

Trends in Workmen's Compensation: Coverage, Benefits, and Costs

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This year marks the fiftieth anniversary of the passage of the first effective workmen's compensation law in the United States—the Federal Act of 1908. The act, although providing only limited benefits for certain Federal employees engaged in hazardous work, served as a precedent for State action. Today such laws are in effect in all the States. This anniversary is an appropriate time to take stock of recent trends in the Federal and State programs and to measure their accomplishments.

ANY attempt to evaluate the insurance aspects of workmen's compensation programs in the United States sooner or later runs into the problem of securing comparative State and nationwide data on coverage, benefits, and costs. Workmen's compensation legislation, which is designed to compensate occupationally injured workers and their families for wage loss and medical expenses, regardless of fault or blame, has developed on a State-by-State basis. In addition to the 48 State laws, there are Federal acts covering civilian employees of the Federal Government, private employees in the District of Columbia, and longshoremen and harbor workers. The laws differ materially in the scope of coverage, benefit provisions, administrative and legal procedures, and, most importantly, in the methods used to assure that compensation will be paid when due.

Employers in most States are required either to carry insurance against work accidents with private insurance companies that are approved by the State insurance department or to give proof of ability to carry their own risk (self-insurance). In seven States, however, they must insure with an "exclusive" State insurance fund (in two of the seven, they may instead self-insure), and in 11 there is a State fund that is "competitive" with private insurance carriers. Federal employees are provided

protection through a federally financed and operated system.

For many years the Division of Program Research has recognized the need for gathering nationwide data on the experience and operations of the workmen's compensation programs. As early as 1942, methods were devised to estimate the amount of benefit payments made under each of the State and Federal programs.¹ Since then, annual estimates of benefit payments have been published in the SOCIAL SECURITY BULLETIN (for recent years, in the December issue). In 1950 the Division developed a methodology for estimating coverage, which was published in the BULLETIN along with available data on program operations.² In 1954, these research efforts were expanded to obtain cost estimates and to develop further measures of the scope and adequacy of the program, including a one-time estimate of the number of beneficiaries drawing workmen's compensation payments.³ Many of these yardsticks have now been incorporated in the annual series published in the BULLETIN.

The present article, in addition to reappraising and refining previous estimating procedures, brings up to

¹ Michalina M. Libman, "Workmen's Compensation Benefits in the United States, 1939 and 1940," *Social Security Bulletin*, January 1942.

² Dorothy McCamman, "Workmen's Compensation: Coverage, Premiums, and Payments," *Social Security Bulletin*, July 1950.

³ Dorothy McCamman and Alfred M. Skolnik, "Workmen's Compensation: Measures of Accomplishment," *Social Security Bulletin*, March 1954.

date the statistics for the various measures used in evaluating the program. It also consolidates in continuous series, going back in most cases to 1948, the data on the number of workers and amount of payroll covered by workmen's compensation, the amount of benefits paid, the relationship of benefits to payroll and wage loss and of premium costs to payroll, the loss ratios and expense ratios, and the administrative costs of the State agencies.

Coverage

Methodology

In estimating coverage under workmen's compensation programs, it is desirable to have a measure of coverage that is comparable with that used for other social insurance programs, such as unemployment insurance and old-age, survivors, and disability insurance. Under the latter programs, coverage is generally presented in terms of the number of workers in covered employment at a particular point in time (usually, the pay period ending nearest the fifteenth of the month). Average monthly employment is obtained by averaging the monthly figures reported in the calendar year. Such employment data—as well as payroll data—are relatively easy to obtain as a byproduct of the operational data needed for the collection of contributions and the payment of benefits.

Comparable data for the State workmen's compensation programs are much more difficult to obtain. In the majority of the States the risk of work injury is underwritten by private commercial carriers or is self-insured by the employer, and hence most State governments do not obtain employer reports on covered employment or payrolls except when a State insurance fund is actually underwriting the risk.

The Division of Program Research has developed over the years, however, a method of estimating coverage

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by building up in each State a covered workmen's compensation payroll figure from various sources. This figure is then translated into an estimate of the number of workers covered in an average month by using the relationship between payrolls and average monthly employment under the State unemployment insurance program. Use of this conversion method yields a coverage estimate that is on the same basis as the coverage figure for the unemployment insurance program.

Because of the time required to gather the material, the estimates have been made only for specific benchmark years—1940, 1946, and, now, 1953. The year 1953 is the latest full calendar year for which the private carrier payroll estimates could be computed for all States. This time lag is inevitable since the data obtained are based on policy-year experience that extends into succeeding calendar years and cannot be fully evaluated until 2 or 3 years after the end of the policy year.

Nevertheless, the benchmark data serve a valuable purpose in providing a basis for estimating coverage in the intervening and succeeding years. For each State the estimated average monthly number of covered workers in 1953 was projected to 1956, on the basis of the percentage change in average monthly employment covered under the unemployment insurance programs, with adjustments where necessary for changes in the coverage provisions of the laws. In the past such projections have produced coverage estimates that were confirmed to a large extent by later benchmark surveys.

Estimating 1953 payrolls.—The first step in making the 1953 benchmark estimates of coverage was to derive for each State separate estimates of covered payroll for each type of insurer—private carriers, State funds, and self-insurers. The National Council on Compensation Insurance, as in earlier years, made available payroll data reported to it for rate-making purposes by private insurance companies in 40 States.

These payroll data were compiled for policy years during the period 1952 through 1954 that varied from State to State. The policy year, the basic period of time in calculating

compensation rates, is the period covered by all the policies issued in a given 12-month period. (Workmen's compensation policies are written for 12-month periods and may be issued at any time during the year.) Consequently, experience pertaining to a policy year cuts across more than one 12-month period, and it was necessary to estimate the payrolls for a calendar year on the assumption that policywriting is evenly distributed throughout the year.

The payroll data provided by the Council understate the actual amount of payroll protected through private insurance for three reasons, with the degree of underreporting varying somewhat from State to State:

1. Some States do not require private carriers to report their experience for rate-making purposes, and in these States it is possible that not all carriers may belong to the Council. Since members of the Council report their experience for every State, however, the amount of underreporting in these States is primarily limited to domestic carriers (carriers restricted to conducting business in a single State). Council membership is known to be preponderant and representative in each State for which the Council makes rates.

2. Some of the business underwritten by private carriers—perhaps 1-2 percent—is rated not by payroll but by manhours or per capita. Carriers find it more feasible to insure persons in certain occupations, such as taxicab operators, domestic servants, and aviators, through a "per capita" or "use" charge.

3. In some instances, the earnings of individual workers in excess of \$100 a week are not reported. This practice varies according to jurisdiction and classification of risk and the extent to which the employer's records show such information separately. With the general rise in wage levels, this underreporting has grown in importance since World War II, but it may be of less importance in the future as the payroll limitation is raised in an increasing number of jurisdictions from \$100 a week to \$300 in accordance with insurance industry recommendations.

Some adjustment for the underreporting represented by these three factors may be made by comparing

the premiums of the carriers reporting payrolls to the Council with the premiums compiled by the *Spectator: Insurance by States*, which obtains reports for all private carriers in the Nation. The premium data reported to the Council refer to the same business and policy year covered by the reported payroll. Consequently, for States where comparison with *Spectator* premiums indicated that the Council does not have a complete report of private-carrier business, the relationship based on premiums was used to inflate the payroll insured by Council members. This method permitted only rough adjustments, however, since *Spectator* data consist of written premiums for a calendar year and Council data consist of earned premiums converted from a policy-year to a calendar-year basis.

The Council also provided data on policy-year payrolls for seven competitive State funds, which were treated in the same way as the private carrier payrolls. For most of the other States with State funds, payroll or employment data were either published or made available by the individual State agencies.

The widest margin of error in building up a covered payroll figure occurs in the estimates of self-insurance payrolls. Only a few States collect information on the payrolls or average employment of employers who qualify as self-insurers. In most instances, therefore, estimates of self-insurance payrolls were developed by using known relationships between self-insurers and private carriers in the State concerning such items as taxes, benefits paid or awarded, and number of accident cases or claims. These relationships served as indicators rather than exact measures and were adjusted to reflect the fact that self-insurance in one State may be concentrated in the mining industry and have high benefit payments in relation to payrolls, and that in another State self-insurers are predominantly government units with low benefit payments in relation to payrolls.

Converting payroll data into employment data.—The 1953 covered payroll thus developed for each State was divided by the annual average wage of workers covered by the State's unemployment insurance pro-

gram in 1953 to arrive at an estimate of the number of workers covered by workmen's compensation in an average month in that year. This estimate assumes that the average wage, as well as the turnover of workers covered by workmen's compensation, is comparable with that of workers covered by unemployment insurance.

It was desirable to adjust the unemployment insurance annual wage for a few States, however, where there were substantial differences in the coverage provisions of the two laws, especially with respect to the exclusion of firms because of size. The statistical evidence available indicates that the unemployment insurance average wage in a State is affected by the numerical size-of-firm exclusion under the State law—that is, the more inclusive the law, the lower the computed average wage of the entire covered group.

Thus, in a State where the unemployment insurance law covered firms with eight or more employees (as of 1953) but the workmen's compensation program was applicable to all employment or to firms with fewer than eight workers, the assumption was made that the average annual wage in work covered by unemployment insurance was higher than the average for employees covered by workmen's compensation. Consequently, a downward adjustment in the average wage was made, based on the differences revealed by comparison of old-age, survivors, and disability insurance data and unemployment insurance data.⁴

It should be noted that estimates of workmen's compensation coverage produced by this method include only employees of firms that actually carry

⁴ A State-by-State comparison of payroll and employment figures for January-March 1953 for the old-age, survivors, and disability insurance program (which has no size-of-firm restrictions) and for the unemployment insurance program showed that in States without such restrictions the difference in the computed average quarterly wage was less than \$5. In States whose unemployment insurance program covered two or more workers, the average quarterly wage paid in work covered by that program exceeded by \$22 the average for work covered by old-age, survivors, and disability insurance. For States whose unemployment insurance program covered four workers, the difference was \$36, and where the unemployment insurance program covered eight workers, it was \$58

insurance or that submit the required financial proof of ability to self-insure.⁵ In practically every State there are additional employers who are "subject" to the law but who, though not specifically exempted by statute, either reject the provisions of the law (if it is elective) or fail to carry the necessary insurance or qualify as self-insurers (if it is compulsory). Limiting the estimates to those who actually carry insurance or submit financial proof of ability to self-insure has merit, since generally only employees of such firms have assurance that benefits will be paid without litigation in cases of work-connected accident—an important attribute of workmen's compensation legislation.

The coverage estimates include, however, those employers who voluntarily come under a State workmen's compensation law by taking out insurance or qualifying as a self-insurer. Each State's total also includes estimates of workers covered by the Longshoremen's and Harbor Workers' Compensation Act, practically all of whom are insured by private carriers. The number of Federal workers covered under the Federal Employees Compensation Act is estimated separately and not distributed among the States. Railroad workers in interstate commerce and seamen in the American merchant marine are covered by statutory provisions for employer liability rather than by a workmen's compensation law and therefore are not included in the estimates.

State and National Estimates

Table 1 presents 1953 benchmark coverage figures for each State and the projections for 1956. In previous articles, the individual State figures were not published, since not all the State agencies were able to evaluate them.

For the 1953 benchmark survey, individual State estimates of coverage, as well as a detailed description of the estimating method, were submit-

⁵ Employees of self-insured State and local political subdivisions are included in the estimates whether or not the employing unit submits financial proof of ability to self-insure, since in many States financial solvency of the employing unit is assumed and proof is not required by law.

ted as before to the State workmen's compensation administrative agencies for review and comment. In most instances the States replied that the estimates were reasonable, sometimes adding a qualification to the effect that the agency had no data with which to evaluate the estimates. In the few instances where questions were raised concerning the estimating method or the relationships used to estimate self-insurance payrolls, the differences were satisfactorily resolved. A number of States provided additional data or suggestions for improving the estimates.

Table 1.—Estimated average monthly number of wage and salary workers covered by workmen's compensation, 1953 and 1956

[In thousands]

States	1953	1956
Continental U. S., total.....	40,407-40,977	41,579-42,129
Alabama.....	440	465
Arizona.....	165	195
Arkansas.....	205	215
California.....	3,700-3,800	4,100-4,200
Colorado.....	275	305
Connecticut.....	690-750	700-755
Delaware.....	110	120
Dist. of Col.....	224	222
Florida.....	630	790
Georgia.....	550	590
Idaho.....	100-110	110-120
Illinois.....	3,000	3,110
Indiana.....	1,040-1,115	1,015-1,085
Iowa.....	450	455
Kansas.....	320	315
Kentucky.....	550	550
Louisiana.....	480	510
Maine.....	175	175
Maryland.....	565	600
Massachusetts.....	1,335-1,395	1,360-1,420
Michigan.....	1,840-1,950	1,800-1,900
Minnesota.....	720	740
Mississippi.....	205	220
Missouri.....	825	815
Montana.....	125	130
Nebraska.....	210	210
Nevada.....	50	60
New Hampshire.....	130	135
New Jersey.....	1,570-1,690	1,625-1,745
New Mexico.....	100-105	110-115
New York.....	4,680	4,730
North Carolina.....	760	815
North Dakota.....	70	75
Ohio.....	2,710	2,780
Oklahoma.....	270	285
Oregon.....	290	300
Pennsylvania.....	3,500	3,380
Rhode Island.....	250	250
South Carolina.....	305-335	300-330
South Dakota.....	75	78
Tennessee.....	510	525
Texas.....	1,255	1,350
Utah.....	165	185
Vermont.....	71	73
Virginia.....	675	725
Washington.....	435	460
West Virginia.....	400	385
Wisconsin.....	850	875
Wyoming.....	52	52
Federal employees ¹	2,305	2,209

¹ In continental U.S. only.

Because of the considerable refinement made in the estimating method since the first benchmark survey, the individual State figures are considered sufficiently accurate to justify their publication. The State estimates are not uniformly good, particularly with respect to the amount included for coverage by self-insured firms, and where much estimating was involved a range was used to embrace the probable situation.

In an average month in 1956, an estimated 41.6-42.1 million workers had protection under the State and Federal workmen's compensation programs. The payroll covered by these programs is estimated at \$176-\$178 billion for the calendar year. Workmen's compensation thus covered almost four-fifths of the 53.6 million civilian wage and salary workers in the continental United States in 1956 and slightly more than this proportion of the \$217.5 billion in civilian wages and salaries.

The proportion of the employed labor force covered by workmen's compensation has shown little change in recent years, hovering between 78-80 percent for the years 1951-56 (table 2).⁶ In contrast, coverage of the unemployment insurance programs (excluding railroad unemployment insurance) increased from 70 percent in 1951 to 77 percent in 1956, primarily because of the Federal legislation that (1) extended coverage to Federal civilian employees as of January 1, 1955, and (2) lowered the minimum size-of-firm exemption from less than eight to less than four employees, effective January 1, 1956. Before these extensions, workmen's compensation coverage exceeded that of the State unemployment insurance programs by about 4 million workers in the period 1951-54, even though the elective nature of many workmen's compensation laws resulted in the exclusion of some industrial workers who were protected against the risk of unemployment.

Primarily responsible for the earlier difference in coverage between

workmen's compensation and unemployment insurance has been the treatment of public employees by the two programs. Federal civilian workers, who numbered, on the average, more than 2.2 million in the continental United States during 1951-54, did not receive the protection of unemployment insurance until 1955, although they had been protected against the risk of work injury for many decades. Employees of State and local government units—4.0-4.5 million, on the average, during 1951-54—have usually been covered under workmen's compensation programs but excluded from coverage under unemployment insurance.

State Variations

Because of differences among State laws in their coverage provisions, the number of workers actually covered by workmen's compensation as a percent of the total employed wage and salary labor force varies considerably from one State to another. Some laws are compulsory, requiring every employer within the scope of the law to accept the provisions and pay the compensation specified. Other laws are elective, but if the employer chooses not to comply with the provisions he loses the customary common-law defenses. In some instances the laws are in part compulsory and in part elective.

State laws also vary with respect to the types of employment they are designed to protect. None of them covers all employment. Among the most usual exemptions are domestic service, agricultural employment, and casual labor. Many laws exempt employees of nonprofit, charitable, or religious institutions. Some States limit coverage to workers in hazardous or extrahazardous occupations, either by listing the specific industries or occupations or by general definition.

In 29 States, employers of less than a stipulated number of employees are exempt from coverage; the range is from fewer than two employees in two States to fewer than 15 employees in one State.

In addition, the coverage of State and local public employees differs markedly from one area to another. Some laws provide broad coverage, specifying no exclusions or excluding

only such groups as elective or appointed officials. Other laws limit coverage to employees of specified political subdivisions or to employees engaged in hazardous occupations. In about one-fifth of the States, coverage of government employees is entirely optional with the State, city, or other political subdivision.

Among the States, actual coverage made up the following percentages of potential coverage in 1956:

<i>Less than 60.0:</i>	<i>70.0-79.9 (cont'd)</i>
Arkansas	Idaho
Georgia	Indiana
Mississippi	Maryland
Oklahoma	Massachusetts
South Carolina	Michigan
South Dakota	Montana
Texas	Nevada
<i>60.0-69.9:</i>	New Hampshire
Alabama	North Carolina
Iowa	Virginia
Kansas	West Virginia
Louisiana	Wisconsin
Maine	<i>80.0-89.9:</i>
Missouri	Connecticut
Nebraska	Dist. of Col.
New Mexico	Kentucky
North Dakota	Minnesota
Oregon	New York
Tennessee	Rhode Island
Vermont	Utah
Washington	<i>90.0 or more:</i>
Wyoming	California
<i>70.0-79.9:</i>	Illinois
Arizona	New Jersey
Colorado	Ohio
Delaware	Pennsylvania
Florida	Federal employees

Potential coverage is based on State data published by the Bureau of Labor Statistics on employees in non-farm establishments, augmented by estimated data on agricultural wage and salary workers from the Department of Agriculture. The data were further modified to exclude Federal employees (who have their own separate workmen's compensation system) and interstate railroad workers (who are subject to Federal jurisdiction and therefore ineligible for State coverage). One group—domestic workers—though conceptually belonging in the potential coverage, is excluded from the data, because a State distribution of this group is not available. The omission of domestic workers may have a varying effect on the potential coverage of the individual States, but not enough, it is believed, to affect the broad groupings.

Of the 21 States with ratios of ac-

⁶ Slight year-to-year fluctuations in the proportions covered are not considered significant in light of the sampling variation associated with the estimates of the Bureau of Census on the total wage and salary labor force and the range involved in workmen's compensation estimates.

Table 2.—Estimated number of workers covered in an average month and annual covered payroll, 1940, 1946, and 1948-56

Year	Workers covered in an average month		Covered payroll	
	Number (in millions)	Percent of employed and salary labor force ¹	Amount (in billions)	Percent of civilian wage and salary disbursements ¹
1940.....	24.2-25.0	70.8	\$35-36	72.1
1946.....	32.2-33.2	76.8	79-81	76.9
1948.....	35.5-36.3	77.0	104-106	80.0
1949.....	34.9-35.7	76.9	102-104	79.2
1950.....	36.5-37.2	77.2	112-115	80.2
1951.....	38.3-39.0	78.4	130-133	81.1
1952.....	39.1-39.7	78.9	140-143	81.1
1953.....	40.4-41.0	80.0	152-155	82.1
1954.....	39.4-39.9	79.5	152-154	82.5
1955.....	40.3-40.9	78.4	164-166	82.3
1956.....	41.6-42.1	78.1	176-178	81.4

¹ Midpoints of range used in computing percentages.

Source: Labor-force data from unpublished data, Bureau of the Census; wage and salary disbursements from Office of Business Economics, Department of Commerce.

tual to potential coverage of less than 70.0 percent, all but two were located west of the Mississippi or south of the Mason-Dixon line. Predominantly rural States, they contained less than one-fourth of the Nation's potential coverage. Even if potential coverage were confined to industrial and commercial workers, the ratios in these States would be among the lowest in the country. All but six of these States have elective laws, and three of the six exempt small employers.

In 16 States that had approximately one-fourth of the potential coverage, the ratio was 70.0-79.9 percent. These States were distributed fairly evenly throughout the Nation. Ten have compulsory laws, but only five have no numerical exemptions. Seven States (including the District of Columbia), with less than one-fifth of the potential coverage, had a ratio of actual to potential coverage of 80.0-89.9 percent. These States were located primarily in the Eastern and Middle Western industrial regions. Only two of the laws are elective, and four exempt small employers.

Five State programs and the system for Federal employees, with ratios of 90.0 percent or more, accounted for more than one-third of the potential coverage. The programs of some of the largest urban States

were included in this group. Only one of the laws exempts small employers, and it is compulsory. Three of the laws provide some coverage for agricultural workers.

Benefits

Payments for wage loss and medical benefits under workmen's compensation reached \$1 billion in 1956, 327 percent more than in 1939—the first benchmark year of the benefit series (table 3). Payments made by private carriers increased to five times what they were in 1939, State fund disbursements nearly quadrupled, and self-insurance payments almost tripled. As a result of their faster rate of growth, private carriers paid 62 percent of all benefits in 1956, compared with 52 percent in 1939.

Almost all this relative gain in private carrier payments took place during World War II. Since 1944, their share of the total has remained constant, while the share coming from State funds and from the system for Federal employees has been inching up and that represented by self-insurance payments has been steadily dropping off.

Of the \$1,003 million paid in bene-

fits in 1956, about an estimated one-third went for hospitalization and other medical costs and two-thirds for compensating the wage loss of injured or deceased workmen (table 4). These proportions have remained rather constant since the end of World War II. Over the years, however, compensation paid to the survivors of workers dying from industrial accidents has formed a steadily decreasing proportion of all benefits; from about one-eighth in 1940, it dropped to only one-thirteenth in 1956.

Data for 40 States reported to the National Council on Compensation Insurance for rate-making purposes show some changes from the policy year 1939 to the policy year 1954 in the distribution of compensable cases and incurred losses by severity of injury (table 5). The data relate mainly to private carrier business, though some competitive State funds are included. Partial disability cases classified as "minor permanent" accounted for 12 percent of all compensable cases and 26 percent of incurred losses in policy year 1939; by policy year 1954, the proportions had increased to 23 percent and 37 percent,

Table 3.—Benefit payments by type of insurance, 1939-56

[Amounts in thousands]

Year	Total		Type of insurance					
			Insurance losses paid by private insurance carriers ¹		State fund disbursements ²		Self-insurance payments ³	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1939.....	\$234,723	100.0	\$122,183	52.0	\$68,464	29.2	\$44,076	18.8
1940.....	255,653	100.0	134,653	52.7	72,528	28.4	48,472	18.9
1941.....	290,812	100.0	159,823	55.0	77,408	26.6	53,581	18.4
1942.....	328,669	100.0	190,239	57.9	81,247	24.7	57,183	17.4
1943.....	353,035	100.0	213,123	60.4	80,574	22.8	59,338	16.8
1944.....	385,236	100.0	236,655	61.4	85,990	22.3	62,591	16.3
1945.....	408,374	100.0	252,570	61.9	91,255	22.3	64,549	15.8
1946.....	434,232	100.0	269,799	62.1	96,053	22.1	68,380	15.8
1947.....	485,794	100.0	301,833	62.1	110,303	22.7	73,658	15.2
1948.....	533,643	100.0	334,699	62.7	121,048	22.7	77,896	14.6
1949.....	566,270	100.0	353,140	62.3	131,709	23.3	81,421	14.4
1950.....	614,702	100.0	381,329	62.0	148,693	24.2	84,680	13.8
1951.....	709,047	100.0	444,416	62.7	170,445	24.0	94,186	13.3
1952.....	784,956	100.0	490,958	62.5	193,107	24.6	100,891	12.9
1953.....	841,126	100.0	524,176	62.3	210,337	25.0	106,613	12.7
1954.....	876,216	100.0	540,497	61.7	225,473	25.7	110,246	12.6
1955.....	915,435	100.0	562,515	61.4	238,485	26.1	114,435	12.5
1956.....	1,002,631	100.0	618,108	61.7	259,125	25.8	125,398	12.5

¹ Net cash and medical benefits paid during the calendar year by private insurance carriers under standard workmen's compensation policies. Data from the *Spectator (Premiums and Losses by States of Casualty, Surety and Miscellaneous Lines for 1939-49; Insurance by States of Fire, Marine, Casualty, Surety and Miscellaneous Lines for 1950-56)*. Data for Alaska and Hawaii have been excluded.

² Net cash and medical benefits paid by competitive and exclusive State funds and the Federal sys-

tem for Government employees. Compiled from State reports (published and unpublished) and from the *Spectator* or other insurance publications; data for fiscal years for some funds.

³ Cash and medical benefits paid by self-insurers, plus the value of medical benefits paid by employers carrying workmen's compensation policies that do not include the standard medical coverage. Estimated from available State data.

Table 4.—Benefit payments by type, 1939–56
[In millions]

Year	Total	Type of benefit ¹			
		Medical and hospitalization payments	Compensation payments		
			Total	Disability	Survivor
1939.....	\$235	\$85	\$150	\$120	\$30
1940.....	256	95	161	129	32
1941.....	291	100	191	157	34
1942.....	329	108	221	185	36
1943.....	353	112	241	203	38
1944.....	385	120	265	225	40
1945.....	408	125	283	241	42
1946.....	434	140	294	250	44
1947.....	486	160	326	280	46
1948.....	534	175	359	309	50
1949.....	566	185	381	329	52
1950.....	615	200	415	360	55
1951.....	709	233	476	416	60
1952.....	785	260	525	460	65
1953.....	841	280	561	491	70
1954.....	876	308	568	498	70
1955.....	915	325	590	520	70
1956.....	1,003	330	653	578	75

respectively. These increases were accompanied by a drop in the proportion of cases and losses attributable to death and temporary total disability. Cases of these types, however, showed the greatest percentage increase in average incurred loss per case—138 percent and 191 percent, respectively, compared with a 97-percent increase for the average case of minor permanent disability.

Relation to Payrolls

The relationship of aggregate benefit payments to payrolls covered by workmen's compensation programs gives some indication of the extent to which benefits have kept pace with the increase in the number of workers covered by the programs, with the rise in wage rates on which cash benefits are based, and indirectly with the increasing costs of hospitalization and medical benefits. Table 6 shows that benefit payments as a proportion of payroll declined from 0.72 percent in 1940 to 0.51 percent in 1948 and since then have risen modestly, to 0.57 percent in 1956.

Any assumptions concerning the relative effectiveness of workmen's compensation benefit payments over the years must also take into consideration changes in the frequency and severity of work injuries. As the country emerged from the economically depressed era of the late thirties into a period of full employment accompanied by unusual war conditions,

the number of work injuries per million employee-hours worked in manufacturing rose—from 15.3 in 1940 to 19.9 in 1946. In view of the increased accident load, the decline in the ratio of benefit payments to insured payrolls probably indicates the minimum extent to which the programs during the first half of the 1940's had fallen behind in providing effective and adequate wage-loss and medical care protection against work-connected accidents.

Since 1946 there has been a general decrease in the frequency of work injuries and their severity. The gradual rise during the 1950's in the ratio of benefit payments to covered payroll when considered in the light of the improvement in accident experience indicates that statutory liberalizations are beginning to bring benefit provisions more nearly in line with recent changes in economic conditions.

Benefits as a proportion of covered payroll also vary widely among the States, ranging in 1956 from less than 0.3 percent in Delaware to 1.5 percent in Nevada, as shown in the accompanying chart. Many factors other than benefit provisions may bring about these variations. As the chart indicates, the correlation between the statutory limitations on weekly benefits for temporary disability and the proportion of covered payroll that is consumed by aggregate benefits does not appear to be significant, although admittedly the correlation might be different if the States were ranked by other benefit provisions of their laws.

Often more influential than benefit provisions in determining the magnitude of a State's benefit payments are (1) the frequency and severity of work injuries as affected by the hazardous nature of its industries, by the age, sex, and occupational composition of the labor force, and by the effectiveness of safety and rehabilitation programs; (2) the level and distribution of wages and the size of the group over which the risk is spread; (3) the methods used to underwrite the risk; and (4) the administrative and legal procedures and policies used in evaluating, adjudicating, and policing claims.

The following tabulation shows that aggregate benefit payments amounted to less than ½ of 1 percent of covered payroll in 1956 for 17 jurisdictions with approximately two-fifths of the covered workers. Only in six States with 6 percent of covered employment did benefit payments absorb as much as 1 percent of payroll.

Aggregate benefits as percent of covered payroll, 1956	Number of jurisdictions	Percentage distribution of coverage
Less than 0.40.....	8	26.0
0.40-0.49.....	9	13.4
0.50-0.59.....	8	17.9
0.60-0.69.....	7	28.7
0.70-0.79.....	5	3.6
0.80-0.89.....	3	1.7
0.90-0.99.....	4	2.4
1.00 or more.....	6	6.2

Proportion of Wage Loss Compensated

Workmen's compensation laws provide for the replacement of only a

Table 5.—Percentage distribution of cases and incurred losses, and average incurred loss, by injury classification, policy years 1939, 1946, and 1954

Classification	Percentage distribution						Average incurred loss per case		
	Cases			Incurred losses ¹			1939	1946	1954 ²
	1939	1946	1954 ²	1939	1946	1954 ²			
All compensable cases.....	100.0	100.0	100.0	100.0	100.0	100.0	-----	-----	-----
Death.....	1.0	.7	.8	16.2	11.5	11.5	\$3,873	\$5,691	\$9,207
Injury:									
Permanent total.....	.1	.1	.1	3.9	3.0	2.0	9,415	12,033	16,758
Major permanent.....	1.8	2.1	2.6	22.3	21.7	20.7	2,792	3,500	5,010
Minor permanent.....	12.1	12.8	23.2	26.2	27.7	36.8	500	720	986
Temporary total.....	85.0	84.4	73.3	31.4	36.1	29.1	85	143	247

¹ For permanent injury cases includes, in addition to compensation for loss of earning power, payments to these cases during periods of temporary disability. For temporary disability cases, includes only those closed cases known not to have involved any permanent injury and open cases in which, in the judgment of the carrier, the disability will be temporary only.

² Policy-year data for 1954 not strictly comparable with those of previous years because the majority of States no longer use a uniform policy year commencing Jan. 1, as was the practice in 1939 and 1946.

Source: Unpublished data from the National Council on Compensation Insurance.

Measures of interstate variation: Maximum weekly benefit for temporary total disability, August 1957, as percent of average weekly wage, 1956, ¹ and total benefits as percent of covered payroll, 1956



¹ Maximum weekly benefit for worker with and without eligible dependents under workmen's compensation laws paying dependents' allowances; average wage for workers covered by State unemployment insurance programs.

² Assumes 3 dependents.

³ Maximum same for worker earning average wage whether or not he has dependents, but compensation for worker with dependents is based on higher proportion of wages.

portion of the wages lost as a result of disabilities incurred while employed. The actual portion of wage loss replaced varies among the States and is generally determined by the benefit formula incorporated in the law. One measure of the proportion of wage loss met by workmen's compensation is the statutory percentage of the average weekly wage used to compute the weekly benefit for temporary total disability—by far the most common type of injury sustained.

An analysis of workmen's compensation legislation as of August 1957 indicates that the intent of most of the laws, protecting more than 85 percent of the covered workers, is to compensate from three-fifths to two-thirds of a worker's weekly wage during total disability.⁷ Only five States,

Table 6—Aggregate benefits as percent of covered payroll and rates of injury frequency and injury severity in manufacturing, 1940, 1946, and 1948-56

Year	Benefits as percent of payroll	Injury-frequency rates ¹	Injury-severity rates ²
1940	0.72	15.3	1.6
1946	.54	19.9	1.6
1948	.51	17.2	1.5
1949	.55	14.5	1.4
1950	.54	14.7	1.2
1951	.54	15.5	1.3
1952	.55	14.3	1.3
1953	.55	13.4	1.2
1954	.57	11.9	1.0
1955	.55	12.1	(2)
1956	.57	12.0	(2)

¹ Average number of disabling work injuries per million employee-hours worked.

² For years before 1955, average number of days lost for each 1,000 employee-hours worked. In 1955 the basis of computation was changed to average number of days lost per million hours, and different and more exact time charges were used in evaluating permanent impairments. Consequently, severity rates for 1955 (637) and for 1956 (712) are not comparable with those of previous years.

Source: Data on work injury rates from Bureau of Labor Statistics, *Work Injuries in the United States*, annual reports.

with less than 3 percent of the covered workers, specify a percentage maximum that is less than 60 percent of wages. Nearly 10 percent of the covered workers are employed in three States with maximums of more than two-thirds of weekly wages. Six States and the program for Federal employees provide a higher statutory

⁷ Department of Labor, Bureau of Labor Standards, *State Workmen's Compensation Laws, August 1957* (Bulletin 161).

percentage for injured workers with dependents. When these higher rates are included, only one State (with less than 1 percent of covered employment) has a percentage maximum of less than 60 percent of wages; five States and the Federal program (with 16 percent of covered employment) have percentage maximums of more than two-thirds of wages.

The effectiveness of the statutory percentage in compensating for lost wages, however, depends to a large extent on the weekly dollar maximums contained in the laws. In a period of rising wages, these dollar maximums assume increasing importance as they operate to restrict workers from receiving the full statutory percentage. In 1939, for example, half the laws provided a maximum of less than \$20 a week and \$25 was the highest amount payable under the State laws. These dollar maximums were nevertheless high enough so that, in virtually every State, a worker receiving the average weekly wage (as shown by unemployment insurance data) could receive under workmen's compensation the proportion of his wage loss specified in the statute.

By 1957, however, this was the situation in only a few States, despite periodic legislative increases in the maximum dollar amount of weekly benefits. Since 1939, all but seven States have increased their dollar maximum amounts by at least 75 percent; in 20 jurisdictions the increases have amounted to more than 100 percent. As of August 1957, three-fourths of the laws provided maximum weekly benefits (including allowances for dependents) of \$35 or more, with 17 providing \$45 or more. These higher maximums, however, had still not caught up with rising weekly wages, which had increased from 1939 to 1956 for the average worker covered under unemployment insurance by 210 percent—from \$26.17 to \$81.17. Consequently, only seven programs (including the system for Federal employees), with 9 percent of the covered workers, had weekly maximums that were high enough in 1957 to permit the statutory percentage to be effective for workers with average wages though

not for many workers with higher-than-average wages.

The situation in 1957, however, represented some improvement over the immediately preceding years. This improvement may be noted from the tabulation below, which relates the actual or effective dollar maximums payable in 1949, 1953, and 1957 (or the maximum for a worker without qualified dependents under the 14 laws that now provide supplementary allowances) to the average weekly wage of the preceding year. With

Maximum benefit as percent of average wage in preceding year	Number of jurisdictions			Percentage distribution of coverage	
	1949	1953	1957	1953	1957
Less than 35	1	4	2	6.5	5.5
35-39.9	8	5	4	11.0	1.6
40-44.9	9	17	12	35.8	26.2
45-49.9	10	8	18	23.3	37.5
50-54.9	6	9	4	9.8	5.4
55-59.9	8	3	5	4.4	16.1
60 or more	8	4	5	9.2	7.6

the maximums effective at the middle of 1953, a worker receiving the average wage for 1952 would have been paid a benefit amounting to less than 45 percent of his wage under 26 State programs accounting for more than half of all covered employment. By 1957 the number had declined to 18 States which had only one-third of total coverage. In 1953, 16 laws—two more than in 1957—had an effective benefit of 50 percent or more, but these laws covered only 23 percent of the workers, in contrast to 29 percent in 1957. In general, since 1949 there has been a tendency for the effective State benefit rates to concentrate at 40.0-49.9 percent of the preceding year's average wage. Thirty laws fell into this category in 1957 but only 19 in 1949.

The chart, in addition to relating total benefits to payrolls, shows for each State the actual proportion of weekly wages that a worker in receipt of the average 1956 wage would have received in benefits during a period of total temporary disability under the statutory percentages and maximums effective in August 1957.

For the country as a whole, a single worker with average wages received a weekly rate of compensation, weighted by coverage, estimated at

\$38.96 or 48.0 percent of the nationwide average weekly wage. In the 36 programs⁸ that do not have dependents' allowances, the proportion of average wages replaced was slightly higher (48.4 percent), and in the 14 jurisdictions with dependents' allowances it was lower (46.9 percent). For a worker with the maximum number of qualified dependents, however, the rate of compensation per week was \$53.20 or 61.4 percent of the average weekly wage in these 14 jurisdictions.

Since workmen's compensation benefits are not subject to Federal income or social security taxes, these average benefit amounts replaced a higher percentage of actual income or "take-home" pay. A worker with no dependents, earning the average weekly wage of \$81.17 in 1956, had deducted from his weekly earnings \$12.76 in Federal income taxes (assuming the standard deduction) and \$1.62 in contributions for old-age, survivors, and disability insurance, which gave him \$66.79 in weekly take-home pay. During periods of total disability, therefore, the \$38.96 he received in weekly compensation benefits replaced 58 percent of his take-home pay. A married man with two dependent children had a higher take-home pay, of which only 53 percent was offset in the States without dependents' allowances. In the 14 jurisdictions having dependents' allowances, the proportion offset was about 62 percent.

The length of the waiting period and to a lesser extent the specified maximums with respect to duration of benefits or aggregate payments also play an important role in determining the proportion of the overall wage loss that is compensated in temporary disability cases.

According to the data for August 1957, all jurisdictions but Oregon provide for a waiting period following the date of injury before the payment of compensation benefits; 34 States, with 82 percent of covered employment, have a 7-day waiting period and the remaining jurisdictions, 3-5 days. All but five States, however,

⁸Alabama's program, which provides for a statutory percentage that is higher for a worker with dependents, is included here because its maximum is the same for the worker with average wages whether or not he has dependents.

provide that if the disability continues for a specified period of time the payment of benefits is retroactive to the date of injury. More than two-thirds of the covered workers are employed in States where at least 28 days are required for the retroactive provisions to become effective.

Only 12 States and the Federal system, with 22 percent of the coverage, pay benefits for the entire period of the disability without any maximum monetary limitation. Where restrictions are in force, for the most part they are not too significant, since less than 1 percent of all temporary disabilities are estimated to last long enough to bring the maximums into play.

The BULLETIN article of March 1954 outlined a method for estimating the wage loss compensated in an average case of temporary total disability, taking into account waiting-period and other statutory restrictions on payments. When this method is applied to the 1956 data, it is estimated that, of the average duration of 18 calendar days lost by workers in manufacturing,⁹ only 13.8 days are compensable under a hypothetical State law providing for a 7-day waiting period and paying compensation retroactively to the date of injury only if the disability lasts as long as 28 days. Payment at the average rate of \$38.96 per compensable week for workers without dependents means that the average temporary total disability case is paid a total of \$76.81 for the 13.8 compensable days, or only 37 percent of the estimated gross wage loss of \$209 for the 18-day disability; the estimate using 1952 data is somewhat lower. Workers with higher-than-average wages receive even a smaller fraction of lost earnings.

Thus, it may be concluded that workmen's compensation is still leaving unmet, on the average, more than three-fifths of the total wage loss in temporary disability cases. This unmet wage loss, of course, is not a measure of the overall cost of indus-

⁹The average is for injuries resulting in only temporary disability that incapacitated for 1 full day or more, without leaving any permanent ill effects. See "Work Injuries in the United States, 1956," *Monthly Labor Review*, January 1958, pages 54-58.

trial injury that the worker must meet. For work injuries that result in death or permanent disability, the proportion of the wage loss compensated through workmen's compensation programs is even less. One reason is that such injuries are more likely to require the application of the durational or aggregate maximums that curtail payments.

Only 15 States and the Federal employees' system, with 36 percent of covered employment, provide death benefit payments to the widow for life or until remarriage and to children until grown, and six of these States, with 13 percent of covered employment, limit the total amount payable. Twenty-six States and the Federal system, with 77 percent of covered employment, pay permanent total disability benefits for life or the duration of the disability; five of these States reduce the weekly benefit amount after a specified number of weeks, varying from 260 to 400. These provisions represent some liberalization since 1953, when 14 laws provided death benefits of unrestricted duration and 21 laws provided lifelong permanent disability benefits.

Some indication that the program is less effective in compensating injuries that are permanent or result in death than those of shorter duration is found in the annual reports on work injuries published by the Illinois Department of Labor. Of the compensable cases closed for the first time in 1956, the wage loss compensated in Illinois was estimated at 33 percent for temporary cases but at only 15 percent for permanent-total cases, 16 percent for permanent-partial cases, and less than 7 percent for fatal cases.¹⁰

Other costs not met by the workmen's compensation program may include a part of the medical or hospitalization expenses in States that have period-of-time or money restrictions on the medical benefits furnished. As of August 1957, there were 13 such States, with 12 percent of the covered workers.

In recent years, also, for workers

¹⁰Illinois Department of Labor, Division of Statistics and Research, *Annual Report on Compensable Work Injuries, 1956*, part II, table 11.

and their families receiving cash indemnity awards for death and permanent disability, actual benefits have been significantly lower than originally intended because of rising wages and prices. Furthermore, workers often have to pay out of their own pockets legal fees to have their claims brought to a successful conclusion. These fees may range from 10 to 20 percent of the cash compensation awarded. Consideration must also be given to the wage loss and medical bill of employees who are excluded from the workmen's compensation program because of the type of employment or type of injury or disease sustained.

All these factors combine to make it evident that much the larger share of the cost of industrial accidents falls on the worker and his family or on public assistance or private charity—far from the original intent of workmen's compensation.¹¹ At the same time, recognition should be given to the economic relief that some injured workers receive through the growing number of employee-benefit plans that supplement the statutory workmen's compensation benefits or pay cash sickness and medical care benefits in cases that are not covered by workmen's compensation. Also to be taken into account are Federal old-age, survivors, and disability insurance benefits. These benefits may be payable in addition to workmen's compensation if the worker dies or reaches age 65 or if he becomes permanently and totally disabled after he has reached age 50 (to the extent that the amount of the benefit exceeds the amount of workmen's compensation benefits).

Costs

The amount expended for benefits or reserved for future benefit payments is only one of the elements that make up the total cost of workmen's compensation to employers.¹² In addition to benefit costs (common-

Table 7.—Estimated cost of workmen's compensation to employers as percent of covered payroll, 1940, 1946, and 1948-56

Year	Cost of workmen's compensation ¹	
	Amount (in millions)	Percent of covered 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	.93
1956.....	1,630	.92

¹ Represents premiums written by private carriers and State funds, and benefits paid by self-insurers, increased 5-10 percent to allow for administrative costs. Also includes benefits paid and administrative costs of system for Federal employees. Where necessary, fiscal-year data converted to calendar-year data.

ly termed "pure premium"), there are the overhead costs (known as "expense loading") of insuring the risk, which are reflected in the premium (manual) rates or their "equivalent" that employers pay to insure or self-insure the risk of work injury. Included in the overhead are the expenses of policywriting, rate-making, payroll auditing, claims investigation and adjustment, safety inspection, legal and medical services, and general administration. In self-insurance, some of these overhead expenses are eliminated or reduced, and in insurance provided by commercial carriers there are additional charges, such as acquisition costs (commissions and brokerage fees), taxes and fees, and allowances for underwriting profit and gain.

The method described in the March 1954 issue of the BULLETIN was used for estimating the total "premium" figure for all covered employers (including the self-insurers). According to the estimates, annual workmen's compensation costs for employers in the aggregate have not exceeded 1 percent of covered payroll since the end of World War II (table 7). Before the war, costs were as high as 1.2 percent. In the postwar years, employers spent 89-98 cents per \$100 of covered payroll to insure or self-insure their risks. The yearly fluctuations produced an irregular pattern;

from a 1950 low the ratio climbed to a 1954 high and then turned downward again.

Premiums and payroll data made available by the National Council on Compensation Insurance indicate a somewhat similar trend in costs. These data primarily relate to private-carrier experience but also include data for a few competitive State funds that cannot be segregated. For the policy year 1939, earned premiums of \$247.4 million were reported for 36 States, amounting to 1.4 percent of the covered payroll of \$17.4 billion. For the policy year 1946, the rate dropped to 1.2 percent of the \$45.5 billion payroll reported. Earned premiums for the 40 States included in policy-year data for 1954 (the latest year available) amounted to \$1,162 million or 1.3 percent of the \$86.9 billion payroll.¹³

The cost to an individual employer of protecting his workers is probably influenced most by his industrial classification and the hazards of that classification, as modified by experience rating. In industries characterized primarily by clerical operations, manual rates may be less than 0.1 percent of payroll; in very hazardous occupations they may be as high as 20.0 percent or more. An employer's costs are also affected by the level of benefits provided by the State law and the method by which he insures his compensation liability—through a private stock or mutual company, through an exclusive or competitive State fund, or carrying his own risk.

These factors result in average premium rates that vary from one industry to another and also, though not to the same extent, from one State to another. Policy-year data for 1954 from the National Council showed a range in State rates from 0.7 percent to 3.0 percent of payroll. Half the States, with about two-fifths of the reported payroll, had rates of 0.8-1.1 percent, and only two had rates less than 0.8 percent. More

¹¹ Herman Miles Somers and Anne Ramsay Somers, *Workmen's Compensation: Prevention, Insurance, and Rehabilitation of Occupational Disability, 1954*, page 282.

¹² Except in a few Western States that require employee contributions—primarily toward the cost of medical care—workmen's compensation is entirely employer-financed.

¹³ Omission from the 1954 data of the four States not reported in 1939 does not change the percentage. Policy-year data for 1954, however, are not strictly comparable with those of previous years because most States no longer use a uniform policy year commencing January 1, as was the practice in 1939 and 1946.

than one-third experienced rates of 1.4 percent or more. These rates are slightly higher than those computed for policy year 1946, when the range was from 0.7 percent to 2.5 percent of payroll and only about a fourth of the States had rates of 1.4 percent or more.

Loss and Expense Ratios

A comparison of the benefits paid (table 4) with the premium costs (table 7) gives a rough indication of the proportion of the premium dollar that reaches the injured worker. In 1956 the \$1,003 million paid out in medical and cash benefits amounted to 62 cents for every dollar of the \$1.6 billion spent by employers to insure their workers. This is the highest proportion computed for the years included in the two tables. The lowest rate of return was 53 percent, in 1948. From 1949 to 1955 the rates fluctuated from 56 percent to 61 percent, with low points registered in 1949 and 1953.

The ratio of benefits paid during the year to insurance costs for the same year (the loss ratio) is subject to considerable misinterpretation. In the first place, the overall ratio conceals sharply varying ratios that result from differences in the insurance mechanisms. Thus, for self-insurers and the system for Federal Government employees, the ratio is 90-95 percent because the cost is figured on the basis of payments during the year plus administrative expenses. For participating carriers—primarily mutual companies—and for some State

funds, the ratio is lower than it would be if dividends could be taken into account; that is, the cost included for employers insured by these carriers is overstated to the extent that a portion of their premiums may later be returned in the form of dividends. For all private carriers and State funds, moreover, a loss ratio based on losses paid during the year is lower than one based on losses incurred. This difference is especially great in a period when insured payrolls are rising rapidly; the large amounts of premium income that must be set aside to cover liabilities for future payments may be considerably higher than the amounts paid during the year in cases continued from earlier years when wages and compensation rates were lower.

The extent of the differences in the loss ratios computed by the two methods may be seen in table 8. When losses paid were related to direct premiums written, the loss ratio for private carriers averaged 51.7 percent for 1950-56. The loss ratio was 60.0 percent when the relationship of losses incurred to premiums earned was used. The effect of business activity on these differences may also be noted. For 1951, 1952, and 1953, when the upward trend of business and payrolls was most pronounced, the differences in loss ratios were greatest—10 percentage points or more. Since 1953, the yearly differences have narrowed to about 5 percentage points.

The relationship of the amount of losses incurred to the premiums

earned is the measure commonly used by insurance organizations in evaluating and revising their manual rates. Data needed to determine this ratio are not available in a continuous series going back to 1939 for all private carriers or for State funds. The annual reports of the New York State Insurance Department, however, contain pertinent data on the countrywide business of private carriers operating in the State and representing about 80 percent of all business underwritten for United States employers by insurance companies. From these data the shifts in loss ratios, along with trends in expense ratios and underwriting gains for stock and mutual companies, can be traced (table 9).

Caution must be used in comparing loss and expense ratios, since the mode of operation of stock and mutual companies is different. Nonparticipating stock companies, for example, distribute profits among their stockholders, but the bulk of the profits of mutual companies is returned to policyholders as dividends—representing in essence the difference between the anticipated and actual cost of insurance. If data were available for use in computing the loss and expense ratios of mutual companies based on premium volume less dividend payments, the ratios for these companies would be somewhat higher than those shown in table 9.

Without this adjustment the average loss ratios of mutual and of stock companies for the period 1948-56 are almost identical. Stock companies earned \$3.9 billion in premiums and paid to claimants or reserved for future payments \$2.3 billion, for a loss ratio of 59.1 percent; mutual companies earned \$2.6 billion in premiums while incurring losses of \$1.5 billion, for a ratio of 58.6 percent. These loss ratios were slightly higher than those recorded for 1939-47, when the stock companies averaged 57.4 percent and the mutual companies 57.1 percent.

The yearly data for both stock and mutual companies show considerable fluctuations. For the former, the loss ratios have ranged from a low of 52 percent in 1949 to a high of 67 percent in 1951. For the mutual companies the fluctuations have not been so great—from 53 percent in 1948 to

Table 8.—Comparative loss ratios, private carriers, 1950-56

[Amounts in millions]

Year	Direct writings ¹ and direct losses paid ¹			Earned premiums and incurred losses ²		
	Direct writings ³	Direct losses paid	Loss ratio	Earned premiums ³	Incurred losses	Loss ratio
Total.....	\$6,894.0	\$3,562.0	51.7	\$6,542.9	\$3,928.5	60.0
1950.....	721.5	381.3	52.8	696.6	427.7	61.4
1951.....	844.5	444.4	52.6	789.9	518.5	65.6
1952.....	956.3	491.0	51.3	903.7	571.9	63.3
1953.....	1,074.1	524.2	48.8	1,010.6	605.4	59.9
1954.....	1,067.3	540.5	50.6	1,010.8	561.4	55.5
1955.....	1,077.5	562.5	52.2	1,027.9	594.3	57.8
1956.....	1,152.8	618.1	53.6	1,103.4	649.3	58.8

¹ From *Spectator: Insurance by States of Fire, Marine, Casualty, Surety and Miscellaneous Lines*, annual issues. Data for Alaska and Hawaii have been excluded.

² From National Council on Compensation In-

urance, *Insurance Expense Exhibit* (Countrywide), annual issues. Data for Alaska and Hawaii have been excluded.

³ Disregards dividends to policyholders.

62 percent in 1951. Both series show the same pattern—a steep rise in the loss ratios during the early years of the Korean conflict and then a decline until 1954. Recent years have seen a gradual rise but nothing approaching the 1950–52 experience.

Stock companies have generally found the workmen's compensation line less profitable than the mutual companies. During 1948–56, stock companies earned an underwriting profit of 5.1 percent, and mutual companies averaged an underwriting surplus of 17.4 percent. This situation represents some improvement for stock companies from the period 1939–47, when their gain was 4.7 percent and that for mutual companies was 20.1 percent. Stock companies show a greater year-to-year fluctuation than mutuals; their underwriting gains ranged from a profit of 10.6 percent (1948) to a deficit of 4.2 percent (1951). In no year since 1948 has the underwriting surplus for mutual companies dipped below 13.0 percent; it was as high as 24.5 percent in 1948.

The better financial showing of mu-

tual companies is mainly attributable to their lower expense ratio. In 1948–56, stock companies incurred expenses averaging 35.8 percent of premiums earned, and mutual companies' expenses averaged only 24.0 percent of premiums earned. As indicated earlier, however, this difference would be somewhat less if it were possible to make the upward adjustment in the mutual companies' ratios on account of dividends. The expense ratios of stock companies have shown a continual decline in the last two decades. The average for 1939–47 was 37.9, and the yearly figures since 1947 showed a gradual decline to a low of 34.5 percent for 1955. Mutual companies, in contrast, have shown no improvement in expense ratios. The 1939–47 ratio was 22.8 percent, and since 1947 the ratio has gone as high as 25.1 percent (1956). Nevertheless, the expense ratios of stock companies remain considerably higher than those of mutual companies.

The disparity in expense ratios results primarily from the greater acquisition costs of stock companies.

Stock companies sell most of their policies through commissioned agents, and mutuals sell most of their policies direct through salaried employees of the company. In recent years, acquisition costs and field supervision have averaged about 16 percent of premiums earned for stock companies and 7 percent for mutuals.

Another factor contributing to the disparity in expense ratios is the smaller average size of risk insured by stock companies. As a general rule, the smaller the policy, the greater the proportion of premiums that is required for servicing it. Studies conducted a few years ago by stock carriers showed that, although expense loading for all risks was assumed to be about 41 percent, for risks with annual premiums of less than \$50, 86 percent of the premium was required for expenses; for risks with annual premiums of less than \$200, 60 percent was required.¹⁴

The loss ratios for the competitive and exclusive State funds are higher than those of the private carriers. Table 10 shows that for 1948–56 benefits paid amounted to 69.7 percent of the premiums written for the 18 State funds in the continental United States. Fluctuations in this ratio have generally followed the trend revealed by private carrier data. From a low of 66 percent in 1948 the ratio rose to a high of 74 percent in 1950; it then leveled off at approximately 69 percent until 1956, when it advanced to 73 percent.

The loss ratios computed in table 10 are not strictly comparable, however, with those reported for private carriers in table 9. First, the premium income of State funds often reflects advance discounts on manual rates that standard risks are charged; the premium income reported for private carriers generally does not take into account dividends returnable to policyholders or retrospective rating adjustments. Second, the premium charges of some State funds, especially exclusive funds, do not or need not include allowances for certain

¹⁴ W. S. McCormick, "Problems and Methods of Handling Small Risks and Excluded Employers Who May Want Voluntary Coverage," *Workmen's Compensation Problems—IAIABC Proceedings, 1954*, Department of Labor, Bureau of Labor Standards (Bulletin 180), pages 89–90.

Table 9.—Countrywide experience of stock and mutual companies operating in the State of New York, 1939–56

[Amounts in thousands]

Year	Premiums earned	Losses incurred	Loss ratio	Expenses incurred	Expense ratio	Net gain ratio
Stock companies						
1939-47 total.....	\$1,934,554	\$1,110,676	57.4	\$733,512	37.9	4.7
1948-56 total.....	3,920,104	2,318,171	59.1	1,403,189	35.8	5.1
1948.....	345,754	182,026	52.6	127,238	36.8	10.6
1949.....	336,660	176,410	52.4	125,574	37.3	10.3
1950.....	337,567	207,266	61.4	131,651	39.0	-4
1951.....	384,025	257,268	67.0	142,857	37.2	-4.2
1952.....	441,611	284,065	64.3	155,447	35.2	.5
1953.....	489,697	292,425	59.7	170,414	34.8	5.5
1954.....	503,610	279,000	55.4	174,753	34.7	9.9
1955.....	519,231	304,789	58.7	179,135	34.5	6.8
1956.....	561,949	334,922	59.6	196,120	34.9	5.5
Mutual companies ¹						
1939-47 total.....	\$1,200,334	\$684,948	57.1	\$273,267	22.8	20.1
1948-56 total.....	2,614,500	1,533,125	58.6	626,992	24.0	17.4
1948.....	226,194	118,978	52.6	51,798	22.9	24.5
1949.....	230,829	133,188	57.7	54,476	23.6	18.7
1950.....	230,294	143,013	62.1	55,961	24.3	13.6
1951.....	278,177	173,601	62.4	67,597	24.3	13.3
1952.....	311,580	193,655	62.2	72,910	23.4	14.4
1953.....	345,941	207,090	59.9	81,296	23.5	16.6
1954.....	330,384	183,694	55.6	78,631	23.8	20.6
1955.....	322,637	183,258	56.8	79,369	24.6	18.6
1956.....	338,464	196,648	58.1	84,954	25.1	16.8

¹ All figures disregard dividends to policyholders, which, if taken into consideration, result in higher loss ratios and expense ratios; net gain ratio represents ratio before dividends to policyholders.

Source: Compiled from data in the Annual Reports of the New York State Insurance Department and from data in the Annual Casualty-Surety Editions of the *Eastern Underwriter*.

items that are included in the premium charges of private carriers—for example, administrative services that are financed through public appropriations or provided by other government departments, taxes and other special assessments, and maintenance of adequate reserves. Third, benefit outlays for the State funds reflect the fact that in most instances the States insure an undue proportion of the high-hazard undesirable risks, many of which cannot get insurance from private carriers. These three factors combine to increase the loss ratio for State funds. The ratio is based, however, on losses paid and is lower than it would be if based on losses incurred.

Since competitive State funds spend a very small proportion of premiums for business-getting, and exclusive State funds spend practically nothing at all, it is to be expected that the expense ratios of State funds are lower than those of private carriers. For the years 1948-56, administrative costs (excluding loss adjustment expenses for certain competitive funds) of all State funds averaged 9.0 percent of premiums written (table 10). Exclusive funds devoted, on the average, 6.9 percent of premiums to expenses and competitive

Table 10.—Benefit payments and administrative expenses in relation to premiums written, 18 State funds, 1948-56¹

[Amounts in millions]

Year	Premiums written ²	Benefits paid	Benefits as percent of premiums	Administrative expenses ³	Expenses as percent of premiums
Total	\$2,019.6	\$1,408.2	69.7	\$181.4	9.0
1948.....	164.4	108.4	65.9	14.0	8.5
1949.....	166.2	118.1	71.1	15.4	9.3
1950.....	172.1	126.7	73.6	16.5	9.6
1951.....	204.9	140.9	68.8	18.6	9.1
1952.....	228.6	158.3	69.2	20.4	8.9
1953.....	250.1	170.4	68.1	21.9	8.8
1954.....	265.9	183.2	68.9	24.1	9.1
1955.....	280.1	192.6	68.8	24.4	8.7
1956.....	287.3	209.6	73.0	26.1	9.1

¹ For 8 States, fiscal-year data converted to calendar-year data.

² Disregards dividends to policyholders.

³ Excludes loss adjustment expenses for certain competitive State funds, estimated at 5-8 percent of premiums. Includes administrative expenses financed through appropriations from general revenue.

Source: Data on premiums and benefits from *Spectator: Insurance by States*, annual issues, and from State reports. Data on administrative expenses from *Argus Casualty and Surety Chart*, annual issues, and State reports.

funds 10.7 percent. These ratios do not vary significantly from year to year. Loss adjustment expenses are estimated to amount to 5-8 percent of premium income.

A comparison of the expense ratios of State funds and private carriers must, however, like the comparison of their loss ratios, be made carefully. Private carriers include in their expense loading certain charges, as noted above, that not all State funds are required to meet out of their premium income—taxes, for example, and those administrative expenses that are absorbed by other government departments. In addition, private carriers generally provide special consultative services in the fields of accident prevention, rehabilitation, payroll auditing, program planning and merit rating that are often inadequately furnished by State funds. The experience of nonparticipating stock companies in 1956 showed that, out of the 36.8 percent of premiums allocated for expense loading, 11.8 percent was devoted to these items—3.4 percent for taxes, licenses, and fees, 1.3 percent for inspection and safety engineering, 2.2 percent for payroll auditing, and 4.9 percent for merit rating and other underwriting services.¹⁵ Mutual companies spent 9.8 percent (out of their 25.3-percent expense loading) for these items—2.8 percent for taxes, licenses, and fees, 2.3 percent for safety inspection, 1.1 percent for payroll auditing, and 3.6 percent for merit rating and other underwriting services. The expense ratio of some State funds, however, would be lower than indicated if the premium volume were adjusted to include the amounts appropriated from general revenues for the operation of the State funds.

State Administrative Costs

In treating workmen's compensation costs, no consideration has as yet been given to the amounts disbursed by State-created commissions, departments, and agencies in administering the workmen's compensation laws and supervising the operations of the insurance medium—the private carrier, the self-insurer, and/

¹⁵ National Council on Compensation Insurance, *Insurance Expense Exhibit (Countrywide) for the Year Ending December 31, 1956*, sheets 1 and 3.

Table 11.—Administrative costs of State agencies by method of financing, 38 States, 1950-56¹

[Amounts in millions]

Fiscal year	Total administrative costs	Financed through legislative appropriations		Financed through assessments on carriers	
		Amount	Percent	Amount	Percent
1950.....	\$12.5	\$4.6	37	\$7.9	63
1951.....	12.9	4.6	36	8.3	64
1952.....	14.1	5.1	36	9.0	64
1953.....	15.5	5.3	34	10.2	66
1954.....	16.1	5.6	35	10.5	65
1955.....	16.8	5.8	35	11.0	65
1956.....	17.4	6.1	35	11.3	65

¹ Includes the District of Columbia.

Source: Compiled from State budget, finance, and treasury documents and annual reports of State administrative agencies.

or the State fund. The amounts are relatively small—only \$17.4 million in the fiscal year 1955-56 for the District of Columbia and the 37 States for which data are available¹⁶—but they have a great effect on the quality of services rendered.

Not all these administrative costs represent a cost of workmen's compensation in addition to that charged employers in premiums. In one-half the jurisdictions the expenses are financed through assessments against the insurance mediums and are already reflected in the premium charges of carriers to employers. In the other half, the administrative expenses are financed through appropriations from the general treasury. Table 11 shows that during 1950-56 almost two-thirds of the aggregate administrative expenses were met through assessments on the carriers.

State administrators prefer to have workmen's compensation costs financed through assessments rather than legislative appropriations because it permits the administrative agency to be self-supporting and self-directing and offers greater as-

(Continued on page 30)

¹⁶ Excluded are the seven States with exclusive funds and the system for Federal employees, where the task of administering the law is generally merged with that of providing insurance protection, so that separate cost figures for administrative functions cannot be obtained. Also excluded are four States where the laws are administered by the courts and it is impossible to separate the costs attributable to workmen's compensation from those attributable to other caseloads.

Table 2.—Contributions and taxes collected under selected social insurance and related programs, by specified period, 1955-58

[In thousands]

Period	Retirement, disability, and survivors insurance				Unemployment insurance		
	Federal insurance contributions ¹		Federal civil-service contributions ³	Taxes on carriers and their employees	State unemployment insurance contributions ⁴	Federal unemployment taxes ⁵	Railroad unemployment insurance contributions ⁶
	Retirement and survivor	Disability ²					
Fiscal years:							
1955-56 ⁷	\$6,442,370		\$808,207	\$634,323	\$1,328,722	\$324,656	\$34,043
1956-57 ⁷	6,539,849	\$337,199	1,171,155	616,020	1,537,127	330,034	77,858
11 months ended:							
May 1956.....	5,890,279		763,098	580,572	1,316,581	323,362	31,345
May 1957.....	6,068,835		1,117,718	563,972	1,524,718	328,448	69,281
May 1958.....	6,569,246		1,140,525	532,178	1,491,838	334,735	83,629
1957							
May.....	1,141,249	122,338	67,058	83,134	322,447	1,400	12,048
June ⁷	471,013	65,737	53,437	52,048	12,409	1,586	8,577
July.....	365,882	38,768	51,752	19,359	173,916	754	765
August.....	829,053	112,664	75,757	83,581	283,805	822	11,065
September.....	433,600	54,899	102,791	53,858	10,495	683	12,650
October.....	341,408	34,791	118,472	30,740	116,175	726	810
November.....	626,362	80,422	100,782	68,796	195,684	739	10,173
December.....	345,063	42,822	123,493	49,177	12,067	687	13,830
1958							
January.....	267,657	36,189	121,885	18,721	78,772	53,272	532
February.....	886,581	119,443	113,282	77,722	136,658	269,024	7,935
March.....	598,151	74,963	103,610	42,977	8,651	4,691	15,176
April.....	747,075	83,350	121,330	17,051	179,064	1,685	810
May.....	1,128,413	154,760	107,369	70,197	296,553	1,651	9,883

¹ Represents contributions of employees, employers, and the self-employed in employments covered by old-age, survivors, and disability insurance (beginning December 1952, adjusted for employee-tax refunds); from May 1951, includes deposits in the trust fund by States under voluntary coverage agreements; beginning January 1951, on an estimated basis, with suitable subsequent adjustments.

² Under the 1956 amendments to title II of the Social Security Act.

³ Represents employee and Government contributions to the civil-service retirement and disability fund.

⁴ Represents deposits in State clearing accounts of contributions plus penalties and interest collected from employers and, in 3 jurisdictions, contributions from employees; excludes contributions collected for deposit in State temporary disability insurance funds. Data reported by State agencies.

⁵ Represents taxes paid by employers under the Federal Unemployment Tax Act.

⁶ Beginning 1947, also covers temporary disability insurance.

⁷ Except for State unemployment insurance, as shown in the *Final Statement of Receipts and Expenditures of the U.S. Government*.

Source: *Monthly Statement of Receipts and Expenditures of the U.S. Government* and other Treasury reports, unless otherwise noted.

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⁵ Represents taxes paid by employers under the Federal Unemployment Tax Act.

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⁷ Except for State unemployment insurance, as shown in the *Final Statement of Receipts and Expenditures of the U.S. Government*.

Source: *Monthly Statement of Receipts and Expenditures of the U.S. Government* and other Treasury reports, unless otherwise noted.

WORKMEN'S COMPENSATION

(Continued from page 16)

insurance that sufficient administrative funds will be available for essential services.¹⁷ Despite the pleas of State administrators, no State has changed its method of financing during this period, though the proportion of aggregate costs that are defrayed through assessments has shown some increase.

Summary

In absolute figures, workmen's compensation statistics for the past decade have revealed a steady growth in operations, but when they are related to other indexes of economic change, it is evident that the real position of the program has changed very little. Thus, coverage estimates show no appreciable change from 1946 to 1956 in the proportion of the

labor force protected (77-80 percent), although the number of workers covered in an average month increased by about 9 million. Aggregate benefit payments since 1946 have risen by 130 percent but as a percent of payroll have remained at slightly less than 0.6 percent. The annual cost to employers has stayed at slightly less than 1 percent of payroll, although it has increased from an estimated \$726 million to \$1,630 million.

Workmen's compensation data also reflect a considerable stability in administrative and insurance arrangements. The proportions of benefits that are underwritten by private carriers (62 percent), State funds (26 percent), and self-insurers (13 percent) have remained constant in recent years. The ratio of benefits to premiums (loss ratio), despite yearly fluctuations, reveals consistent differences between private carriers and State funds. The ratio of administrative expenses to pre-

miums (expense ratio) has varied only slightly—35-39 percent for stock companies, 23-25 percent for mutual companies, and 12-15 percent for State funds (including an estimated allowance for loss adjustment expenses).

An exception to the more static aspects of workmen's compensation has been in the area of individual cash benefits payable. The proportion of wage loss compensated fell sharply from 1939 through 1953. Statutory increases in the maximum level and duration of benefits for temporary and permanent disability and for death cases since 1953 reversed the trend. These improvements, however, have not yet restored the relationship between wage levels and benefits existing before World War II. Even if the value of medical benefits were counted, the evidence today is that the average worker is still meeting out of his own resources the larger share of the cost of work injuries.

¹⁷ Department of Labor, Bureau of Labor Standards, *Workmen's Compensation Problems, IAIABC Proceedings—1955* (Bulletin 186), page 5.