

COMPENSATION EXPENSES PER POLICY

BY

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In view of the recent history of compensation underwriting results and the attendant activity to stem the tide of loss in surplus, it is natural to find that most of the progress in casualty actuarial science as applied in late years to workmen's compensation has been concentrated in the development of rate making plans. Through the force of circumstance, the problem of compensation rate level has come to be regarded as supreme when, in more rational times, there undoubtedly would have been a well-rounded evolution of rate-making theory, including not only the procedure for determining general rate levels but also the adjustment of the premium of the individual risk to conform more closely to its probable cost. Experience rating and the small risk problem are two fields for study which are destined to receive increased consideration as soon as the rate level question becomes reasonably stabilized. As a matter of fact, the pressure for a more equitable treatment of the individual risk can be discerned in such comparatively recent expedients as the rating plans for transportation risks, house wrecking operations and the methods of dealing with occupational disease hazards. It is the purpose of this paper to direct attention to another development of recent months which may offer some basis for further progress, particularly in the solution of the small risk problem. This is the analysis of countrywide compensation expenses which was compiled by the Pennsylvania Compensation Rating and Inspection Bureau in the summer of this year.

The Pennsylvania study of expenses was initiated because of dissatisfaction with certain Pennsylvania minimum premiums which appeared excessive to some assureds when compared with the inadequate minimum premiums of an adjoining state. The existing Pennsylvania minimum premiums were derived by a formula which prescribed that to the average loss cost per minimum premium risk, loaded by the standard percentage for expense, there should be added a \$10 constant to offset the deficiency in the provision for expenses which would otherwise exist. In order to examine the propriety of the constant used in the minimum premium formula, an experience call was issued by the Pennsylvania Bureau to all compensation carriers operating in

the state. Using countrywide compensation expenses of calendar year 1933 as reported in Pennsylvania Schedule "W", the carriers were requested to segregate from their total administration and payroll audit expenses, those expenses which are directly associated with the number of policies being handled. These expenses may be further defined as those which are independent of the size of the policy premium. To facilitate this division of expense by the carriers, a call for experience was set up in detail and a standard method outlined for treating overhead expense and expense items less susceptible to definite allocation. Carriers were permitted to depart from the standard form if, in their judgment, a different basis for attaining the expressed purpose of the call was better suited to their methods of operation.

To gain a complete understanding of the treatment of expenses proposed in the call, it is necessary to refer to the report blank and accompanying instructions which are reproduced in an appendix to this paper. Briefly the method for dealing with administration expense consisted in first analyzing salaries of departments with definite and limited functions. The ratio of per policy expense to total expense developed by these data was used in splitting other salaries, such as those of general service and supervision. Certain expenses, other than salaries, were likewise treated by dividing them in proportion to the indicated ratio of the first group. Other non-salary expense items were divided according to specified percentages or by percentages which in the judgment or experience of the carrier were more properly related to its individual requirements. In the analysis of administration expense certain items were divided according to the judgment of the carrier as influenced by a special investigation or study of the operations. Payroll audit expenses were segregated practically in entirety on a judgment basis as there appears to be even less uniformity in company practice in handling this work than there is in purely administrative functions. In addition to the breakdown of administration and audit expense, the call provided data from which could be developed an average cost of an inspection of a compensation risk. There was also required the net number of compensation policies (excluding Not Taken policies) issued during calendar year 1933. The intent was to develop an average administration and audit cost per policy by dividing total expenses assignable per policy by the net number of policies

written. This was to be utilized in testing the propriety of the constant incorporated in the minimum premium formula.

Obviously, the cost per policy developed in this way closely approximates in principle the expense constant of the national rate-making procedure as adopted several years ago and in use in the majority of states at the present time. There are two fundamental differences involved in the present study as compared with the original conception and definition of the expense constant. In the first place, the expense constant was set up as the minimum cost of issuing any compensation policy. With a difference of opinion among carriers as to the necessity for introducing the expense constant into the premium basis, this definition produced confusion as to just what constituted the minimum expense of issuing a compensation policy. Some carriers were inclined to regard the minimum cost as of no greater significance than the next-to-the-last straw on the camel's back, while others attached considerably more importance to the minimum cost per policy. The Pennsylvania study has developed a cost per policy which is the average cost of those administration and audit expenses which are independent of risk size. It would appear as though this latter definition possesses advantages over the original conception both as to definiteness and adaptability to expense constant purposes. Another departure from the original conception of the expense constant which is worthy of note is that the cost per policy developed from the Pennsylvania study automatically includes a loading for the expense of Not Taken policies if the average cost is figured by using the net number of policies excluding Not Takens. The expense of Not Taken policies is unavoidable and should be considered as a part of overhead expense and so distributed. Since the expense constant is a definite part of the premium income, the constant should bear its share of this cost. It is doubtful if the original expense constant estimates gave due weight to this source of expense.

The Pennsylvania study is notable as a progressive attempt further to analyze experience with a view to a more equitable allocation and assessment of expenses. Considering the wide difference in types of carriers, classes of business written and methods of operation among the carriers responding to the call, it is remarkable that the results of the final compilation, embracing such a large proportion of the business, are relatively consistent.

The total 1933 compensation earned premiums of carriers whose figures were reported in sufficient detail to be included in the combined data amount to \$106,305,766. This compares with a total of \$111,000,000 of compensation premiums earned in 1933 by carriers operating in Pennsylvania and with \$113,000,000 of compensation earned premiums for the same year of carriers entered in New York State.

Although the division of administration and audit expenses between expenses assignable per policy and other expenses admittedly involved a considerable measure of judgment on the part of individual carriers, the aggregates based on such a large volume of exposure represent at least a dependable consensus of the best judgment of the carriers and are entitled to a reasonable degree of credibility.

The results of the call were reviewed by the Actuarial Committee of the Pennsylvania Bureau. The figures were examined by groups of carriers combined according to their average size of premium, the proportions of per policy expenses to total expenses were compared and the indicated average costs per policy reviewed. The reports of non-participating carriers were studied separately from those of participating carriers. As might be expected in a review of countrywide expense data of stock, mutual and state fund carriers, each with varying distributions of risks both as to size and classifications, there were many differences disclosed in the proportion of expenses assignable per policy. It was concluded that, although the data collected left much to be desired in the way of statistical exactness, the results represented the best evidence thus far available as to the average flat cost per compensation policy for all carriers.

The results of the call in summary form are as follows:

Calendar Year 1933 Countrywide Compensation Earned Premiums of 47 Carriers.....	\$106,305,766
Countrywide Expenses of Administration and Audit as reported in Penna. Schedule W:	
Total Administration	\$ 8,142,147
Total Payroll Audit.....	3,023,308
Net Number of Policies Issued (excl. Not Takens) ..	650,365
Countrywide Expenses Assignable per Policy as reported in Special Call:	
Administration	\$ 3,621,993
Payroll Audit	1,879,233
Average Expense per Policy:	
Administration	\$5.57
Payroll Audit	2.89
	<u>\$8.46</u>
Countrywide Inspection Expenses.....	\$ 2,449,335
Number of Compensation Inspections.....	430,748
Average Cost per Inspection.....	\$5.69

The amounts of average expense per policy developed from these figures compare closely with the provisions for administration and audit expense contained in the basic \$10 expense constant of the national rate-making program.

	Expense Constant	Experience Cost
Administration	\$5.00	\$5.57
Payroll Audit	3.00	2.89
Total	\$8.00*	\$8.46

NOTE: This amount loaded 20% for acquisition costs and taxes results in a gross constant of \$10.

It is apparent that the provisions for administration and audit expense in the standard expense constant are no more than adequate when judged in the light of all carriers' figures. If provision should be made in the expense constant for one inspection every two or three years as some have advocated, it would be necessary to include a half or a third of the average cost of an inspection of a small risk. The average cost of an inspection as reported by the non-participating carriers who write a preponderance of small risks amounted to \$5.25. A reasonable allowance for inspection cost, therefore, might be a third of this figure or \$1.75. If this were added to the \$8.46 cost per policy of administration and payroll audit expense making a total of \$10.21, a gross constant of \$12.76 would be required in order to provide these net amounts after payment of acquisition costs and taxes.

Recently a further analysis of the administration cost returns has been made with a view to reconciling the figures of non-participating and participating carriers. Obviously, if there exists a basic minimum cost of issuing a compensation policy, we should expect to find evidence of a similarity of cost among various carriers and, if parallel characteristics are displayed by the returns of carriers which differ as materially in their basis of operations as non-participating and participating carriers, then it may be concluded that the existence of a fundamental cost per policy has been demonstrated. As a basis for this study, the expenses assignable per policy for individual subdivisions of administration expense were divided by the net number of policies for each group of carriers. This produced the following results according to subdivisions which correspond to the set-up of the basic call.

COMPENSATION EXPENSES PER POLICY

Items of Expense	Average Cost per Policy of Expenses Assignable per Policy	
	Non-Participating	Participating
Underwriting Salaries (incl. Rating, Policy Writing, Index and Proposal File).....	1.53	.97
Statistical Salaries (incl. Risk Experience, Duplicating and Tabulating).....	.56	.56
Accounting Salaries.....	.64	.64
Other Salaries of Special Units.....	.16	.13
Executive Salaries.....	.57	.52
Other Salaries of General Service and Supervision	.37	.37
Travel Expense19	.21
Rent71	.38
Furniture and Fixtures.....	.13	.17
Employee Welfare and Insurance.....	.22	.12
Policy Forms and Printing.....	.48	.42
Postage, Express, and Miscellaneous Expense....	.16	.05
Total.....	5.72	4.54
Average Cost per Policy All Companies.....	5.57	

There are only three items which show a proportionately large disparity between the figures of the two groups of carriers. The agreement among the other items is remarkably close. The underwriting expense of the non-participating carriers is materially higher than the corresponding cost of the participating group. A partial explanation of this may lie in the proportion of Not Taken policies which, in the case of the non-participating carriers, is more than double that of the participating group. It may be expected that most of the expense of Not Taken policies is concentrated in underwriting and allied operations. The element of rent is another point at which the participating cost appears to be considerably less. The non-participating companies with their agency connections and close contact with the public usually require central locations at higher rental values than do participating carriers operating without the service of agents and in some instances transacting much of their business by mail. The charge per policy for employee welfare and group insurance also appears to involve a considerable difference. In this connection, it is interesting to note that the charge per policy for insurance (group life, liability, compensation, fidelity, etc.) was practically identical for the two groups and that the other welfare work of the non-participating carriers largely accounts for the difference. With the exception of these few items, there is a

reasonable degree of similarity in the expenses of the two groups of carriers for other items.

It is impossible to analyze in a similar way the returns on payroll audit expense because of the manner in which this was reported in the original call. It is of passing interest to note that, whereas the non-participating payroll audit cost per policy amounted to \$3.11 as compared with \$1.40 for participating carriers, the average cost of an inspection (based on risks of all sizes) was \$5.25 for non-participating carriers as compared with \$7.40 for participating carriers.

In the discussion and study of returns by the Pennsylvania Bureau Actuarial Committee several points were raised tending to discredit the value of the results of the call. For example, it was suggested that for some carriers Pennsylvania Schedule "W" expenses do not correspond with actual compensation disbursements because compensation administration expenses are required by Schedule "W" to be obtained by pro rating total administration expenses in accordance with earned premiums by line. Whereas this contention may be well founded for individual carriers, it appears to lose its force as applied to the aggregate figures of all companies. Another point which was raised is that in the case of carriers writing many lines of insurance, it is difficult to obtain a proper analysis and division of expenses by line of insurance. Here, again, it may be reasoned that differences introduced in the returns of individual carriers from this source are probably well dissipated in the combined figures for all companies. The expense call as issued was designed to tie in with Pennsylvania Schedule "W" expenses. Schedule "W" provides the basis for the expense loading of compensation insurance and, if a departure is made from the standard expense loading of 40%, it is to be expected that justification for the change will be based on Schedule "W" returns.

The Pennsylvania study of expenses constitutes a distinct step forward toward the goal wherein each compensation risk pays its proper share of losses and expenses. The small risk will find a free market for insurance and the incentive for competitive abuse in the underwriting of large risks will disappear with the correction of the maladjustments in existing manual rules and rates. Although much remains to be explored in the field of expense analysis the current study presents clear-cut evidence

that there is a material expense involved with the issuance of any compensation policy. The elements of this cost per policy are reasonably consistent in amount for different types of carriers. In view of these facts the compensation rating structure should be so arranged that, in lieu of assessing all expenses as a percentage of premium, every risk should be charged with an expense constant as part of its contribution toward the expense of administration, payroll audit and possibly inspection. It is hoped that a discussion by the members of this Society of the facts set forth in this paper will lead to a better understanding of the subject and will give impetus to an improvement in rating methods which in the writer's opinion is certain to be recognized ultimately as of vital importance in compensation insurance.

APPENDIX

SPECIAL CALL FOR 1933 INCURRED EXPENSES WORKMEN'S COMPENSATION PENNSYLVANIA COMPENSATION RATING AND INSPECTION BUREAU

Purpose

The structure of Pennsylvania minimum premiums is based on the principle that there exists a basic expense cost per policy which is independent of the exposure to hazard as measured by payroll and rate. Certain elements of administration expense and payroll audit cost are largely the same for each risk and have no relation to the premium size of the individual risk. The present call for expenses is designed to obtain a segregation of these expenses from other administration and payroll audit expenses which are appropriately considered to vary with the amount of premium. The returns of this call are intended to provide a basis for determining a "per policy" cost which will conform to the actual experience of all companies as to administration expenses which are properly assignable on a per policy basis.

Description of the Call

The present call is divided into several parts to facilitate the preparation of the report.

General Items—This call is based on the countrywide writings and expenses of each company and does not require a segregation of the results for Pennsylvania alone. The total amount of expenses for administration and payroll audit combined shown in Column 2 of this report should agree with the amount of general administration expense as reported in the Pennsylvania Special Schedule W—1933, Part I, Item 13.

Part I—Salaries of Units with Limited Functions—The units listed under this part consist of those whose functions are most clearly defined and the expenses of which are most susceptible to a definite separation between expenses assignable on a per policy basis and expenses assignable by premium ratio. In connection with a number of the items in this part, it is intended that the reporting company should make an investigation as to the proper division of expenses inasmuch as company practice varies considerably in the method and expense of these operations. Suggestions for conducting these special investigations are contained in a later section of this memorandum.

Part II—Salaries of General Service and Supervision—These items consist of salaries expended in supervision or in general service to other units. It is recommended that the salaries of Part II be pro-rated between per policy charges and premium ratio charges in accordance with the proportion of these expenses as developed by Part I.

Part III—Administration Expenses Other Than Salaries—It is recommended that certain of these expenses be distributed in proportion to the totals of Part I, whereas other expenses should be dealt with individually.

Part IV—Payroll Audit Salaries and Expenses—The division of expense between per policy charges and premium ratio charges should be made as a result of special investigations conducted by the reporting company.

Part V—Inspection and Accident Prevention Expense—In addition to the amount of this expense the report calls for the number of compensation inspections made during the year 1933 countrywide.

Special Investigations

In Parts I and IV of the attached call, it is recommended that a separation of expenses between amounts which should be allocated on a per policy basis and amounts which should be allocated by premium ratio be determined by special investigation. Special investigations are essential because company practice is not standardized in these operations and the proportions of costs proper for one company may be considerably different than those for other companies. In conducting these special investigations, it is suggested that a detailed study be made of the activities of individual clerks or groups of clerks who are engaged in the operations described. The salary cost of clerks who are working with losses or loss reserves should be assigned entirely to the premium ratio classification. The operations of clerks handling individual premium items or any material connected with individual policies should be studied to determine what proportion of their time is spent on items independent of the size of the premium and the salaries split accordingly. In many companies several of the operations listed in Part I are handled in combination and in such cases it is proper to report these items in combination. In the case of clerks engaged in several operations, it will probably be advantageous to divide the clerk's time first by operation before attempting to make the division between per policy and premium ratio charges. Each company should study its own procedure in order to properly determine the allocation of the expenses between those assignable on a per policy basis and those which vary with the amount of premium.

Preparation of Report and Date of Filing

It is not intended that reporting companies shall be restricted to use the basis of allocation suggested in the attached report provided a different method is more appropriate in the judgment of the company for its own procedure. However, in all cases where a departure is made from the recommended basis of allocation, a description of the method followed should be outlined in a memorandum attached to the filing. This report, completely filled out and attested, should be filed with the Pennsylvania Compensation Rating and Inspection Bureau not later than June 30, 1934.

SPECIAL CALL FOR 1933 INCURRED EXPENSES — WORKMEN'S
COMPENSATION

Pennsylvania Compensation Rating and Inspection Bureau

Report of.....Company

COMBINED REPORTS OF FORTY-SEVEN CARRIERS

General Items:

- (a) Net number of compensation policies, excl. 94859 (No.) Not Taken, issued in 1933 — countrywide..... 650,365
- (b) Compensation countrywide premiums earned in calendar year 1933..... 106,305,766
- (c) Amount of 1933 General Administration Expense (incl. P. R. Audit) from Penna. Schedule W, Part I, Item 13..... 11,166,155

Name and Description of Operations (1)	Total Amount of Expense (2)	Suggested Basis of Allocation (3)	Amount of Expense	
			Per Policy Basis (4)	Prem. Ratio Basis (5)

Part I—Salaries of Units with Limited Functions:

1. Home Office Agency — Preparation of agency contracts and maintenance of agency records.	242,251	100% Premium Ratio		242,251
2. Publicity—Public relations and supervision of advertising.	60,300	100% Premium Ratio		60,300
3. Underwriting — Review of risks, correspondence, etc.	1,145,473	Special Investigation	586,543	558,930
4. Rating—Schedule and experience rating calculations.	200,946	Special Investigation	61,065	139,881
5. Policy Writing—Typing of contracts, endorsements, etc.	186,490	Special Investigation	147,608	38,882
6. Index File—Registry of assureds.	83,948	Special Investigation	68,662	15,286
7. Proposal, Declarations or Application File or Vault.	115,319	Special Investigation	85,622	29,697

SPECIAL CALL FOR 1933 INCURRED EXPENSES — WORKMEN'S
COMPENSATION

Name and Description of Operations (1)	Total Amount of Expense (2)	Suggested Basis of Allocation (3)	Amount of Expense	
			Per Policy Basis (4)	Prem. Ratio Basis (5)

Part I—(Continued)

8. Individual Risk Experience Records — Posting experience — Summaries for underwriters and rating clerks, etc.	235,807	Special Investigation	82,944	152,863
9. Actuarial and Statistical — Bureau calls for experience, state tax records, reserves, etc.	473,760	Special Investigation	184,036	289,724
10. Duplicating and Photostat.	31,855	100% per Policy	27,138	4,717
11. Sorting and Tabulating—Punch cards.	153,941	50% per Policy	70,173	83,768
12. General Accounting—Collections, financial statements, reconciliation of bank accounts, Branch Office and Agency Accounts.	732,483	Special Investigation	418,428	314,055
13. Purchasing and Supply—Incl. distribution.	100,015	75% per Policy	72,495	27,520
14. Legal—Interpretation of contracts, litigation proceedings.	78,832	Prem. Ratio	6,704	72,128
15. External Audit — C. P. A. or stockholders' audit.	39,253	Prem. Ratio	593	38,660
16. Various.	39,007		19,602	19,405
17.				
18. Total Part I:				
(a) Amount	3,919,680		1,831,613	2,088,067
(b) Per cent	100.0	(4) ÷ (2) and (5) ÷ (2)	46.73	53.27

SPECIAL CALL FOR 1933 INCURRED EXPENSES — WORKMEN'S COMPENSATION

Name and Description of Operations (1)	Total Amount of Expense (2)	Suggested Basis of Allocation (3)	Amount of Expense	
			Per Policy Basis (4)	Prem. Ratio Basis (5)

Part II—Salaries of General Service and Supervision:

1. Personnel and Employment.	32,302	For all items in Part II, use Percentages developed in Part I, Item 18 (b)	14,645	17,657
2. Cashier's Dept.—Preparation of Home Office Payrolls, etc.	76,249		36,671	39,578
3. Building employees (not janitors) — Attendants, information desk clerks, library clerks, etc.	25,468	"	11,736	13,732
4. General Stenographic (not policy writing) —Special steno. work outside of routine.	145,143	"	76,532	68,611
5. Mail and General Files—Incl. storeroom clerks, distribution of mail and maintenance of files for records not current.	90,685	"	39,613	51,072
6. Telephone Exchange Operators.	33,888	"	15,135	18,253
7. Directors' Fees.	41,767	"	17,660	24,107
8. General Executive Officers, their clerks and stenographers, incl. Officers not in direct charge of Underwriting Departments.	782,238	"	369,129	413,109
9. Various.	49,723		27,018	22,705
10.				

SPECIAL CALL FOR 1933 INCURRED EXPENSES — WORKMEN'S
COMPENSATION

Name and Description of Operations (1)	Total Amount of Expense (2)	Suggested Basis of Allocation (3)	Amount of Expense	
			Per Policy Basis (4)	Prem. Ratio Basis (5)

Part III—Administration Expenses other than Salaries:

1. Home Office Travel Expense.	256,597	For items 1 to 6 of Part III use percentages developed in Part I Item 18 (b)	124,864	131,733
2. H. O. Rent — Incl. building maintenance.	902,775		437,353	465,422
3. Newspapers, Periodicals and Books.	16,993		8,289	8,704
4. Furniture and Fixtures and Repairs to same—Incl. rent of Tabulating machines, etc.	188,612	"	87,092	101,520
5. Employee Welfare—Medical and Hygiene Disability Benefits, Clubs and Cafeterias.	149,387	"	52,701	96,686
6. Insurance—Premiums for Group, Liability, Compensation, Fidelity and Surety and Fire Insurance (on building contents).	179,573	"	82,403	97,170
7. Postage.	164,829	100% Prem. Ratio	4,326	160,503
8. Telephone and Telegraph Charges.	114,980	100% Prem. Ratio	539	114,441
9. Advertising Costs.	188,034	100% Prem. Ratio	118	187,916

SPECIAL CALL FOR 1933 INCURRED EXPENSES — WORKMEN'S
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Name and Description of Operations (1)	Total Amount of Expense (2)	Suggested Basis of Allocation (3)	Amount of Expense	
			Per Policy Basis (4)	Prem. Ratio Basis (5)

Part III—(Continued)

10. Express and Freight Charges.	48,032	75% per Policy	21,355	26,677
11. Policy Forms, Print- ing, Office Supplies.	409,287	75% per Policy	305,261	104,026
12. Legal expense (excl. claim expense).	150,005	100% Prem. Ratio	2,809	147,196
13. Various.	177,100		55,131	121,969
14.				
15. Total Administration Salaries and Expenses —Parts I, II and III.	8,142,847		3,621,993	4,520,854

SPECIAL CALL FOR 1933 INCURRED EXPENSES — WORKMEN'S
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Name and Description of Operations (1)	Total Amount of Expense (2)	Suggested Basis of Allocation (3)	Amount of Expense	
			Per Policy Basis (4)	Prem. Ratio Basis (5)

Part IV—Payroll Audit Salaries and Expenses:

1. Home Office Payroll Audit Dept: (a) Salaries.	865,976	Special Investi- gation	512,694	353,282
(b) Rent.	104,529	Follow propor- tions in- dicated for Pt. IV, 1 (a)	60,687	43,842
(c) Travel.	132,561		80,646	51,915
(d) Other Expenses —Incl. Supplies.	63,642		37,605	26,037
2. Field Payroll Audit Dept.: (a) Salaries.	1,298,363	Special Investi- gation	838,174	460,189
(b) Rent.	78,360	Follow propor- tions in- dicated for Pt. IV, 2 (a)	53,084	25,276
(c) Travel.	417,350		259,425	157,925
(d) Other Expenses —Incl. Supplies.	62,527		36,918	25,609
3. Total Payroll Audit Salaries and Expenses —Total of Part IV, 1 and 2.	3,023,308		1,879,233	1,144,075
<i>Total Administration and Payroll Audit Salaries and Expenses—Pt. III (15) + Pt. IV (3).</i>	11,166,155		5,501,226	5,664,929

Part V—Inspection and Accident Prevention:

1. Amount of Inspection and Accident Preven- tion expense from Penna. Sched. W— 1933, Part I, Item (9).	2,449,335
2. Number of compensa- tion inspections coun- trywide made in cal. year 1933.	430,748

(AFFIDAVIT)