Compendium on Workmen's Compensation

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Chapter 17

Cost Levels and Allocation

Workmen's compensation costs and other costs of industrial accidents impose a burden on industry, workers, and society generally. The magnitude of these costs and their distribution have important economic implications and pose several critical issues of policy.

COST LEVELS

Workmen's compensation in 1970 cost employers almost $5 billion or more than $1.13 per $100 of payroll. These costs include the premiums paid to private insurers on State funds and the benefits and administrative costs paid by self-insurers. Other employer costs of industrial accidents or the losses to employees not covered by workmen's compensation are not available.

Variation Over Time

Variations in employer workmen's compensation costs since 1940 are in table 17.1. Costs per $100 of payroll were less in 1970 than in 1940, but have increased since the late Fifties. The 1970 dollar costs were 11.6 times the 1940 costs, 4.8 times the 1950 costs, and 2.4 times the 1960 costs.

Table 17.1.—ESTIMATED EMPLOYER COSTS OF WORKMEN'S COMPENSATION, 1940, 1946, AND 1948–70

Year	Amount [1] (millions)	Percent of payroll
1940	$421	1.19
1946	726	.91
1948	1,013	.96
1949	1,009	.98
1950	1,013	.89
1951	1,185	.90
1952	1,333	.94
1953	1,483	.97
1954	1,499	.98
1955	1,532	.91
1956	1,666	.92
1957	1,734	.91
1958	1,746	.91
1959	1,869	.89
1960	2,055	.93
1961	2,156	.95
1962	2,323	.96
1963	2,510	.99
1964	2,713	1.00
1965	2,908	1.00
1966	3,279	1.02
1967	3,656	1.07
1968	4,027	1.07
1969	4,441	1.07
1970	4,882	1.13

[1] Premiums written by private insurers and State funds and benefits paid by self-insurers increased by 5 to 10 percent to allow for administrative costs. Also includes benefit payments and administrative costs of federal system. Before 1959, Alaska and Hawaii are excluded.

Source: Alfred M. Skolnik and Daniel N. Price, "Another Look at Workmen's Coms pensation," Social Security Bulletin, XXIII, No. 10 (October 1970), p. 19. "Workmen'y Compensation Benefits and Costs, 1970," Social Security Bulletin, XXV, No. 1 (Januar-1972) p. 32.

Variation Among Industries

In its 1969 sample survey of employee benefits, the Chamber of Commerce of the United States found that workmen's compensation costs were 0.9 percent of gross payroll. In manufacturing industries the costs were 1.2 percent; in nonmanufacturing industries 0.5 percent. These rates ranged from 0.1 percent for insurance companies to 1.8 percent for primary metal industries.[1]

A 1970 sample survey by the Bureau of Labor Statistics found workmen's compensation costs equal to 0.9 percent of gross payroll plus employer payments for legally required insurance programs and employee benefit plans. In manufacturing, compensation costs were 0.8 percent, in nonmanufacturing, 0.9 percent. The percentage for office workers was 0.3; for nonoffice or production workers 1.3 percent.[2]

Variation Among States

Workmen's compensation costs vary among States for many reasons including differences in the coverage and benefit provisions in their workmen's compensation laws, how these laws are administered, their industrial mix, their average incomes, their income distribution patterns, and medical costs.

National Council on Compensation Insurance data show that on policies issued in June 1971 earned premiums were 1.30 percent of insured payrolls. The proportions ranged from a low of .67 percent in Utah to a high of 3.12 percent in Arizona.

Some people argue that interstate workmen's compensation cost differentials produce undesirable economic effects. Employers, they say, will shun or even leave states with higher compensation costs. Most agree, however, that, because workmen's compensation costs are for most firms a small fraction of total fringe benefit costs and, on average, are only 1.13 percent of gross payroll, in the short-run workmen's compensation costs do not play an important role in deciding business locations. In the long run, employers probably take into account workmen's compensation costs along with other factors such as taxes, labor costs, transportation charges, and raw materials in deciding where to locate. A recent, comprehensive study of interstate variations in compensation costs concluded that "it is improbable that interstate differences in workmen's compensation programs could influence a plant location decision" and "no State should feel compelled to lower the cost of workmen's compensation for the employers, or should hesitate to increase that cost within reasonable limits, because of the threat of run-away employers." [3]

COST ALLOCATION

One of the distinctive features of workmen's compensation is the way in which workmen's compensation benefits and administrative expenses are allocated among employers.

Private Insurance Premiums

For most employers the major, if not the only, cost of workmen's compensation is the premium they pay for private workmen's compensation insurance. The pricing methods of insurers allocate these costs among employers on the basis of their expected losses (i.e., average losses in the long run) plus the expense of providing the cash and medical benefits.

Objectives of insurance pricing.—Current private insurance pricing methods are commonly credited with accomplishing three objectives: A fair allocation of costs, optimum allocation of resources, and encouragement of safety programs.

The cost allocation is considered fair because each insurer pays an amount related to his loss potential and associated expenses. This "private equity" argument is based on ethics, not economics. Its validity depends upon prevailing value judgments.

The second justification is that charging each employer according to his loss potential and expenses produces an optimum allocation of resources. Employers, it is assumed, either pass on workmen's compensation costs to consumers or reduce their profits by these costs. In the first instance, consumers presumably will reject a product or service whose price is too high relative to its value because of workmen's compensation costs. In the second instance, employers will presumably stop selling a service or profit that develops at best a small profit.

Perfectly rational allocation of resources, however, assumes a perfectly competitive economy including perfect consumer knowledge. In an imperfectly competitive world, the allocation of resources reflects the degree of imperfection. To the extent imperfect competition influences labor costs, the cost of workmen's compensation may be borne by workers. For most employers, compensation costs may be such a small part of the total cost of production that even in a highly competitive economy differences in compensation charges would have little discernible effect on consumer preferences or employer profits.

Finally, relating an employer's premium to his loss potential is supposed to give him a strong incentive to apply safety measures. The strength of this incentive depends upon how readily the employer perceives a relation between the dollars invested in safety and the dollars saved through a reduced premium and a reduced frequency of accidents. Evidence of this relationship is weak or nonexistent in most small businesses but may be strong in large corporations.

Insurance pricing methods.—Insurers set prices or premium rates for workmen's compensation insurance by manual or class rating, experience rating, and retrospective rating.

All employers purchasing workmen's compensation insurance first are class rated. For more than three-fourths of these employers, those with few employees, class rating is the only method used: rates are established per $100 of payroll for more than 650 classes of business operations; e.g., abrasive paper or cloth preparation.

If a business consists of a single operation or a number of separate operations that are normally associated with that type of business, the payroll, subject to certain exceptions, is normally assigned to the class that most accurately describes the entire business. Clerical office employees, not subject to the operating hazards; outside salesmen; collectors or merchandisers who do not handle merchandise; drivers, chauffeurs, and their helpers; and other occupational categories. Construction workers, such as carpenters, plumbers, and steel erection workers, are always assigned to classes applicable to the nature of their work instead of being assigned to the predominant trade.

Although in most instances, the classification of a business according to these rules is clear, occasionally insurers, their agents, and insured employers disagree. Consequently, two insurers using the same rate manual may, but should not usually, quote different rates.

Each business or occupational category is assigned its own class rate per $100 of payroll. This rate times the number of $100 units in the payroll of the class equals the premium due for that class, subject to the addition of a constant if the premium is under $500. The addition of an expense constant, usually $15 for premiums up to $200 and $10 for others under $500, reflects the relative expense of serving a small business; addition of a loss constant applies to reflect relatively poor experience with that class. No such additions may raise the premium above $500.

No matter how small the insured's payroll may be, a minimum premium is charged corresponding to the premium for a payroll of $2,500. The minimum premium reflects the basic expenses of serving any insured employer and the minimum benefits provided injured workers under State laws.

Workmen's compensation class rates are determined by applying a detailed actuarial formula to the premium and loss experience of recent years. Probably no insurance rates other than life insurance rates have such a strong statistical base. The rate estimated for each class is the expected or average loss per $100 of payroll plus an expense loading and an allowance for profit and contingencies that is always the same percentage of the expected losses.

Class rating, therefore, allocates workmen's compensation losses and expenses among employers on the basis of the loss potential of their industry and the size of their payroll. In class rating no attention is paid to individual employer experience. An employer with a poor accident record, however, may be unable to secure insurance directly from an insurer. He may have to join an assigned risk pool which in most States involves an 8 percent surcharge.

Class rating produces fair rates for each industry and contributes to a more nearly optimal allocation of resources. It provides some incentive for safety efforts within an industry but little, if any, for individual employers.

Large companies are experience-rated. In most States, all employers whose payrolls during either the last 2 or 3 years of the experience period would have produced an average annual premium at class rates of at least $750 must be experience-rated. The experience period begins not more than 4 years prior to the date the modification is to be effective and terminates 1 year prior to that date.

As the experience-rating formula is complex, only the basic principle is described below. An employer's class premium is reduced or increased depending upon whether his loss experience is better or worse than the loss experience of the average employer in the same rating class with the same size payroll. The objective is to determine how much the employer's expected losses differ from the average employer's expected losses. The extent of the reduction or the increase depends upon the difference between the employer's actual losses and the average employer's losses in the experience period and the statistical reliability of the experience. Because of the operation of the Law of Large Numbers, the larger the employer's payroll, the more likely it is that his actual losses will approximate his expected losses. Because the experience of small companies is subject to substantial chance fluctuations from year to year, employers who barely satisfy the $750 premium requirement will have little attention paid to their experience. Only employers of large numbers will be rated entirely on their own experience.

For most experience-rated employers, the formula used in practice assigns more weight to loss frequency than to loss severity because loss severity is assumed to be more influenced by chance. This relative weighing is most important in the experience rating of employers with relatively small payrolls. Loss frequency and loss severity are both accepted at face value in rating the largest payrolls.

Experience rating, therefore, allocates premium costs among experience-rated employers on the basis of a better estimate of each employer's expected losses than is possible under class rating. Experience rating thus achieves the first two objectives claimed for insurance pricing. The attention paid by rating practices to actual losses varies from almost zero to the point where the employer is rated entirely on his experience. Consequently, the safety incentive provided by experience rating is strong for large companies; small for those who barely qualify.

If the employer's experience-rated (or standard) premium exceeds $1,000, he becomes eligible for a premium discount plan. This plan recognizes that as the employer's premium increases, the proportion of the premium required to pay expenses decreases. Under the plan in effect in most States, the discounts used by stock insurers (or others electing to use the stock discounts) and by nonstock insurers (or others electing the nonstock discounts) are as follows:

Standard premiums	Discounts (percent)	
	Stock	Nonstock
1st $1,000		
Next $4,000	9.4	3.0
Next $95,000	14.7	6.0
Over $100,000	16.3	8.5

On a $10,000 standard premium, the employer would receive a 11.1 percent stock discount or a 4.2 percent nonstock discount. On a $100,000 standard premium, the two discounts would be 14.3 percent and 5.3 percent respectively. The nonstock discounts are lower because insurers electing these discounts pay dividends which may also reflect economies of scale.

The discounts are based upon an extensive study of the relation of expenses to premium size, a study conducted by insurers at the request of the National Association of Insurance Commissioners. The discounts primarily reflect decreases in allowances for acquisition and field supervision (sales) and for general administration and payroll audit expenses.

Instead of accepting these premium discounts, an employer developing a standard premium of at least $1,000 may elect to be retrospectively rated. Retrospective rating, like experience rating, relates the insured's premium to his loss experience. However, whereas experience rating relates the premium to past experience, retrospective rating relates the premium to the employer's experience during the policy period. He pays a deposit premium at the beginning of the year which is adjusted after the close of the policy period when the experience is known.

Retrospective rating serves as an alternative to self-insurance. The insurer provides compensation services and protects the employer against unusually bad experience, but for the most part the cost to the employer depends upon the benefits charged for his employees.

To determine the retrospective premium, the basic premium is added to losses modified by a conversion factor and the sum is then converted by a tax multiplier. This premium cannot exceed a prespecified maximum nor be less than a prespecified minimum. The basic premium is designed to cover the insurer's expenses (other than taxes) that do not vary with the losses, the insurer's profit or contingency needs, and a net insurance charge. The expense and profit allowance included in the retrospective premium reflects the premium discount the employer gives up when he elects retrospective rating.

The net insurance charge reimburses the insurer for losses incurred because the maximum saves some insurers from paying the premium necessary to cover all of their losses. The minimum premium causes other employers to pay more than their losses and expenses but the overcharges in sum are less than the sum of underpayments.

The loss conversion factor adds to the losses those expenses other than taxes that vary with the losses. The tax multiplier adds an allowance for taxes.

Employers meeting certain premium requirements can elect to limit the losses per accident included in the above formula to $10,000, $15,000, $20,000, $25,000 or more. An excess loss premium is charged for this insurance feature.

The employer can, subject to approval by the insurer, select the minimum and maximum premiums to be used in determining his retrospective premium. This choice is important because it determines the range within which he is self rated and the net insurance charge. The lower the minimum and maximum premium selected, the higher the net insurance charge. The higher the net insurance charge, the higher the retrospective premium within the self-rated range.

If the employer's standard premium is less than $5,000, his choices are limited to four specified pairs of minimum and maximum premiums. One pair sets a maximum equal to the standard with no discount and a minimum barely below the standard. The other three pairs permit a wider swing. If his premium is at least $5,000, he can select his own range. He can also combine his workmen's compensation insurance experience with that under his automobile liability, automobile physical damage, general liability, burglary, and glass insurance.

Retrospective rating, therefore, distributes premiums for the most part on the basis of actual losses, not expected losses. Because retrospectively rated insureds tend to be large companies, however, their actual experience tends to approximate their expected losses, if not in a single year over several years. Like the premium discount plan, retrospective rating reflects a saving of administrative expenses.

In a single year, because the actual losses may differ from the expected losses, retrospective rating may not produce fair rates or allocate resources optimally. In time, however, these two objectives should be achieved. Retrospective rating also provides strong safety incentives.

In Connecticut, the National Council on Compensation Insurance has filed on behalf of its stock insurer members and subscribers a flexible rating plan that makes it possible under the premium discount plan or retrospective rating to modify on a selective basis the premium discounts applicable to an individual insured. The discount depends upon the agent's or broker's commission which is subject to negotiation. In Alaska, Illinois, Rhode Island, and Hawaii, States where each insurer files its own rates or stock insurers file through a separate stock-controlled bureau, similar selective discounts are used. In addition, experience rates are adjusted subjectively for quality of management, safety programs, equipment, and medical facilities. Supporters of this flexible approach suggest that it leads to more accurate premiums, particularly when changes make past experience misleading. Opponents consider it almost exclusively a competitive device to achieve a short-run market advantage.

Dividends also affect final workmen's compensation costs. Most participating insurers, by paying a flat percentage dividend, preserve the structure of the allocation of costs inherent in class rating. Many insurers, however, modify dividends by the employer's industry, premium size, or policy year loss experience. In these circumstances, the initial cost allocation is disturbed.

State Fund Premiums

State fund pricing practices differ markedly among jurisdictions. Some funds have adopted private insurers' pricing philosophies and procedures. Others differ in at least one major respect.

Exclusive funds.—All exclusive funds other than Wyoming use rates developed for numerous industrial classes. Wyoming charges all employers a flat rate that varies with the balance in separate accounts kept for each employer. The industrial class rates are developed by analyzing past experience but only in Ohio is there a detailed ratemaking formula similar to that used by the National Council.

All States offer experience rating to employers but Nevada, Ohio, and Washington are the only States that pay particular attention to the experience of large companies. Three States rate all employers on individual experience. This practice may provide stronger safety incentives than private plans but it does not produce a sound estimate of expected losses.

No exclusive State fund grants premium discounts on the expense allowance of large companies. Moreover, no fund has a retrospective rating plan. The Nevada fund has paid a dividend based on loss experience during the policy period.

Competitive funds.—All competitive State funds use either the same industrial classes as the National Council or a slightly modified version.

Seven use as initial rates those promulgated for private insurers. Four charge these rates less a percentage deviation. Maryland employs a consulting actuary to set its rates independently. Although this actuary analyzes past data, the rate-making process is more subjective than the National Council formula.

Experience rating is used by all funds except Montana which pays dividends according to the employer's premium. All except the Maryland fund use the National Council experience rating plan or a slightly modified version. Maryland rates all employers on experience except new accounts. Its plan is highly responsive to individual experience.

At least half the competitive funds have a retrospective rating plan. Premium discounts on expense allowances are granted by about eight funds. A few others pay dividends that vary with premium size.

Self-Insurer Compensation Costs

Self-insurer compensation costs, like retrospective premiums, are distributed among employers on the basis of their actual losses, which tend over a period of time to approximate their expected losses. These costs are dependent also upon how completely and how efficiently the self-insurer replaces the services of insurers.

In essence, the distribution of self-insurance costs achieves the same objectives as retrospective rating.

Effects of Cost Allocation Methods

The positive effects of allocating compensation costs on the basis of expected losses (or for large companies actual losses) and expenses must be balanced against two possible undesirable effects. To the degree that experience and retrospective rating provide some safety incentives for certain employers, they may also cause employers to resist claims of deserving employees. On the other hand, because safety incentives from experience rating for most employers are limited, there is little reason, except among large companies, to resist claims. Small employers who resist claims unfairly apparently either do not understand how their insurance is priced or fear becoming an assigned risk. Insurers claim that they seldom let employers dictate decisions to pay.

Another possible effect is that employers may reason that their premiums will increase if they hire handicapped workers who they presume are relatively poor risks. Even if handicapped workers are poor risks, a highly questionable presumption, only employers of large numbers need be concerned about their effect on the firm's compensation costs: a bad loss would have no direct effect on class-rated employers individually except those forced to pay the 8 percent surcharge for assigned risks.

Alternative Costing Philosophies

Instead of the complex costing methods now in use, some observers favor a flat charge per $100 of payroll on the ground that accomplishments claimed for current methods have been overrated. They deny equity in the present ratings; they doubt that the desired reallocation of resources occurs; and they question whether present methods have much, if any, effect on safety. They cite also the disadvantages noted above. A simple system, they assert, would provide no reason to resist claims or to discriminate against handicapped workers.

A milder proposal would continue to rate industry by class but eliminate differences among employers in the same class. Supporters of this approach agree with arguments for one uniform rate except on this point: they believe class rates bring some improvement in allocation of resources and provide some safety incentives within an industry.

A third approach would extend experience rating to more employers and pay more attention to the actual experience of small experience-rated businesses in order to increase safety incentives. The disadvantage of this method is that the fewer his employees, the less stable the employer's premium will be year to year.

Still another option would be to retain the present approach but increase attention to loss frequency, in contrast to loss severity, in setting rates.

Other Employer Costs

As noted in chapter 1, compensation costs are only part of the losses associated with industrial accidents. Losses from damage to property or time lost in production, for example, may far exceed the compensation costs and frequently are not or cannot be insured. Consequently all employers should feel a strong stimulus to operate safely. Because by chance such losses fluctuate widely from year to year, especially in small companies, their distribution is not fair in the sense noted earlier.

Worker Costs

To the extent that workmen's compensation does not cover all of the worker's losses, the worker bears part of the cost of industrial accidents. Compensation laws typically fail to cover all of the worker's economic losses. They cover none of his psychic losses. The worker may be able to protect some of his excess economic losses through other insurance. The remaining economic losses and the psychic losses cannot be shared. Their incidence is largely random.

When a worker incurs legal costs in seeking workmen's compensation, these costs may increase his economic burden further.

Administrative Costs

As noted in chapter 16, the cost of administering the workmen's compensation law through an industrial commission or some other agency is financed in a variety of ways. The principal methods are appropriations from general revenues, income from State fund operations, assessments on insurance premiums, licensing fees for writing workmen's compensation insurance, and an earmarked payroll tax. More than half the States levy an assessment upon premiums or payrolls; these assessments finance more than 70 percent of the total State administrative expenses. Assessments on premiums distribute the administrative costs in the same manner as premium costs. Assessments on payrolls, a much less common practice, ignore variations in loss potential among industries and individual employers within an industry.

Cost to Employers and Workers Not Covered

As indicated in chapter 7, many workers are not covered under workmen's compensation. Generally these workers must prove negligence on the part of their employers to collect damages for their industrial injuries and diseases. Although their losses of income and medical expenses may be covered under employee-benefit plans, they retain the right to sue the employer. If negligence can be proved, the burden falls on the employer or his insurer; if not, the employee retains the loss. If one accepts the philosophy that the employer should pay only when he is negligent, this distribution of the burden is fair. It also provides some safety incentives by penalizing employer negligence. However, only if employees are able to bargain for wages reflecting the degree of hazard in their jobs may the allocation of costs come near the status achieved under workmen's compensation.

References to Chapter 17

1. Chamber of Commerce of the United States, "Employee Benefits," 1969.
2. Bureau of Labor Statistics Release 71–612 dated November 23, 1972.
3. J. F. Burton, Jr., "Interstate Variations in Employers' Costs of Workmen's Compensation" (Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research, 1966), pp. 72, 74.