below)

But the other problem is that there are no data available about the performance of self-insurers within the Michigan workers' compensation system, beyond the aggregate share of indemnity payments. So the problem of population bias that may be introduced by their exclusion from the insurance mechanism is further complicated by a lack of data with which to

⁴⁷But see Victor (1985) for a contrary view.

assess the impact of their exclusion.⁴⁸ There is no way to adjust for this problem, so it must be kept in mind that nearly half of the Michigan workers' compensation system is missing from many of our observations, and that this would be expected to bias measures of overall system performance due to adverse selection.

Claim Termination

There is another significant difference between British Columbia and Michigan workers' compensation systems that cannot be controlled in a comparative analysis. British Columbia claims never "close," that is, they always have the potential for additional benefit payments, depending on the circumstances of the claimant. In Michigan, and most other U.S. jurisdictions, there is a legal mechanism to "close" workers' compensation claims, so that the insurance carrier (or self-insured employer) can be certain that no additional dollars will flow to that claimant for that particular injury. In Michigan, this has evolved into a highly stylized "redemption" system, which allows insurers and employers to make "compromise and release" agreements with injured workers that specify a financial payment in exchange for release from further liability for the named injuries (See Section IV for more details). This is not allowed in British Columbia, or other Canadian jurisdictions.

The existence of such an option probably changes the workers' compensation system in many fundamental ways. It introduces an element of certainty into an uncertain business for workers' compensation insurers. However, it also provides the incentive for "nuisance claims" that may be filed with the intention of soliciting a small cash settlement in exchange for avoiding the trouble and expense of a formal hearing. There is no way to demonstrate the actual existence of such claims, but employers and insurers in Michigan firmly believe that they exist.

⁴⁸See Hunt (1982) for evidence that, in fact, large differences in performance do exist between the self-insured sector and the insured sector in Michigan.

Role of Administrative Agencies

The WCB of British Columbia is relatively unique in North America in that it combines the functions of prevention, compensation and rehabilitation for work-related injuries and illnesses into one administrative agency. These are important policy missions, and one would presume that combining them into one agency would provide some unity of purpose and, perhaps, economies of scope or scale. Without an adequate study, it is impossible to determine if these theoretical advantages have actually been realized.⁴⁹ However, the difference in size of the public sector is startling.

The WCB of British Columbia has over 2,500 employees, while Michigan's public sector complement is less than 450 for these "same" functions. Of course, there is no direct comparability between the tasks performed, and the private sector employees (insurance companies, rehabilitation firms, prevention consultants, etc.) that are performing the bulk of these tasks in Michigan's predominantly private workers' compensation system cannot be counted. But the point is that the entire landscape of disability prevention, compensation, and rehabilitation services is vastly different in the two environments, and one must assume that this has implications for system performance. This will become clearer as we proceed through this section of the report.

Stakeholders' Role

Another striking difference between British Columbia and Michigan workers' compensation systems is the involvement of stakeholders in the system. Until 1991, with the formal institution of worker and employer stakeholder representation in WCB governance, British Columbia really was not constrained by the direct involvement of stakeholders, other than injured workers and their representatives, in the workers' compensation system.

In Michigan, in contrast, private stakeholders make most of the decisions, and their self-interest is never far from the surface. From the private physician who provides initial treatment of an injured worker, through the private sector claims adjuster who decides whether

⁴⁹But see Hunt, Barth, and Leahy (1991) for a dubious opinion of such synergy in British Columbia.

to accept the claim in the first instance, to the for-profit rehabilitation provider who assists the worker with return-to-work, to the contingency fee attorney who may assist the worker to settle a litigated claim, many private stakeholders are involved.

Further, change in the workers' compensation system in Michigan involves a delicate balance between the "public interest" and many competing "private interests." All the people who make their living, to one degree or another, from the workers' compensation system have a legitimate concern about their self-interest. They each bring a unique one-dimensional perspective to their evaluation of system change. The practical effect of this diversity of private interests is to make the public interest considerably harder to identify, as it is complicated by the arguments put forth by various private interests.

Effect of Other Institutions

Last, but by no means least, is the effect of other institutions that are not a part of the workers' compensation system, but that can have powerful influences on its results. For example, since access to medical care is guaranteed in Canada, the issue of compensability or noncompensability of a given condition for workers' compensation benefits may be a matter of relative indifference to the worker, and perhaps to the provider, when seeking initial medical treatment. The final assignment of treatment costs to the health plan or to the WCB is really just a bookkeeping exercise.⁵⁰

In Michigan, however, the compensability or noncompensability of a given condition is a critical question when seeking initial medical treatment. To the worker, it may mean the difference between being treated or not, or whether he/she will be able to see a given provider, since the employer has first choice of physician and some professionals simply will not take workers' compensation claimants as patients. Compensability is critical to the treating physician as well, because it not only indicates which insurance carrier should be billed (and what kind of documentation the injured worker needs to establish his/her coverage), but also

⁵⁰But see Hunt, Barth, and Leahy (1996) Chapter 5 for a discussion of perverse incentives for providers in the British Columbia system.

whether the potential exists for disputes over the claim, involving deposition of medical testimony, extra forms, etc. Most medical intake forms in the U.S. ask whether the presenting condition is work-related. To the employer, the difference between a charge on his/her health care plan (probably not experience rated) or workers' compensation insurance plan (probably experience rated) may also be very significant.

This is just one obvious example; there are doubtless many more. The pension plans, other disability insurance schemes, unemployment insurance systems, tax treatment of benefits, labor relations environment, and many other dimensions of working life differ substantially among Canadian and U.S. jurisdictions, and between British Columbia and Michigan. Some, or all, of these probably affect the behaviors of each and every participant in the workers' compensation systems of British Columbia and Michigan. Our analysis cannot control for these myriad differences, but the reader is forewarned not to forget them entirely.

System Performance Comparisons

We will begin our comparative analysis with the issue of coverage. It is obvious that the degree of protection of wage-earning capacity offered by the workers' compensation system depends critically on whether the injured worker is covered or not. Thus, this issue is treated even before questions of prevention incentives and adequacy of wage replacement.

Coverage

British Columbia moved very close to "universal" workers' compensation coverage in 1994. The only exceptions are "casual" workers (less than 8 hours per week), day care workers (less than 15 hours per week), professional athletes, and owner/operators (and certain family members) of individual businesses and independent labor contractors (who are eligible for Personal Optional Protection coverage by application). All other employed workers, including farm workers and fishery workers) are covered by the Workers' Compensation Act. (AWCBC, *Comparison of Workers' Compensation Legislation in Canada*, 1995)

In Michigan, nonagricultural employers of three or more workers are covered. However, if at least one of these is employed full-time (at least 35 hours per week) for a

significant portion of the year (13 of 52 weeks), then all employees must be covered. So, effectively coverage begins with one full time worker. Agricultural employers are covered only if they employ at least three workers under these same duration and time requirements. Household employees are covered if they are employed full-time (35 hours or more per week). Real estate salespersons and brokers are excluded from coverage. (USDOL, *State Workers' Compensation Laws*, 1995)

There are no reliable numerical estimates available of covered individuals under either system. However, British Columbia seems to have a slight advantage in coverage with no numerical exemptions, and in offering coverage by application for small business owner-operators and labor contractors. There is no elective coverage available in the Michigan market.

Injury and Illness Incidence

While the incentive structures that influence behavior may differ, there are some broad system outcome measures that would appear to be comparable. One of these is the incidence of lost workday cases. It is logical that the incidence of workplace injuries and illnesses that give rise to lost work time should be comparable across systems, even if the factors determining their incidence are not. This would provide a "bottom-line" measure of the effectiveness of prevention incentives. Unfortunately, it is necessary to present the measure without controlling for industry structure, behavioral differences resulting from benefit provisions, measurement differences, etc.

In Michigan, these data are collected by the U.S. Department of Labor, Bureau of Labor Statistics and are not derived from the workers' compensation system. They arise from the employer's requirement under the 1970 federal and 1974 Michigan Occupational Safety and Health Acts to keep a log of all work-related injuries and illnesses, whether these are compensable or not. These data are definitely not used for firm-level enforcement activities,

but still may be thought of as self-incriminating by many employers, and are therefore regarded as an understatement of actual experience.⁵¹

In British Columbia, the comparable statistics arise as a by-product of the workers' compensation system, and may therefore be influenced by coverage and compensability considerations. Since the uncovered workers in British Columbia are included in the denominator of total employment, there is a significant underestimate of injury rates. Fortunately the lack of a waiting period in British Columbia means injuries and illness involving at least one lost workday are included in WCB figures. The major discrepancy that compensability might introduce is due to the noncompensability of some repetitive trauma injuries in British Columbia. Presumably these are excluded from the statistics available from the WCB, and this might result in some downward bias for the British Columbia figures, as well.

Another difference is that U.S. figures are calculated on the basis of full-time-equivalent employment rather than on a head-count basis. The effect is to inflate the Michigan incidence compared to a head-count employment basis, since the denominator is smaller. The magnitude of this overstatement is estimated to be 3-4 percent, based on analysis of the various employment figures collected by Bureau of Labor Statistics. In addition, Michigan injury and illness data are for 1992 (the last available) while British Columbia data are for 1993; this is not thought to introduce any particular bias to the comparisons.

Table 6.1 indicates that British Columbia has a slightly higher incidence of work-related injuries and illnesses. Since the Michigan economy is about 2.5 times the size of the British Columbia economy (as measured by employment levels), the per employee figures should be used for comparisons. Total incidence of work injuries and illnesses per 100 employees is about 12 percent higher, but cases involving time away from work are nearly 50 percent more common in British Columbia. This difference presumably reflects, in part, the

⁵¹According to a study of Michigan injuries and illnesses in 1986 that compared the Bureau of Labor Statistics survey results with workers' compensation records, only about one-fourth of lost workdays are actually included on the logs. This reflects both underreporting of injuries and lost workday durations. See Oleinick, et. al. (1993).

more generous wage-loss benefits in British Columbia, as well as the absence of any waiting period for wage-loss benefits.⁵² Of course, it would also reflect incentives for loss prevention and reporting differences between the two systems.

Unfortunately it is not possible to standardize these measures for the industrial structure of the two areas, because of the noncomparability of the classification systems within which the data are reported. However, it seems likely that the dominant primary (extractive) industries in British Columbia (fishing, logging, mining) might be expected to have higher injury rates than the secondary (manufacturing) industries which are so important in Michigan.

WC Claims Incidence

As discussed earlier, there is a wide discrepancy in the entitlement to wage-loss benefits between Michigan and British Columbia. For the purpose of claims incidence, the most important of these is the 7-day waiting period for wage-loss benefits in Michigan. Since British Columbia pays wage-loss benefits from day 1, and since most injuries and illnesses do not involve a full week of lost work time, it is obvious that British Columbia's claims incidence will be very large compared to Michigan's. That is reflected in Table 6.2, where British Columbia shows a wage-loss claim incidence more than three times the Michigan rate.

Also not surprising are the figures shown in Table 6.2 for "medical-only" claims. These are workers' compensation claims that involve no wage-loss benefits, but only payment for medical treatment. In this case, the Michigan incidence is 2.5 times that shown for British Columbia.⁵³ This difference also reflects the Michigan waiting period, since the bulk of British Columbia cases will involve both wage-loss and medical benefits, and therefore are not counted as "medical-only" claims. When these two very disparate figures are summed, the total workers' compensation claims incidence for Michigan is revealed to be nearly 30 percent higher than for British Columbia.

⁵²See Worrall and Butler (1985) for an early U.S. study of this relationship.

⁵³It is worth noting that the average cost of the medical-only claims is comparable at \$254 (US) for British Columbia and \$279 (US) for Michigan.

In summary, British Columbia reports more work-related injuries, but fewer workers' compensation claims per 100 workers, when including both wage-loss and medical-only claims. So how is this paradox to be explained? Since the differences are so great, and reflect known reporting differences, it would be unwise to speculate on the degree to which system incentives and behavioral responses contribute to these results. However, it seems clear that the impact of the health care system is critical. Particularly since all of the Michigan disadvantage arises from medical only claims, it is likely that the availability of universal health care coverage in British Columbia reduces the incentive for injured workers to make sure that their claim gets treated as a workers' compensation claim.

Vocational Rehabilitation Benefits

As discussed in Sections II and IV respectively, British Columbia and Michigan both provide very significant vocational rehabilitation services for injured workers. In British Columbia, the WCB provides these services directly with a staff of nearly 100 Vocational Rehabilitation Consultants and Managers. Michigan relies on outside vendors to provide vocational rehabilitation services, with only a handful of staff at BWDC to scan claims for rehabilitation potential, make referrals to private sector and public sector providers, monitor performance, handle complaints, etc. Interestingly, the state vocational rehabilitation agency (Michigan Rehabilitation Services) operates in direct competition with private sector agencies for referral of workers' compensation clients (Insurance Division of MRS).

Data kept by Michigan and British Columbia on vocational rehabilitation outcomes is very limited, so only the most basic statistics can be cited here. Both systems record about 9,000 referrals for vocational rehabilitation services each year. Since the Michigan working population is 2.5 times the size of British Columbia's, this implies that Michigan's referral rate for vocational rehabilitation services is considerably lower. In terms of outcomes, during 1994 a total of 2,490 individuals were returned to work through vocational rehabilitation in British Columbia. Approximately 55 percent of these are returned to their original employer. The

British Columbia system claims a success rate of 49 percent for those claims with significant interventions.⁵⁴

In Michigan, 3,621 individuals were successfully returned to work in 1993, with a claimed success rate of 38 percent. (BWDC Annual Report, 1995) It is further reported that 85 percent of the successful cases involved a return to work with the original employer. While these statistics are not directly comparable, they do serve to indicate that British Columbia has substantially more vocational rehabilitation activity (and expense) than Michigan.

Unfortunately, data are not sufficient (even in British Columbia) to firmly establish the cost-benefit ratios for vocational rehabilitation services.

Aggregate WC Benefit Payments

Table 6.3 shows aggregate benefit payments in 1993 for the British Columbia and Michigan workers' compensation systems. The aggregate benefit payments in British Columbia in 1993 were about \$307 (US) per employed person, compared to \$329 (US) in Michigan, a difference of about 7 percent. This includes the effects of the more generous benefit structure in British Columbia (75 percent of gross to a maximum of \$566 (US) per week, versus Michigan's 80 percent of net pay to a maximum of \$457 (US) per week), the 7-day waiting period for wage-loss benefits in Michigan (versus no waiting period in British Columbia), differences in average wage levels, and a host of program specific and measurement distortions that are contained within the data. Of course, the annual payout is not the most meaningful way to measure the cost of the system, since it simply represents the flow of expenditures to a dynamic case population. We report it because it is the only workers' compensation system measure available for self-insured employers in Michigan. It is also remarkably similar across the two systems.

⁵⁴See Hunt, Barth, and Leahy (1996), Chapter 6 for a full exposition of vocational rehabilitation services and outcomes in British Columbia.

Incurred Benefit Costs

A more meaningful comparison is obtained from Table 6.4 which shows estimated incurred benefit costs, including capitalized costs of future payments. These figures more properly measure the number of claims incurred in 1993 and their estimated cost, in present value terms.⁵⁵ Table 6.4 indicates that the insured sector in Michigan incurred future wage-loss obligations of \$522.7 million (US) in 1993. Assuming that employment in the insured sector is proportional to wage-loss payments (probably an understatement), one can assign this figure to 54 percent of the employment base in Michigan, yielding an average cost of incurred wage-loss benefits per employee of \$244 (US). This compares to \$299 (US) per employee in British Columbia, a difference of over 20 percent.

On the other hand, Table 6.4 also shows that Michigan's incurred health care costs are only slightly higher than in British Columbia. When both wage-loss and health care costs are added together, it is shown that incurred benefit costs are about 13 percent higher in British Columbia than for the privately insured sector in Michigan. Given the exclusion of the self-insured employers from the Michigan numbers, and assuming they have better "than" average workers' compensation experience, this figure would probably understate the incurred cost differences for the average employer. Still, the rather remarkable conclusion is how similar these levels are, considering all the system differences that have been discussed here.

Promptness of Payment

This is an interesting comparison, since it is fairly objective but still complicated by system procedures, case populations, noncomparabilities, etc. Table 6.5 shows the measures of promptness of payment that are available for these two systems. The figures for British Columbia were developed in a special study of promptness of payment that applied to claims registered in the first half of 1994. British Columbia pays considerable attention to "pay-lag" figures, but since they use a formal standard of 17 days, routine data reporting concentrates on

⁵⁵The Michigan numbers include allowances for IBNR (incurred, but not reported). This is a very rough estimate in any case. Trying to estimate what the ultimate costs of a workers' compensation claim will be is not an exact science.

the proportion of all claims that are paid within the 17 day standard (usually around 50 to 60 percent).

Michigan keeps pay-lag statistics to monitor private insurer/employer performance in making prompt payments. The Michigan data on time from injury to notification come from a study conducted by the Upjohn Institute for the Bureau of Workers' Disability Compensation in 1989, and reflect a sample of cases closed in October of 1986 (Hunt and Lance, 1989). Unfortunately there are no more recent data available from Michigan, and it is unknown how representative these results may be of current performance. However, it is worth noting that the average pay-lag from these data was 29 days, the same figure as reported by BWDC for 1993.

Table 6.5 reports mean time (in days) from date of injury to notification of the administrative agency (WCB or BWDC, respectively) and mean time (in days) from notification to first payment. The difference in performance between the two systems is clear in the injury to notification discrepancy. While this takes an average of 15 days in British Columbia, it takes over two months on average (67 days) in Michigan. This reflects the influence of the large number of litigated claims in Michigan, where the claimed injury is frequently very old before either the employer/insurer or the BWDC hears about it. On the other hand, the median (50th percentile) value for Michigan is 13 days, a very good performance considering that there is a 7-day waiting period before benefits begin. Of course, some would say it is unfair to call these delays "pay-lag" since presumably the payer likely has no knowledge of the existence of the claim until notification.⁵⁶

The actual "pay-lag" is represented by the second entry in Table 6.5, "notification to payment." This measures the time from awareness of a compensable claim to mailing the first benefit payment. In this case, the mean performance of the two systems is quite comparable at 27 days and 29 days respectively. In addition, analysis of the Michigan data and interpolation

⁵⁶Although this is not so clear in the Michigan case, where it is the employer who is required to notify BWDC of the probable claim. It may be that the employer has known of the injury for some time before deciding to acknowledge that it might become a workers' compensation claim.

of the British Columbia data indicate that the typical (median) claim receives payment in about 11 or 12 days from notification. These are both good promptness of payment performances.

Dispute Resolution

As indicated earlier, the Michigan workers' compensation system is a great deal more litigious than that of British Columbia. Table 6.6 indicates that when considered against the base of new wage-loss claims established, the Michigan "dispute" rate is nearly four times higher than that of British Columbia. However, there are a number of qualifications that should be entered here about the specifics of the comparison. First, the table ignores the Medical Review Panels in British Columbia and understates the impact of the Mediation Division in Michigan. Both are ignored for the sake of simplicity and comparability. However, it should not obscure the fact that a large share of disputes are settled informally in Michigan via mediation services, particularly disputes over health care service and vocational rehabilitation matters and these are not shown in the table.

Because the Mediation Division annually disposes of nearly 5,000 disputes over medical claims, it was also judged to be appropriate to drop the much smaller separate appeal channel of Medical Review Panels in British Columbia. Second, the denominator for this calculation is somewhat inappropriate. The requests for review do not arise simply from one year's claims, but reflect the entire history of successful and unsuccessful claims in the past. In particular, the Michigan system looks substantially more litigious in Table 6.6 than conventional wisdom would dictate, because the denominator includes only accepted wage-loss claims and magistrate awards from the previous year, not redemptions, wash-outs, and other miscellaneous dispositions. However, using the current year new claims as a denominator provides a rough yardstick to assess the relative magnitude of disputation in the systems.

Third, it is clear that the "request for review" in Michigan serves to involve the public agency as a party in determining the facts or relevant law in compensation matters, whereas in British Columbia it is an appeal from a public agency decision on these matters. Thus, there is a vastly different degree of public participation in the decision making before the request for review. In addition, since the Michigan adversarial system provides the employer/insurer with

the opportunity to exercise the initiative to refuse a claim, it is to be expected that more claims will be disputed than in the inquiry system of British Columbia.

Nevertheless, it is true that the Michigan system is a great deal more contentious and that it is dominated by lawyers in a way that would be horrifying to the Canadians. Nearly every contested case in Michigan has a plaintiff attorney attached, while appeals to the WC Review Board in British Columbia only have about 15 percent attorney involvement. Further, attorney fees are prohibited by the WCB, while it is routine for the plaintiff attorney to take between 15 and 30 percent of the award, on a contingent fee basis, in Michigan. Thus, the discrepancy in benefit levels noted earlier in this report is further compounded when the case becomes contested, since the lower Michigan benefit levels must be shared with the worker's attorney.

After the initial review level, it is interesting to note that Table 6.6 indicates that the situation is reversed, with British Columbia having the higher appeal rate.⁵⁷ This reflects two major factors. First, a great majority (over 60 percent) of the Michigan "dispositions/decisions" are negotiated compromise and release settlements, or redemptions, that terminate the employer/insurer liability. Appeal from these decisions is allowed only in extreme circumstances, since both parties are presumed to have been represented by counsel and capable of making an informed decision. So, the actual number of first level decisions that could be appealed is less than half that indicated in the table.

Second, appeal is nearly costless in the British Columbia system. There is probably no attorney involvement, and there is no financial consequence to seeking an additional "bite at the apple." In the Michigan system, if the claimant has pursued the matter through the magistrate hearing level and secured no benefit award, the attorney has usually not only not been compensated but will have absorbed the costs of the litigation. Thus, he/she would not be expected to push the appeal to the next level with uncertain returns.

⁵⁷Plus for comparability, we have excluded WCB Appeal Division cases (about one-third of total activity) that do not emanate from WC Review Board decisions.

Employer Costs

Table 6.7 compares the costs of workers' compensation coverage from the employer perspective. The average 1993 assessment rate for employers in British Columbia was \$2.11 per \$100 of payroll (in Canadian Dollars). Applying the average assessment rate to the average weekly wage in 1993 of \$561 (CD) (or \$435 US), and assuming a 52-week work year, yields a total annual cost per employee of \$477 (US). The Michigan average standard premium rate in 1993 for the combined voluntary and assigned risk markets was \$2.79 per \$100 of payroll (US). Applying this rate to the Michigan average weekly wage of \$507 (US) in 1993 and assuming a 52-week work year yields a total per employee cost of \$736 (US), or some 54 percent higher than in British Columbia.

There are three major explanations for the magnitude of this difference. First, the average weekly wage is about 17 percent higher in Michigan than in British Columbia. In addition, all wages are assessable for workers' compensation premium in Michigan, whereas wage payments of over \$39,225 (US) to any individual would not be assessed in British Columbia. Since we know that Michigan employers pay a higher average premium rate, and that they pay it on higher wages on average, it is no surprise that Michigan employers pay more overall for workers' compensation coverage. Second, the British Columbia public workers' compensation system enjoys the benefit of the earnings from the \$4 billion (CD) in reserves it is holding to pay long-term claims into the future.⁵⁸ The WCB uses a discount rate of 3 percent for calculating the reserves required for long-term disability claims and other obligations. Thus, if the real rate of return earned on funds held as claim reserves is greater than 3 percent, the additional earnings effectively go to reduce the amount of assessment income that must be raised in the current period. The investment portfolio that the WCB manages earned an average return of 9.2 percent in 1993 (7.5 percent after inflation). The result was that about 33 percent of WCB income was derived from investments.

⁵⁸At the end of 1993, the WCB of British Columbia was estimated to be 97 percent funded against future expected benefit costs, a remarkable achievement for a public workers' compensation system.

Third, on the U.S. side, the incurred benefit payments made to claimants must be “marked up” to allow private insurers to recover their administrative costs, plus a fair return on their investment. It was shown earlier (Table 5.8) that Michigan workers’ compensation insurance carriers incurred loss adjustment costs of 15.9 percent, sales expenses of 9.7 percent, and state tax costs of 2.9 percent of the premiums collected. In addition, an average of 2.9 percent was returned to policyholders in the form of dividends. Thus, at least 30 percent of the premium dollar goes to cover operating expenses. Table 5.9 presented earlier also showed that in most years, workers’ compensation insurers in Michigan made profits of about 13 percent of net premiums. In other words, the administrative costs, taxes, dividends, and profit for private insurance carriers create a gap of approximately 40 to 45 percent between the benefits paid to workers and the costs to employers.

Administrative Costs

Table 6.8 compares the public administrative costs of the workers’ compensation systems in Michigan and British Columbia. As expected, given the nearly total public responsibility for administering the workers’ compensation system in British Columbia, the public administrative costs are much higher. Table 6.8 indicates that the public cost of administering the system is about \$77 (US) per worker in British Columbia. This includes adjudication, record keeping, dispute resolution, public advisers for both employees and employers, three layers of appellate bodies and all the other overhead associated with a public workers’ compensation system. In Michigan, public administration costs were approximately \$5 (US) per worker in 1993, but this only provides a record keeping system and a dispute resolution system, all the rest of the costs are borne privately.⁵⁹

It is impossible to get a precise assessment of the private cost burden, but a start can be made by applying the loss adjustment costs and sales expenses of approximately 25 percent (Table 5.8) to the \$1.3 billion (US) in benefit payments in Michigan in 1993 (from Table 6.3).

⁵⁹It is a part of the cost of the dispute resolution system because only the mediators and magistrates are on the public payroll. Representation of the parties is a private obligation.

The result would be a private administrative cost estimate of \$325 million (US) in 1993 for both the insured and self-insured sectors. Adding this to the public administrative cost figure in Table 6.8 would bring total public and private administrative costs in Michigan to \$345 million (US), or \$86 (US) per worker. These are very rough approximations, of course.

In addition, this figure does not include the private costs of litigation. There are very few private lawyers operating in the workers' compensation system in British Columbia, so we can disregard this cost item, and the cost of the public advisory services is included among the WCB administrative costs. However, in Michigan with a fairly litigious system, very substantial additional private transaction costs are incurred in disputed cases. On average, from one-fourth to one-third of the successful worker litigant's award goes to legal costs and attorney fees. Presumably, this is matched by a similar cost on the defendant side (representing the insurance carrier or the self-insured employer). Thus, overall, as much as one-half of lump-sum benefit payments may be charged to private transaction costs.

Unfortunately, there are no sufficient data with which to estimate the overall cost contribution of the litigated sector. However, data from several years ago indicate that approximately 26 percent of all successful claims were litigated, and 73 percent of those received some lump sums (56 percent received only lump sums), it is obvious that it could be a very large number.⁶⁰ If we assume that just half of the total compensation received by litigated claimants is a result of the successful litigation, then the estimated private transaction costs would be one-fourth of these benefit payments. Since litigated claims constitute about 25 percent of all successful claims in Michigan, this would yield an estimated total of 6 to 7 percent of overall benefit payments. This figure is a very rough estimate, but gives an appreciation of the overall magnitude of these hidden private transaction costs in Michigan. It also helps us understand why employer costs in Michigan are so much higher, even though incurred benefit payments are roughly comparable in the two systems.

⁶⁰These parameters are drawn from Hunt (1982) and relate to Michigan workers' compensation claims closed in 1978.

Table 6.8 also shows the public expenditures on prevention activities in the two jurisdictions. The costs are reflected in activity levels, as the WCB completed nearly 48,000 workplace inspections in 1993, writing a total of 61,487 orders and levying penalties and fines of \$1.2 million (US). In addition, the WCB conducted over 4,600 educational presentations and completed over 7,000 consultation reports. By comparison, the MIOSHA Division of the Bureau of Safety and Regulation in Michigan, facing a workforce 2.5 times that of British Columbia, completed about 7,000 workplace inspections, writing about 12,000 citations, and levying penalties of \$50 million (US). In addition, the Safety, Education and Training Division conducted over 4,500 training sessions and made over 18,000 consultation visits in fiscal year 1993. This analysis makes it clear that British Columbia mounts a considerably greater effort at prevention, particularly on the enforcement side. Michigan does relatively well at voluntary compliance efforts, but simply does not put enough inspectors in the field to cover the employer population in Michigan.

Summary

The British Columbia public workers' compensation system reports 12 percent more work-related injuries, and 48 percent more lost workday injuries than does Michigan. Yet, it apparently identifies fewer workers' compensation claims on a per capita basis. However, all of this difference is in the medical-only claims, since British Columbia actually pays three times as many wage-loss claims. These differences are thought to be due to the lack of a waiting period for wage-loss benefits in British Columbia, and to easier access to the general health care system for both job-related and non job-related injuries and illnesses than is true in Michigan.

Overall, annual benefit payments to injured workers are slightly lower in British Columbia (about 7 percent), but incurred benefits are slightly higher (about 13 percent). This difference presumably reflects the prevalence of lump-sum payments in Michigan, which are very rare in British Columbia. All of the incurred cost differences are among the wage-loss claims, as British Columbia reports 22 percent greater incurred wage-loss benefits per worker. Incurred medical and rehabilitation benefits are remarkably similar.

Michigan and British Columbia are both very good in promptness of payment, given notification of injury. However, approximately four times as many claims are litigated in the Michigan system, reflecting the presence of plaintiff attorneys and a presumption of initiative on the insurer, or self-insured employer, side. In Michigan, insurance carriers generally have the right to deny benefits initially, or to stop benefits subsequently. Both actions are subject to administrative hearing upon request of the injured worker, but the initiative is still with the employer. This is true of choice of physician as well, where Michigan permits the employer to select the physician for at least the first 10 days of treatment, while British Columbia allows the worker to choose.

In terms of employers' costs of workers' compensation coverage, British Columbia enjoys an advantage of about 35 percent, when measured in U.S. dollars per worker. This is due to lower average wages, lower combined public and private administrative costs, and much lower transaction costs. The transaction cost differences are comprised of both sales and promotion expenses in the private system and the friction costs of litigation. Given that the average wage difference is about 17 percent, we hazard the guess that about half the employer cost advantage in British Columbia is due to the workers' compensation system itself.

This review has shown some striking similarities and some surprising differences between the performance of the British Columbia and Michigan workers' compensation systems. In general, the advantage goes to British Columbia. Benefits are paid without a waiting period and with considerably higher maximum weekly wage-loss protection. Nevertheless, incurred benefit costs are roughly similar. British Columbia pays higher public administrative costs, but when an estimate of Michigan's private administration and transaction costs are factored in, British Columbia actually looks significantly less expensive. Finally, when we look at the bottom line, employer's costs of workers' compensation coverage, British Columbia wins hands down. In the final section, we will consider the insurance implications of system differences, and some lessons that may be drawn from this review of public and private workers' compensation insurance mechanisms.

Table 6.1 Incidence of Work-Related Injuries and Illnesses

	1993 British Columbia		1992 Michigan	
	Total	per 100 Employees	Total	per 100 Employees
Total Work Injuries and Illnesses*	195,117	11.7	405,658	10.4
Lost Workday Injuries**	71,969	4.3	113,736	2.9
* British Columbia data came from WCB reports and reflect different reporting standards than MIOSHA log data shown for Michigan.				
** Lost workday injuries for British Columbia include only those resulting in some payment for wage-loss before 12/31/93. Michigan figures are based on a survey of MIOSHA log data and reflect only cases with days away from work.				
Source: British Columbia data from <i>WCB 1993 Annual Report</i> ; Michigan data (unpublished) from MIOSHA Information Division.				

Table 6.2 Incidence of Workers' Compensation Claims, 1993

	British Columbia		Michigan	
	Total	per 100 Employees	Total	per 100 Employees
Wage-Loss Claims Established	79,503	4.8	60,541	1.5
Medical Only Claims Established	56,186	3.4	358,172	9.0
Total Claims Established	135,689	8.1	418,713	10.5
<p>Source: British Columbia data came from <i>WCB 1993 Annual Report</i>. Michigan data are from unpublished tabulations provided by BWDC (wage-loss claims) and <i>BWDC Annual Report, 1993</i> (medical only claims).</p>				

Table 6.3 Workers' Compensation Benefit Payments, Calendar Year 1993, in U.S. Dollars

	British Columbia		Michigan	
	Total	per Employee	Total	per Employee
Health Care Payments (incl Rehabilitation Costs)	\$129,598,450	\$78	\$374,064,251	\$94
Wage-Loss Payments	\$381,620,930	\$229	\$934,060,557	\$235
Total Payments*	\$511,219,380	\$307	\$1,308,124,808	\$329
* Total includes wage-loss, health care, and rehabilitation benefits on a paid basis for calendar year 1993.				
Source: British Columbia figures from <i>1993 Annual Report</i> , Note 6, p. 41. Michigan figures from Funds Administration and <i>BWDC 1993 Annual Report</i> , p. 9.				

Table 6.4 Incurred Workers' Compensation Benefit Costs Calendar Year 1993, in U.S. Dollars

	British Columbia		Michigan*	
	Total	per Employee	Total	per Employee
Wage-Loss Benefits	\$498,857,364	\$299	\$522,674,073	\$244
Health Care Benefits	\$271,835,659	\$163	\$359,738,630	\$168
Total Incurred Benefit Costs	\$770,693,023	\$463	\$882,412,703	\$411
* Insured sector only. It is assumed that employment is proportional to paid indemnity losses in 1993.				
Source: British Columbia figures from <i>1993 Annual Report</i> , p. 36. Health care benefits include rehabilitation expenses. Michigan figures from <i>Michigan Data Collection Agency Publication, 1995</i> , Exhibit I, pp. 3-4. Michigan figures exclude loss based assessments and claim adjustment costs and are based on 1993 calendar/accident year data with appropriate loss development factors.				

Table 6.5 Promptness of Payment

	British Columbia*	Michigan**
Injury to Notification (mean value)	15 days	67 days
Notification to Payment (mean value)	27 days	29 days
* British Columbia data are from a special study of timeliness based on all claims registered in the first half of 1994.		
** Michigan data are from BWDC statistics for 1993 and from a random slice in-time sample of claims closed in 1986. The sample of claims was compiled by the W.E. Upjohn Institute for Employment Research.		
Source: British Columbia data are from <i>WCB Performance Reports, 1994</i> , pp. 27, 31. Michigan data are from <i>Intrastate Differences in Workers' Compensation Costs: October 1986 Closed Case Study</i> (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research) September 1989, p. 37.		

Table 6.6 Dispute Resolution Activity, 1993

	British Columbia*	Michigan**
New Wage-Loss Claims Established	79,503	60,541
Requests for Review	7,573	22,496
	9.6%	37.2%
Dispositions/Decisions	6,968	23,399
Appeals	1,429	1,178
	20.5%	5.0%
<p>* For British Columbia, the Requests for Review refer to Workers' Compensation Review Board appeals received and Dispositions/Decisions refer to Review Board panel findings and summary decisions. Appeals refer only to Review Board decisions appealed to WCB Appeal Division.</p>		
<p>** For Michigan, Requests for Review refers to Petitions for Hearing received and Dispositions/Decisions includes decisions and redemptions, but not mediator resolutions. Appeals refers to Appellate Commission activity only.</p>		
<p>Source: For British Columbia, <i>Annual Report of the Appeal Division for 1993</i>; for Michigan, <i>BWDC Annual Report 1993</i>.</p>		

Table 6.7 Employer Cost of Workers' Compensation Coverage for 1993, in U.S. Dollars*

	British Columbia		Michigan**	
	Assessment Rate	Cost per Employee	Standard Premium Rate	Cost per Employee
Employer Cost of Workers' Compensation Coverage	2.11	\$477	2.79	\$736
* Employer costs per worker are estimated by applying the average assessment or premium rate to the average weekly wage times 52 weeks.				
** Insured sector only. It is assumed that employment is proportional to paid indemnity losses in 1993. Michigan figure includes the placement facility results.				
Source: British Columbia data from <i>WCB Annual Report, 1994</i> , p. 54. Michigan data are from Michigan Insurance Bureau, <i>Preliminary Report and Certification Regarding the State of Competition in the Workers' Compensation Insurance Market, 1995</i> , Exhibit 7.				

Table 6.8 Public Administrative Costs 1993, in U.S. Dollars*

	British Columbia		Michigan	
	Total	per Employee	Total	per Employee
Administration	\$122,737,985	\$77	\$19,915,223	\$5
Prevention	\$21,437,209	\$13	\$11,264,000	\$3
Total	\$144,175,194	\$90	\$31,176,223	\$8
* See text for estimates of private transaction costs.				
Source: For British Columbia, <i>WCB 1993 Annual Report</i> ; for Michigan, compiled from statistics provided by Deputy Director, Michigan Department of Labor.				

VII. POLICY IMPLICATIONS FOR VICTORIA

Introduction

This section outlines the most important considerations involved in making policy choices about the relative roles of the public and private sectors in Victoria's workers' compensation insurance system. The outcomes of any particular set of choices depend on the specific circumstances of a workers' compensation system and its environment. Thus, it is not possible to make predictions about the effects of different policy decisions that would necessarily hold true for any system (e.g., moving from public to private financing will always improve economic efficiency). However, it is possible to share insights from the British Columbia and Michigan experiences that may have some application to the policy options facing Victoria.

In a broad sense, there are two interrelated sets of institutional arrangements that must be considered. As discussed earlier, there is a continuum of public and private sector participation in workers' compensation systems. But accompanying these options is another continuum with respect to the degree of regulation. In essence, policy makers must choose a set of institutions and policies from the available array that promises to achieve the social objectives of adequate and equitable benefits for injured workers at fair and reasonable costs for employers. The linkage between these choices is illustrated by the apparently universal need to monitor the adequacy of insurer performance where private insurers have a substantial role in assuming risk and administering benefits and other workers' compensation services. Most governments act as though some system outcomes are too important to be left entirely to unregulated private market forces.

Although this report contrasts public and private models for workers' compensation systems, it is obviously possible to have various "mixed" systems which could assign some functions to a government agency or public insurer and other functions to the private sector. For example, as in Victoria, the government could assume risk and finance benefits but private firms could administer claims. But choices about different features of a workers' compensation

system are interdependent and should not be considered in isolation. For instance, the impact of delegating claims administration to private firms might be influenced by whether claim costs are publicly or privately financed. So it is not possible to identify a combination of public and private functions that would necessarily be optimal for every workers' compensation system. It is feasible to utilize the framework of the core workers' compensation insurance functions outlined in the introduction to this report to discuss the implications of different approaches to public and private provision of these functions.

Marketing and Distribution

Even a public insurer must perform some administrative functions in issuing and servicing workers' compensation coverage, but marketing and distribution activities become much more significant when a number of private insurers compete for business. Private insurers must inform potential buyers about their products and prices and solicit business. Constraints on private insurers' products and prices might induce insurers to limit their expenditures on marketing and distribution, but this also could lower the potential efficiency gains from competition and innovation. Moreover, even with regulatory limits on prices and products, private firms will seek ways to differentiate and market themselves to buyers.

Additionally, in the U.S., private insurers are able to reap economies of scope in using the same marketing and distribution facilities for several lines of commercial insurance, including workers' compensation. It is not uncommon for agents and insurers to package and sell workers' compensation insurance with other commercial property and liability coverages. Agents and insurers are able to acquire information about the risk characteristics and various insurance needs of a firm at the same time and use that contact to market and sell several policies to the firm. This lowers per-unit marketing and distribution costs as reflected in premium discounts to buyers of multiple policies. The potential for achieving these economies in other jurisdictions, such as Victoria, depends on the marketing and distribution systems employed by private insurers.

At the same time, competition among private insurers in soliciting business necessarily adds an additional layer of cost in terms of expenditures on advertising, in-house sales

facilities and activities, commissions and brokerage fees, and other acquisition costs. Expenditures on commissions and direct acquisition costs alone constituted 8.1 percent of workers' compensation insurance premiums in the U.S. in 1993. This figure does not include costs for marketing and distribution facilities and activities that are not separately detailed in financial reports. These additional costs must be balanced against any efficiency gains that would be achieved from utilizing private insurers competing for business.

Underwriting Selection

It is easier for a public monopoly insurer to provide workers' compensation insurance for all or most employers, as it is not subject to the same problem of adverse selection to which private insurers are exposed.⁶¹ A public monopoly insurer need not worry about adverse selection as long as all employers are forced to buy coverage from it. This allows a public monopoly insurer to pool high-risk employers with low-risk employers and exercise greater flexibility in allocating benefit costs between these groups. On the other hand, private insurers, and public insurers that compete with private insurers or self-insurance, are subject to adverse selection unless they have the ability to reject certain risks. In the U.S., private insurers seek to coordinate their pricing structures and their selection of risks to avoid an excessive concentration of high-risk employers, or they seek to specialize in these types of risks.

U.S. insurers also use underwriting selection to specialize in certain industries and types of employers. Because it is costly for insurers to acquire information about an industry and specific employers that is relevant to risk selection and proper pricing, insurers can gain a comparative advantage over competitors through specialization. This allows insurers to offer more competitive prices and services to employers for whom they have acquired information that is not readily accessible to other insurers. The regulation of insurer underwriting selection and pricing can have significant effects on the efficiency and equity of a workers' compensation system.

⁶¹This assumes that self-insurance is limited as an option under a public monopoly system.

Ensuring Availability of Coverage

In theory, the proper coordination of pricing and underwriting selection should ensure that most employers are able to obtain coverage at an actuarially fair price. However, in practice, certain structural problems can occur which may make it difficult for some employers to obtain coverage on a voluntary basis. An availability problem can arise when private insurers' rating structures do not accommodate certain high-risk employers, or employers for whom it is difficult to calculate and charge a proper premium. Insurers will be disinclined to offer coverage voluntarily to these employers who must seek coverage from some other source or go out of business.

Given incomplete information and insurers' need to make subjective assessments about employers' risk characteristics, this problem can be driven by false perceptions as well as hard facts. For instance, in the U.S., small employers historically have had a difficult time acquiring voluntary market coverage, although some state funds and specialty carriers have demonstrated that such employers can be written profitably at competitive rates. Availability problems also can arise in the "hard-market" phase of the underwriting cycle when insurers tighten their underwriting criteria and reject or fail to renew policies for some employers.

Some U.S. states have restricted insurers' ability to reject risks in personal auto and homeowners insurance, but such restrictions have generally not been imposed in workers' compensation. Attempts to force insurers to accept all risks who meet certain minimum criteria have generally failed, as insurers have found other ways to avoid business that they do not want. Insurers can discourage certain risks by raising their rates, providing lower quality service, or failing to market policies to them. In 1993, in response to legislation promoting depopulation of its residual market, the Missouri insurance director sought to promulgate a depopulation plan that would have required workers' compensation insurers to accept an application for insurance from any employer that met certain minimum criteria.⁶² Insurers blocked implementation of the plan based on a legal technicality.

⁶²The employer's classification would have to be one that the insurer was writing.

Regardless, reliance on private insurers to provide workers' compensation insurance requires a mechanism to provide coverage to employers who are unable to obtain coverage from the voluntary market. The options are some form of residual market facility or a public insurer that will cover risks rejected by the voluntary market. Various types of residual market mechanisms have been employed in the U.S., including reinsurance pools, joint underwriting associations, and assigned risk plans. Reinsurance pools are the predominant mechanism used in the U.S. for workers' compensation.

The structure of residual market mechanisms and the regulation of the voluntary market can have significant implications for the performance of the overall workers' compensation system. Regulatory suppression of voluntary and/or residual market rates below costs can cause the voluntary market to shrink and the residual market to grow at an accelerating rate. This can ultimately result in the implosion of the voluntary market as increasing assessments on voluntary market premiums to cover the soaring residual market deficit drives more employers into the residual market (e.g., Maine). Residual markets have remained relatively small in states like Michigan where rates are generally adequate to cover costs.

Other aspects of residual market mechanisms can affect system performance and the quality of service to employers and workers. Mechanisms that assume all or most of the risk and use private insurers as servicing carriers are subject to cost inflation as servicing carriers have little economic incentive to contain costs or provide good service if their performance has no effect on the fees they receive. Until recently, this was a serious problem in the U.S., with its primary reliance on a reinsurance pool for residual market workers' compensation risks that assumes 100 percent of the losses. Insurance regulators and workers' compensation administrators pressured the NCCI to institute a number of reforms to better monitor and correct servicing carriers' performance. Initial indications are that these reforms are having a positive effect and contributing to the overall improvement in the workers' compensation market (NCCI, 1995).

It also should be pointed out that efforts to make residual market mechanisms self-supporting can have adverse impacts on low-risk employers who are forced into such mechanisms. Ideally, every risk in the residual market would pay an actuarially fair premium,

but this is difficult to accomplish in practice given the inherent imperfections in workers' compensation pricing schemes. In the U.S., residual market losses have been reduced by eliminating certain pricing discounts available to voluntary market risks and adding rate surcharges. These indiscriminate pricing adjustments may have resulted in more adequate prices for high-risk employers, but they also may have resulted in excessive prices for low-risk employers forced into the residual market. The presumption that any employer unable to obtain voluntary market coverage is high-risk and should be charged an extra premium will not always be true.

The combination of a properly administered reinsurance pool and a competitive public insurer may offer the best solution to the availability dilemma for some private systems. With appropriate pricing and administration, the reinsurance pool could be operated with a minimal subsidy (if any) and retained for only the highest-risk employers who cannot be insured by the voluntary market. The public insurer could insure low-risk employers unable to obtain voluntary coverage and gain efficiencies by specializing in certain types of employers (e.g., small employers) who tend to be rejected by private insurers. This approach would help to keep the residual market small and manageable while avoiding penalties against low-risk employers who might otherwise be forced into the residual market. This scheme has worked fairly well for states such as Michigan.⁶³

Benefit Provisions and Policy Design

The "social contract" nature of workers' compensation requires the government to mandate the benefits to which workers are entitled. The basic insurance coverage which employers are required to carry ensures that these benefits are paid. Allowing private insurers to underwrite workers' compensation insurance raises the question of whether they will be constrained to a standard policy or will be allowed to develop different policies to respond to employers' needs and preferences. Workers would receive the same benefits regardless, but

⁶³But note that Michigan sold its competitive state fund to a private health insurance carrier in 1995. It will be interesting to see how this affects the availability and price of coverage to small employers.

insurers could sell and employers could choose among insurance policies which offer various options in terms of risk assumption, as well as services such as loss prevention and claims management. Varying insurance policies would directly affect employers' costs and incentives and indirectly affect workers. In theory, permitting variation in insurance policies could improve economic efficiency by allowing the market to respond to differences among employers in terms of their ability to assume risk, or need for related services. A public insurer need not be constrained to one standard insurance policy, but innovation in policy design is more likely to be facilitated by competition among private insurers.

The structure of the market and regulation will affect the types of policies that are offered by private insurers and purchased by employers. Because of the agent-principal problems discussed in Section I, there is potential for system objectives to be undermined by allowing private insurers to offer different kinds of policies. For example, if an insurer sells a policy that pays lower benefits than those prescribed by law, the employer would be responsible for paying the difference. However, the employer might seek to avoid or be unable to cover its residual obligation to an injured worker, forcing legal action by the government or the worker. Hence, regulators would need to ensure that the insurance policies that are sold satisfy employers' requirements for coverage and that workers' interests are not compromised.

Workers' compensation administrators and insurance regulators in the U.S. are currently wrestling with these issues in making decisions about allowing the sale of alternative workers' compensation coverages, such as various forms of 24-hour coverage and large deductible policies. The managed care "movement" in the U.S. offers another example. As private and public insurers have moved aggressively to add managed care, especially of health care costs, to their array of policy services over the last five years, regulators have largely been silent in the face of these initiatives. While there seems to be clear evidence that managed care techniques can reduce workers' compensation medical costs, there has been very little investigation of the implications for the quality of care. It is worth noting that organized labor has definitely been skeptical of these changes. Thus, one could argue that this policy innovation remains unproven, even though remarkably widespread. Interestingly, neither Michigan nor British Columbia have been leaders in this particular policy evolution.

Pricing and Premium Verification

A public monopoly insurer can implement an array of different pricing or cost allocation schemes depending on public policy objectives and the political and economic environment. A public monopoly insurer has more flexibility in allocating costs among employers because it is not subject to the problem of adverse selection if all employers are required by law to purchase workers' compensation insurance from it. The particular pricing scheme implemented will have an impact on economic efficiency and equity, however, even if employers have no choice in terms of the amount of coverage they purchase.

Employers who pay premiums less than their expected losses will be induced to over-consume insurance by hiring more labor or increasing their risk in other ways beyond what is optimal for society. Conversely, employers who pay more than an actuarially fair premium will be induced to under-consume insurance by hiring less labor or taking other actions to lessen their risk which are not efficient. Consequently, workers' compensation pricing schemes that contain cross-subsidies lead to efficiency losses which ripple through the economy. Cross-subsidies also can cause claim costs to escalate and ultimately cripple a public insurer.

The pricing schemes that are feasible under a private market system are more limited than those that can be implemented by a public monopoly insurer. In a competitive market, insurers are induced to approximate actuarially fair prices based on the information available to them. Insurers will seek to circumvent regulatory attempts to enforce pricing structures other than what would be established by the market. Insurers can circumvent regulatory restrictions through devices such as revising their adjustments to manual rates, modifying dividend plans, reclassifying employers, and changing their quality of service. Regulators can affect prices but they cannot totally control them as long as insurers retain some flexibility in determining premiums for particular employers and varying their quality of service. Regulatory efforts to restrict overall rate levels below costs or enforce cross-subsidies through the rate structure will cause market dislocations and reduce economic efficiency.

Over time, states in the U.S. have moved away from a uniform, administered pricing system for workers' compensation to an approach that embraces a fair degree of price

competition among insurers. The historical concern that unfettered price competition would produce a rash of insolvencies and undermine system protections has not proven to be well founded. On the whole, competitive rating has seemed to work relatively well compared to prior approval and administered-pricing systems. Several previous studies indicate that prices tend to fall after the institution of competitive rating, although they may also rebound to some extent after several years. Other studies suggest that, over the long run, workers' compensation prices are either no different or are possibly even higher under competitive rating.

However, this does not necessarily mean that the prices in competitive rating states are excessive, as some prior approval jurisdictions may have suppressed prices below competitive levels. There can be strong economic and political pressures on regulators and legislators to suppress rates when they are subject to prior approval, particularly in high-cost states. This, in turn, can cause losses to escalate further and increase pressure on prices as employers fail to pay the full cost of coverage and incur excessive risk.

The experience in the U.S. indicates that prior approval rate regulation can lead to severe market problems and even at best does not appear to offer efficiencies which justify its additional costs. It is not surprising then that 31 states have followed Michigan's lead in implementing competitive rating for workers' compensation, and other states are considering such a move. Of course, competitive rating is facilitated in the U.S. by the generally competitive structure of the insurance industry and the workers' compensation market.

There does appear to be a cyclical aspect to workers' compensation pricing, shared with other commercial lines, resulting in some market instability which could be more severe under competitive rating. Regulatory attempts to prevent cyclical pricing are likely doomed to failure (see Cummins, Harrington, and Klein, 1991), however. As noted above, it is difficult to prevent insurers from circumventing regulatory restrictions, although regulators may hamper insurers' efforts in ways that are not necessarily efficient. Indeed, Cummins and Outreville (1987) contend that regulatory lag in approving rate changes can even exacerbate cyclical pricing.

However, there is a role for regulation in a competitive rating system. At a minimum, regulators should monitor market structure, conduct and performance to ensure that prompt regulatory intervention occurs if competition fails and serious problems develop. Michigan has developed a system for monitoring competition in workers' compensation markets that could be used as a model for other jurisdictions.⁶⁴ Second, while it is not essential for regulators to prior approve rates, there are advantages to requiring insurers to file rates and authorizing regulators to disapprove rates if competition is lacking or if an insurer's rates threaten its solvency.

While filing requirements necessarily introduce some lag in implementing price changes, the exercise of filing and supporting rates can force some insurers to develop more actuarially sound rates than they might otherwise implement. Regulatory standards also can limit indiscriminate use of certain pricing adjustments by insurers, such as "schedule credits," which can contribute to pricing volatility. Third, there is value to having one or more advisory organizations collect statistical data on loss experience and disseminate cost analysis that can help insurers develop more accurate rates. These organizations should be regulated to ensure that they disseminate only information that facilitates competition and not information that provides a focal point for reducing competition.

Loss Prevention

Loss prevention and safety engineering services play an important role in helping to reduce workplace accidents and workers' compensation costs.⁶⁵ A public insurer can perform loss prevention services or rely on private companies to provide these services to employers. A government agency, such as the WCB of British Columbia, could gain efficiencies from coordinating workplace safety regulation and loss prevention programs. Such services can be bundled with other workers' compensation services, or unbundled and funded by separate assessments or user fees. Allowing employers to purchase different levels and kinds of loss

⁶⁴See *Michigan Insurance Bureau* (1995).

⁶⁵See Hunt, Habeck, VanTol, and Scully (1993).

prevention services should enable them to purchase the optimal amount and kinds of services and improve economic efficiency. This presumes that the allocation of workers' compensation costs to employers provides an incentive to reduce their risk of loss.

Similarly, private insurers could provide loss prevention services to their policyholders or delegate this function to other private vendors or even a government agency. In a private market system with actuarially fair prices, insurers and insureds both have incentives to make optimal investments in loss prevention services. As part of their competitive strategy, private insurers in the U.S. have enhanced their loss prevention services to combat rising costs. The private market can be a good source of innovation in this area if incentives are structured properly. For example, Firemen's Fund Insurance Group in the U.S. has instituted a program called SmartComp that enables an employer to determine the long-term financial impact of its workers' compensation claims and assess the savings from loss prevention measures. Private insurers and other vendors also may be able to take advantage of loss prevention methods they have developed for other types of risk, such as product liability and property damage.

Claims Adjustment and Case Management

A public insurer can perform claims adjustment and case management functions or outsource these activities to private companies. What is most efficient will depend on the particular system. Retaining these activities within a government agency could help to ensure that claims are administered in the best interests of injured workers, presuming that is what administrators understand their role to be. Certain economies of scope also might be achieved if a public insurer combines these activities with other workers' compensation functions it performs. For instance, a public insurer could utilize information obtained from investigating and adjusting claims to help identify causes of work-related accidents and strategies to reduce them.

There also could be advantages to outsourcing claims administration for some public systems. Competition among private vendors could lead to greater efficiency. This is more likely to be the case if private vendors can take advantage of economies stemming from their expertise and facilities in administering claims for other types of insurance, e.g., health

insurance. However, the efficiency of outsourcing also will be affected by how vendors are selected and reimbursed. If vendors' performance is not effectively controlled through the enforcement of standards and/or economic incentives, they could deliver poor service and claim costs could escalate.

Privatizing the financing of workers' compensation costs, as well as claims administration, could yield additional efficiencies. If private insurers have a financial stake in paying benefits, they will have an increased incentive to minimize costs through effective claims management. However, in a private workers' compensation insurance market, there is an inherent tension between the interests of private insurers, employers, and workers in administering claims. This necessitates administrative supervision and regulation to balance the interests of the different stakeholders and ensure that system objectives and workers' interests are not unduly compromised by insurers' incentive to minimize claim costs.

Effective regulation is needed to harness private market incentives to keep costs low while protecting injured workers' right to adequate benefits.⁶⁶ However, additional government monitoring costs will offset some of the efficiencies which may be achieved with private market systems. Moreover, it is not feasible for regulators to closely monitor every transaction, so some claims will still be mishandled and disputes will arise. Regulation also could induce insurers to overpay some claims to avoid sanctions and adverse administrative rulings.

Depending on the legal framework, a private market system may also lead to greater litigation and higher transaction costs in providing benefits to injured workers. Comparisons between Michigan and British Columbia in Section VI of this report make that clear. The litigation rate is much higher in Michigan, partly because of the system characteristic that the employer/insurer usually takes the initiative and the worker reacts. Typically, the worker reacts by retaining an attorney. With attorney fees ranging from 15 percent to 30 percent of the recovery, it is easy to see that substantial transaction costs are incurred. What is not so

⁶⁶This does not presume that public monopoly insurers are perfect in terms of meeting public goals in the administration of workers' compensation benefits, but the process by which public choice and policy are reconciled is a different one than that employed with private firms.

obvious is whether there is truly unnecessary litigation in such a system. In a cost driver study of six U.S. states, the Workers' Compensation Research Institute estimated that attorney involvement contributed from -0.2 percent (Michigan) to 3.9 percent (Florida) per year to overall system cost growth. While this is a very substantial range, it also raises the issue of whether a significant portion of the attorney representation observed was unnecessary.⁶⁷

Another example is the transactions costs necessary to properly allocate claim costs to individual employers. In Michigan, there is a great deal of disputation among employer/insurers where the injured employee had multiple employers. This is particularly problematic in the case of occupational illnesses that may have resulted from exposures over many years. Insurance carriers spend significant resources in attempting to shift the cost, in whole or in part, to another insurer, or to the second injury fund. Until recently, this kind of activity was almost completely unknown in British Columbia, presumably owing to the limited private incentives inherent in such activity. Hunt, Barth and Leahy (1996) document the beginnings of a private consulting industry in British Columbia to take advantage of such opportunities created by the workers' compensation experience rating program that was implemented in the late 1980s.

Solvency Protection

Solvency is a concern for both public and private insurers, but different potential problems arise under the two systems. For public insurers, there is the danger that political pressures or poor management will cause revenues to lag behind expenditures, causing a deficit. Employers and workers are not directly threatened if this occurs, assuming that the government guarantees that benefits will be paid. However, the means by which accumulated debt is repaid (e.g., increased premiums, special employer assessments, general tax revenue, etc.) can result in inequities among those who benefited from the deficit and those who bear the burden of paying the accumulated debt.

⁶⁷See Victor, et al. (1992).

Private insurers also face the risk of insolvency, which can be exacerbated by corporate structures that limit the liability of owners for any debts they may incur. Insolvency risks can be further increased in lines such as workers' compensation where an employer buys insurance to cover a third party. If its insurer becomes insolvent, an employer also may seek to escape its obligations to injured workers by declaring bankruptcy. Consequently, employers' incentive to purchase insurance from "safe" insurers is diminished. Additionally, political pressures can cause regulators to suppress rates below costs which can ultimately result in insurer insolvency.

To ensure that workers' compensation claims are paid, government must limit the insolvency risk of private insurers and cover the claims of those insurers that become insolvent. The U.S. utilizes a combination of relatively stringent insurer solvency regulation and state guaranty funds to provide this protection. Solvency regulation and guaranty fund mechanisms must be properly coordinated to ensure that insolvency costs are minimized and do not overwhelm the market. While there have been relatively few insolvencies of workers' compensation insurers in the U.S., the flat pricing of guaranty fund coverage encourages greater insolvency risk that must be offset by tighter financial controls on insurers (Barth and Klein, 1995).

Less stringent regulation must be compensated by greater risk sharing by insureds, but this is difficult to accomplish for a line such as workers' compensation where injured workers may ultimately bear the cost of unpaid claims due to insurer insolvency. Any jurisdiction that contemplates moving from public to private provision of workers' compensation insurance will need to carefully consider the regulatory and guaranty mechanisms that must be in place to ensure that insurers' claims obligations are met. A system that provides extensive guarantees to employers and workers will encourage an excessive amount of insolvencies unless regulators constrain insurers' financial risk and the price of solvency guarantees are risk-sensitive.

Statistical Reporting and System Monitoring

As with any social insurance scheme, monitoring the performance of the workers' compensation system is essential to ensuring that its objectives are being met in a cost-effective way. A public insurer can compile and analyze the necessary data internally as part of its management information system. With private insurers, some mechanism must be established by which data related to their activities are collected and analyzed. The functions of collection, compilation and analysis can be delegated to public and/or private entities. This requires additional regulation to ensure that private insurers report the required data to the appropriate entities, that those entities properly perform their functions, and that the various data are integrated to evaluate system performance.

Until recently, workers' compensation statistical reporting lagged far behind information needs in the U.S. because of inattention. Further, integration of workers' compensation statistical data in the states has been hampered by the division of functions between regulatory agencies and private entities. Recent enhancements to workers' compensation databases in the U.S. have played a key role in facilitating analysis of and support for the system reforms that have helped many states to improve their markets.

Conclusion

We have considered many issues in this report, from the arcane question of how availability of workers' compensation insurance coverage can be guaranteed for all employers to the basic question of who is in charge of making sure that injured workers receive their benefits in a timely manner. We have used two exemplars to carry our discussion. The systems of Michigan and British Columbia illustrate many of the policy choices that must be made to structure a logically consistent workers' compensation system. What we have not done is to prescribe solutions for Victoria. Only those intimately familiar with Victorian institutions and traditions can perform that task. Thus, we offer no conclusions with respect to what Victoria should do, only the observations that our comparative analysis has provided.

First, there are many paths to an effective and efficient workers' compensation system. We have examined two of them, and offered our observations about the implications of these

different paths. Second, we have used the issue of public vs. private institutions to attempt to generalize our discussion, but we are well aware that the choices are not so stark as that implies. Third, we have explored, by implication, the apparent tradeoffs between direct public agency action and alternative approaches to the regulation of private agent actions in the context of workers' compensation systems.

Ultimately, the goals of workers' compensation systems are simple. The means of achieving those goals are anything but simple. They involve sophisticated choices among a considerable array of policy options. Our hope is that this analysis will help to provide insights that are useful to Victorian policy makers as they consider the future of their workers' compensation system.

Bibliography

- A.M. Best Company. 1991. *Best's Insolvency Study: Property/Casualty Insurers 1969-1990*. Oldwick, NJ: A.M. Best Company.
- American Insurance Association Special Committee of the Board of Workers Compensation. 1993. "An Overview of Workers Compensation Systems in Nine Highly Developed Nations," *NCCI Digest*, 8(2): 67-94.
- Appel, David, and Philip S. Borba. 1988. "Costs and Prices of Workers' Compensation Insurance." In *Workers' Compensation Insurance Pricing*, David Appel and Philip S. Borba, eds. Boston: Kluwer Academic Publishers.
- Appel, David, Michael McMurray, and Mark Mulvaney. 1992. *An Analysis of the Net Costs of Workers' Compensation Insurance*. New York: Milliman & Robertson.
- Association of Workers' Compensation Boards of Canada (AWCBC). n.d. *Comparison of Workers' Compensation Legislation in Canada, 1995*.
- Association of Workers' Compensation Boards of Canada (AWCBC). n.d. *Workers' Compensation Industry Classifications, Assessment Rates, and Experience Rating Programs in Canada, 1995*.
- Bailey, William O. 1983. "Competitive Rating and Workers' Compensation," *Journal of Insurance Regulation* 1: 1-8.
- Ballantyne, Duncan S., and Carol A. Telles. 1992. *Workers' Compensation in Wisconsin: Administrative Inventory*. Cambridge MA: Workers Compensation Research Institute.
- Barth, Michael M., and Robert W. Klein. 1995. "Risk-Based Capital, Risk-Based Pricing, and Regulatory Monitoring: A Three-Leg Approach to Insurer Solvency Oversight," paper presented at American Risk and Insurance Association 1995 Meeting, August 1995.
- Baumol, W., J. Panzar, and R. Willig. 1982. *Contestable Markets and the Theory of Industry Structure*. New York: Harcourt Brace Jovanovich.
- Bain, Joe S. 1951. "Relation of Profit Rate to Industry Concentration: American Manufacturing, 1936-40," *Quarterly Journal of Economics* 65: 293-324.
- Borch, Karl H., 1990, *Economics of Insurance*. New York: Elsevier.

- Boston Consulting Group. 1994. "A Review of the Effectiveness of the New WorkCover Scheme." Boston Consulting Group (January).
- Bureau of Workers' Disability Compensation, Michigan Department of Labor. 1994. *Annual Report 1993*, Lansing, MI.
- Burton, John F., Jr. 1995. "Workers' Compensation Benefits and Costs: Significant Developments in the Early 1990s," *John Burton's Workers' Compensation Monitor* 8(3): 1-11.
- _____. 1992. "Workers' Compensation Benefits and Costs: New Records," *John Burton's Workers' Compensation Monitor* 5(2): 1-6.
- _____. 1990. *The Effect of Open Competition on the Costs of Workers' Compensation in Michigan*. Watchung, NJ: Workers' Disability Income Systems.
- Butler, Richard J., and David Appel. 1990. "Benefit Increases in Workers' Compensation," *Southern Economic Journal* 56(3): 594-606.
- Butler, Richard J., and John D. Worrall. 1985. "Work Injury Compensation and the Duration of Nonwork Spells," *The Economic Journal* 95: 714-724.
- Carroll, Anne, and Robert Kaestner. 1995. "The Relationship Between Regulation and Prices in the Workers' Compensation Insurance Market," *Journal of Regulatory Economics* 8: 149.
- _____. 1992. "The Effects of Deregulation on the Workers' Compensation Market." Working Paper, Rider College, Lawrenceville, NJ.
- Chelius, James, ed. 1986. *Current Issues in Workers' Compensation*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Cummins, J. David, and Patricia M. Danzon. 1991. "Price Shocks and Capital Flows in Liability Insurance." In *Cycles and Crises in Property/Casualty Insurance: Causes and Implications for Public Policy*, J. David Cummins, Scott E. Harrington, and Robert W. Klein, eds. Kansas City, MO: National Association of Insurance Commissioners.
- Cummins, J. David, and Scott E. Harrington. 1985. "Property-Liability Insurance Rate Regulation: Estimation of Underwriting Betas Using Quarterly Profit Data," *Journal of Risk and Insurance* 52: 16-43.

- Cummins, J. David, Scott E. Harrington, and Robert W. Klein, eds. 1991. *Cycles and Crises in Property-Liability Insurance: Causes and Implications for Public Policy*. Kansas City, Mo.: National Association of Insurance Commissioners.
- Cummins, J. David and J. Francois Outreville. 1987. "An International Analysis of Underwriting Cycles in Property-Liability Insurance," *Journal of Risk and Insurance* 54: 246.
- Curington, William P. 1994. "Compensation for Permanent Impairment and the Duration of Work Absence," *Journal of Human Resources* 29(3): 888-910.
- Danzon, Patricia M. 1983. "Rating Bureaus in U.S. Property-Liability Insurance Markets: Anti- or Pro-Competitive?" *Geneva Papers on Risk and Insurance* 8: 371-402.
- Durbin, David. 1993. "Workers' Compensation: Business At Risk," *NCCI Digest* 8(1): 23-42.
- Elson, Martin W., and John F. Burton, Jr. 1981. "Workers Compensation Insurance: Recent Trends in Employer Costs," *Monthly Labor Review* 104: 45-50.
- Fein, Richard I. 1992. "Financial Prospects for Workers' Compensation," *NCCI Digest* 7(2): 21-38.
- _____. 1991. "Where We Are Now: The Financial Crisis of Workers' Compensation," *NCCI Digest* 6: 17-27.
- Frech, H., and J. Samprone. 1980. "The Welfare Loss of Excess Nonprice Competition: The Case of Property-Liability Insurance Regulation," *Journal of Law and Economics* 23: 429-440.
- Grabowski, Henry, W. Kip Viscusi, and William N. Evans. 1989. "Price and Availability Tradeoffs of Automobile Insurance Regulation," *Journal of Risk and Insurance* 56: 275-299.
- Hager, William. 1991. "A Call for Reform," *NCCI Digest* 6(2): 1-16.
- Harrington, Scott E. 1992. "1991 Presidential Address: Rate Suppression," *Journal of Risk and Insurance* 59: 185-202.
- _____. 1984a. "The Impact of Rate Regulation on Prices and Underwriting Results in the Property-Liability Insurance Industry: A Survey," *Journal of Risk and Insurance* 51: 577-617.

- _____. 1984b. "The Impact of Rate Regulation on Automobile Loss Ratios: Some New Empirical Evidence," *Journal of Insurance Regulation* 3: 182-202.
- Harrington, Scott E., and Patricia M. Danzon. 1991. "Price Cutting in Liability Insurance Markets." In *Cycles and Crises in Property/Casualty Insurance: Causes and Implications for Public Policy*, J. David Cummins, Scott E. Harrington and Robert W. Klein, eds. Kansas City, MO: National Association of Insurance Commissioners.
- Hofflander, Alfred E., Blaine F. Nye, and Jane D. Nettesheim. 1992. *A Comparative Evaluation of Workers' Compensation Rating Laws*. Los Angeles: University of California at Los Angeles, and Menlo Park: Stanford Consulting Group.
- Hunt, H. Allan. 1992. *Workers' Compensation Board of British Columbia: Assessment Department Administrative Inventory*. Richmond, British Columbia: Workers' Compensation Board of British Columbia.
- _____. 1986. "Two Rounds of Workers' Compensation Reform in Michigan" in *Current Issues in Workers' Compensation*, James Chelius, ed., Kalamazoo MI: W.E. Upjohn Institute for Employment Research.
- _____. 1982. *Workers' Compensation System in Michigan: A Closed Case Survey*, Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Hunt, H. Allan, Peter S. Barth, and Michael J. Leahy. 1996. *The Workers' Compensation System of British Columbia: Still in Transition*. Richmond, British Columbia: Workers Compensation Board of British Columbia.
- _____. 1991. *Workers' Compensation in British Columbia: An Administrative Inventory at a Time of Transition*. Richmond, British Columbia: Workers' Compensation Board of British Columbia.
- Hunt, H. Allan and Stacey Eccleston. 1990. *Workers' Compensation in Michigan: Administrative Inventory*. Cambridge, MA: Workers Compensation Research Institute.
- Hunt, H. Allan, Rochelle V. Habeck, Brett VanTol, and Susan M. Scully. 1993. *Disability Prevention Among Michigan Employers, 1988-93*, Technical Report 93-004. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Hunt, H. Allan, Alan B. Krueger, and John F. Burton, Jr. 1988. "The Impact of Open Competition in Michigan on the Employers' Cost of Workers' Compensation." In *Workers' Compensation Insurance Pricing*, David Appel and Philip S. Borba, eds. Boston: Kluwer Academic Publishers.

- Hunt, H. Allan and Leslie E. Lance. 1989. *Intrastate Differences in Workers' Compensation Costs: October 1986 Closed Case Study*. Final report to Bureau of Workers' Disability Compensation, Michigan Department of Labor. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Ippolito, R. 1979. "The Effects of Price Regulation in the Automobile Insurance Industry," *Journal of Law and Economics* 22: 55-89.
- Johnson & Higgins. 1992. *Self-Insurance: Trends and Perspectives 1992*. Chicago: Johnson & Higgins.
- Johnson, William G., and Jan I. Ondrich. 1990. "The Duration of Post-Injury Absences From Work," *The Review of Economics and Statistics* 72(4): 578-586.
- Joskow, Paul L. 1979. "Cartels, Competition and Regulation in the Property-Liability Insurance Industry," *Bell Journal of Economics* 4: 375-427.
- Kenney, Roger K. 1991. *Workers' Compensation State Funds: An Update*, Schaumburg, IL: Alliance of American Insurers.
- Klein, Robert W. 1992a. "Regulation, Competition and Profitability in Workers' Compensation Insurance," *John Burton's Workers' Compensation Monitor* 5(2): 7-20.
- _____. 1992b, "Regulation and Reality," *Journal of Insurance Regulation* 11:182.
- _____. 1991. "Market Effects of Loss Cost Systems in Workers' Compensation Insurance." Working Paper, National Association of Insurance Commissioners, Kansas City, MO.
- _____. 1986. "Competitive Rating in Workers' Compensation Insurance: Michigan's Experience," *Journal of Insurance Regulation* 5: 79-108.
- Klein, Robert W., Eric C. Nordman, Julienne L. Fritz. 1993. "Market Conditions in Workers' Compensation Insurance." Interim Report, National Association of Insurance Commissioners, Kansas City, MO.
- Kramer, Orin. 1992. "Rate Suppression, Rate-of-Return Regulation and Solvency," *Journal of Insurance Regulation* 10: 523-563.
- _____. 1991. *Rate Suppression and its Consequences: the Private Passenger Auto and Workers' Compensation Experience*. New York: Insurance Information Institute Press.

- Martin, Stephen. 1988. *Industrial Economics: Economic Analysis and Public Policy*. New York: Macmillan.
- Marvel, Howard P. 1978. "Competition and Price Levels in the Retail Gasoline Market," *Review of Economics and Statistics* 60: 252-58.
- Michigan Insurance Bureau. 1995. "Final Report on the State of Competition in the Workers' Compensation Insurance Market." Lansing, MI.
- Milliman & Robertson. 1991. *NCCI Examination: Section II Ratemaking Procedures*. Kansas City, MO: National Association of Insurance Commissioners.
- Moore, Michael, and Kip Viscusi. 1990. *Compensation Mechanisms for Job Risks*. Princeton, NJ: Princeton University Press.
- Munch, Patricia, and Dennis E. Smallwood, 1981. "Theory of Solvency Regulation in the Property and Casualty Insurance Industry. In *Studies in Public Regulation*, Gary Fromm, ed. Cambridge, MA: MIT Press.
- Nash, Russell, and Michael Pritula. 1992. "A Skills Test For Workers' Comp," *Best's Review, Property/Casualty Edition* 93(8) (August): 37-39, 95.
- National Association of Insurance Commissioners. 1994. Report on Profitability by Line and by State." Kansas City, MO.
- _____. 1992a. "Issues Report 1992." Kansas City, MO.
- _____. 1992b. "Residual Market Incentives for Efficiency," presentation to the NAIC Residual Market Working Group, March, 30, 1992.
- _____. 1991. "Report on Profitability By Line By State, 1990," Kansas City, MO: NAIC.
- _____. 1984. *NAIC Study of Investment Income, Supplement to NAIC Proceedings 1984*, Vol. II. Kansas City, MO.
- National Council on Compensation Insurance. 1991. "Residual Market Issues," prepared for the NAIC Workers' Compensation Task Force, April, 1991.
- National Commission on State Workmen's Compensation Laws. 1972. *The Report of the National Commission on State Workmen's Compensation Laws*. Washington, DC: U.S. Government Printing Office.

- National Council on Compensation Insurance, Inc. 1995. *1995 Issues Report*. Boca Raton, FL.
- Nelson, William J., Jr. 1992. "Workers' Compensation: Coverage, Benefits and Costs, 1989," *Social Security Bulletin* 55(1): 51-56.
- Oleinick, Arthur, Kenneth E. Guire, Victor M. Hawthorne, M. Anthony Schork, Jeremy V. Gluck, ByoungHo Lee, and Samuel La. 1993. "Current Methods of Estimating Severity for Occupational Injuries and Illnesses: Data From the 1986 Michigan Comprehensive Compensable Injury and Illness Database," *American Journal of Industrial Medicine* 23: 231-252.
- Pauly, M., Paul Kleindorfer, and Howard Kunreuther. 1986, "Regulation and Quality Competition in the U.S. Insurance Industry." In *A Cross-National Study of Insurance Regulation*, J. Finsinger and M. Pauly, eds. London: St. Martin's Press.
- Peltzman, Sam. 1976. "Toward a More General Theory of Regulation," *Journal of Law and Economics* 8: 195-222.
- Retterath, Ronald. 1992. Presentation at the NAIC Workers' Compensation Symposium, October 1-2, 1992.
- Roberts, Karen, and Michael Madden. 1992. "Equilibrating Tendencies in Workers' Compensation Prices Under Open Competition." Working Paper, Michigan State University and the M&R Group, East Lansing, MI.
- Scherer, F.M. 1980. *Industrial Market Structure and Economic Performance*, 2nd edition. Chicago: Rand-McNally.
- Schmidle, Timothy P. 1995. "The Impact of Insurance Pricing Deregulation on Workers' Compensation Costs," *John Burton's Workers' Compensation Monitor* 8:1.
- Simons, Martin, David Eley, and Robert Klein. 1991. Presentation to the NAIC Workers' Compensation (D) Task Force, December 10, 1991.
- Spence, A.M. 1975. "Monopoly, Quality and Regulation," *Bell Journal of Economics* 6: 247-254.
- Spulber, Daniel F. 1989. *Regulation and Markets*, Cambridge, MA: MIT Press.
- Stigler, George. 1971. "The Theory of Economic Regulation," *Bell Journal of Economics* 2: 3-21.

U.S. Department of Labor. 1995. *State Workers' Compensation Laws*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Justice. 1984. *Merger Guidelines*, Washington, DC

U.S. General Accounting Office. 1986. *Workers' Compensation: Initial Experience with Competitive Rating*, Washington, DC

_____. 1979. *Issues and Needed Improvement in State Regulation of the Insurance Business*, Washington, DC

Vaillancourt, Francois. 1994. *The Financing of Workers' Compensation Boards in Canada, 1960-1990*. Toronto: Canadian Tax Foundation.

Varian, Hal R. 1992. *Microeconomic Analysis*. New York: W.W. Norton.

Victor, Richard A. 1985. "Experience Rating and Workplace Safety." In *Workers' Compensation Benefits: Adequacy, Equity, and Efficiency*, John D. Worrall and David Appel, eds. Ithaca, NY: ILR Press, Cornell University.

Victor, Richard A., John A. Gardner, Daniel Sweeney, and Carol A. Telles. 1992. *Cost Drivers in Six States*. Cambridge, MA: Workers Compensation Research Institute.

Victorian WorkCover Authority. *1994-1995 Annual Report*. Melbourne, Australia.

_____. *1993-1994 Annual Report*. Melbourne, Australia.

White, Lawrence J. 1972. "Quality Variation When Prices Are Regulated," *Bell Journal of Economics* 3: 425-436.

Williams, C. Arthur, Jr. 1986. "Workers' Compensation Insurance Rates." In *Current Issues in Workers' Compensation*, James Chelius, ed. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Workers' Compensation Act. 1991. Victoria, British Columbia: Queen's Printer for British Columbia.

Workers' Compensation Board of British Columbia. 1993. *Annual Report 1993*, Vancouver, British Columbia, Canada.

Worrall, John D., and Richard J. Butler. 1985. "Benefits and Claim Duration." In *Workers' Compensation Benefits: Adequacy, Equity, and Efficiency*, John D. Worrall and David Appel, eds. Ithaca, NY: ILR Press, Cornell University.

HD 4802 .W49 96-010

Hunt, H. Allan.

Workers' compensation insurance
in North America: lessons...

