THE ALLOCATION OF ADJUSTING EXPENSE TO LINE OF INSURANCE

BY
WILLIAM B. BAILEY

The task of allocating to lines of insurance the expenses of a multiple-line company is not easy and yet it is imperative that it should be done with reasonable accuracy. There is no item of expense whose distribution to lines is more difficult than the cost of investigation and settlement of claims. Some expenses are incurred only in the field; others are confined to the home office; but here is one which extends to the entire territorial coverage of the company, and requires the services of a large force in the home office. It is not difficult to obtain a fairly correct total of the claim expense of a company and to divide this between field and home office. But when the attempt is made to break this down to lines of insurance, the trouble begins. It is not so difficult to obtain a fairly satisfactory distribution of the home office portion for much of the work there is assigned by lines to separate groups and the expense of supervision can be distributed as an overhead.

But to distribute correctly the expense in the field is a different proposition. In order to reduce the cost in the field every adjuster must be able to adjust all kinds of claims and it is an exceptional day when he works on only one class of claims. Then, too, many claims stretch over weeks, months, or even years before they can be definitely closed. And many cases are considered closed, only to be reopened at a later date. And yet this field adjusting expense must be distributed to line.

How shall it be done? All claim notices may be given equal weight and the expense distributed to line according to the number of notices. This is a simple method but open to objections which are apparent. Or the claim notices may be weighted according to the allowance in the rate or consideration may be given to the average size of premium. Or the adjusters may be asked to estimate the comparative time required to settle different kinds of claims and from a study of these answers a set of weights may be developed. These are all better than nothing but far from satisfactory.

In 1923 The Travelers Insurance Company started to experiment with this problem in the hope that ultimately a method might be developed which would give a maximum of accuracy with a minimum of expense.

The highest accuracy would be obtained if every claim representative in the field, whether adjuster, investigator, or clerk, kept a personal time sheet which would give a correct daily record of the time devoted to each line of insurance upon which any work was done. Accordingly four adjusting offices were selected and all the workers were asked to keep daily sheets which would tell how their time had been distributed to line of insurance for a period of three months. Since there were twenty-six lines of insurance under which claims were settled, it is easy to see that the sheets were rather complicated and the work in these offices slowed down a little.

Then too, the task of tabulating the material on the time sheets after they were received at the home office proved to be a time-consuming and expensive operation. A comparison of the results by adjusting offices showed differences which were not likely to be smoothed out unless a large number of offices were studied. Then there were seasonal variations in lines of insurance which could be removed only by carrying the study throughout an entire year. And one line of coverage might increase much more rapidly than others. This was undoubtedly the method of study to ensure accuracy but the technical difficulties inherent in it caused us to search for an alternate and simpler plan.

The next effort made to solve this problem was to attach a time sheet to each claim notice when the file was prepared in the field and to require every worker in the field who spent any time upon the case to make a note of the amount of time employed on the case together with the nature of the work done. Each entry bore the initials of the recorder.

During 1925 time studies of the claims reported during a three month period were made by this method in six adjusting offices. As the cases were closed the time sheets were sent to the home office for tabulation and after nine months had elapsed all the remaining sheets were called in with estimates made by the adjusters of the future work required on those which had not been closed.

When tabulation had been completed, it was discovered that

the cost of adjusting claims varied considerably by adjusting office but that there was a striking uniformity when the types of claims were considered. The same kinds of claims were the most expensive to adjust in all offices and the same types were the cheapest in all offices and when arranged in order of cost, the position by type of claim was quite uniform in the different offices.

Here was a method which possessed many advantages. The sheets were easily kept in the adjusting offices and easily tabulated in the home office. Seasonal fluctuations were practically eliminated because the expense would be distributed to line according to the average amount of time required to settle the different type of claims. The premium volume or accident frequency could increase or decrease without affecting the accuracy of the figures.

There was, however, one grave doubt which had to be removed before this method could be adopted. The expenses of an adjusting office should be distributed by line of insurance on the basis of all claims upon which work is being done in the office. This method considered only the claim notices originating during a period. Many of the claims upon which work is currently done in an office originated months or even years before and upon some of the claims work will be done months and years in the future.

The question now was whether the division to lines of the work in an adjusting office for a year would be nearly the same if the time spent upon (1) all the cases upon which work was done in the office for a twelve month period was compared with the work done upon (2) the cases which originated during that twelve month period and then these cases were followed to a conclusion, either by recording the actual work performed upon them until they were closed or following them for a nine month period and then estimating the amount of work required before they were ultimately closed.

Opinions differed upon this subject and it was decided to make an actual test. Accordingly one fairly large representative office was selected and white time sheets were attached to all cases which were open on April 1, 1926. Yellow time sheets were attached to all notices which were reported from April 1, 1926 to March 31, 1927. Upon the white and yellow sheets combined was a record of all the work done in this adjusting office during this twelve month period.

Upon March 31, 1927 the recording of time upon the white sheets ceased. Work done on the yellow sheets continued until November 1, 1927 when the adjuster was requested to estimate the time required to carry the cases which were still open to a conclusion.

Altogether 14,264 claim notices had work done on them during the year. Of this number 12,321 originated during the year and 1,943 were brought over from the previous year. Most of these brought over cases were compensation and liability.

Two tabulations were then made, one dividing to line of insurance all of the work done in this office during the twelve month period, the other dividing to line of insurance all of the cases which originated during the year and carried to a conclusion either by the closing of the case or by an estimate. The two sets of figures agreed so closely as to be almost uncanny. It was therefore apparent that we had at last discovered a plan which was easy and economical to operate and which would furnish the desired results.

The studies made in the adjusting offices up to this time had all pointed in the same direction, and had been quite uniform, but the spread had not been sufficient to warrant the distribution of the unallocated claim expense of the entire company upon such meager statistics. Accordingly time sheets were prepared and sent to all the adjusting offices in the country except[1] New York City and Brooklyn with instructions to attach one to all claim files prepared on notices reported during the months of May and June 1927. These sheets were printed on yellow paper in order that they might stand out from the other sheets in the file and directions were given that this sheet should be upon the top of the file at all times.

On this sheet were recorded the name of the adjusting office, the claim file number, the date on which the report was received, the kind of policy, or insurance, and the character of the claim. The sheets were divided into three main divisions corresponding

[1]New York City and Brooklyn were not included in the study because the work in these adjusting offices was divided into units handling separate lines of insurance so that the expense of these offices could be allocated to line. Hereafter in this discussion whenever reference is made to the work in the field it should be borne in mind that claim notices reported to the adjusting offices of New York City and Brooklyn are not included.

TABLE I

PERCENTAGE DISTRIBUTION BY LINE OF INSURANCE OF TIME USED BY ONE REPRESENTATIVE ADJUSTING OFFICE

Line of Insurance	Notices Received in Office April 1, 1926 to March 31, 1927 Followed to November 1, 1927 and Then Estimated Ratio to Total			All Claims on Which Work was Done April 1, 1926 to March 31, 1927 Ratio to Total		
	Adjusting	Clerical	Travel	Adjusting	Clerical	Travel
Life	3.53%	5.35%	6.58%	3.02%	4.58%	5.14%
Accident and health	19.46	23.03	21.79	19.99	23.29	21.79
Workmen's compensation	27.82	37.38	20.34	29.65	39.78	23.04
Employers' liability						
Liability other than auto	3.72	2.96	2.30	3.57	2.75	2.16
Auto liability	11.57	6.86	12.00	11.73	6.46	11.47
Property damage other than auto	.83	.66	.47	.72	.60	.41
Auto property damage	28.37	19.66	31.52	26.65	18.60	31.20
Auto collision	.73	.44	.84	.77	.47	.72
Burglary	.79	.51	1.00	.78	.50	.93
Plate glass—Regular	.90	.80	.95	.95	.81	1.14
Auto plate glass	.46	.68	.44	.45	.67	.41
Steam boiler	.32	.17	.59	.34	.16	.55
Machinery	.12	.02	.15	.11	.03	.14
Fire	1.38	1.48	1.03	1.27	1.30	.90
Total	100.00	100.00	100.00	100.00	100.00	100.00

with the nature of the claim. One division was for accident, death, or sickness to be used when the claim related to the individual; the second for theft, property damage, fire, etc., where the claim was for loss or damage to property; and the third was for automobile collision. The third column was made necessary because there were some automobile accidents from which claims for personal injury, property damage, and collision resulted.

Each one of these three main divisions was sub-divided into three groups to show the number of minutes of (1) investigating and adjusting time, (2) clerical time, and (3) travel time spent upon that claim. The individual working upon this claim recorded the date on which this work was done, the nature of the work performed, and the number of minutes spent upon this work and this last must be assigned to the proper column. This time sheet was not to be detached from the file and everyone doing any work of any kind upon this file had to make the proper entries until the case was closed. When this was done the time sheet was detached and sent to the home office for tabulation. If cases were reopened a new time sheet with the identical headings of the original sheet and marked "Reopened" was to be attached.

A week after this study started, sheets began to reach the home office. These increased in number until the maximum was reached in July. In November 75,620 time sheets on closed cases had been received. Since it was evident that in certain lines a number of notices sufficient to give a satisfactory basis for an average would not have been reported during May and June, the study was continued upon certain lines such as burglary, boiler, and machinery.

On November 15 the adjusters were directed to make an estimate of the amount of time which would be required to complete the settlement of those cases which were still open upon this date. Estimates to the number of 2,561 were received. The largest number of these estimates was in the following lines:

Compensation	768
Auto property damage	356
Auto liability	302
Liability other than auto	102

These estimates were recorded on separate work sheets including the file number. This was done in order that when the

case was closed the actual time required for adjustment might be substituted for the estimate.

As soon as the information upon the time sheets carrying an estimate was drawn off, the sheets were returned to the adjusting offices to be attached again to the files and to receive the record of the time spent upon them until the cases should be finally closed.

The time sheets were tabulated separately for each adjusting office and recorded for twenty-six different lines of insurance. The total number of minutes spent upon each line of insurance was found for every adjusting office in the country. These adjusting office totals were then combined in the grand totals for the entire country which gave the total number of claim notices and the total number of minutes spent upon them by line of insurance.

Thus 20,734 auto property damage notices were received during this period upon which 1,131,177 minutes of adjusting and investigating time was spent, 342,958 minutes of clerical time, and 160,987 minutes of travel time. This gives an average of 54 minutes of adjusting time, 16 minutes of clerical time, and 7 minutes of travel time expended in the field upon each auto property damage claim notice. The same procedure was used for every line of insurance.

The average amount of time required upon all of the claims studied was 52 minutes of adjusting time, 19 minutes clerical time, and 7 minutes of travel time. For the casualty lines in which you are interested, the average number of minutes of adjusting time was 56 minutes, the clerical time 22 minutes, and travel 7 minutes.

As far as investigating and adjusting was concerned, the most expensive line was burglary with 181 minutes followed by automobile liability 167 minutes, liability other than auto 105 minutes, while the cheapest were employers' liability 33 minutes, compensation 27 minutes and auto plate glass 20 minutes.

Burglary and compensation are the lines where clerical expense per notice is the greatest.

When the average amount of adjusting, clerical, and travel time on each type of claim had been determined, the total number of claim notices reported for the twelve months in the entire country was distributed to line of insurance and the number in

each line was multiplied by the corresponding average to determine the total number of minutes spent upon the adjusting of claims in each line of insurance for the entire country. Thus there were 102,483 auto property damage notices received for the entire country during the year. Using the 54 minutes average per claim notice developed in the time study, 5,534,082 minutes of adjusting and investigating time was spent upon auto property damage claim notices.

Altogether 22,454,830 minutes of the time of adjusters and investigators was required upon all claim notices of all types reported during the year. Therefore 24.6% of the salaries of adjusters and investigators in the field should be charged against auto property damage. The same procedure was followed for the clerical time and the salaries of the clerks in the adjusting offices were allocated to lines of insurance in the same way. Travel expense followed the distribution of travel time by lines of insurance.

A study was made of the arrangement of the adjusting offices in the field and it was found that 67% of the space was assigned to adjusters and investigators while 33% was assigned to clerks. Therefore in the distribution of rent to line of insurance, twice the weight was given to the adjusting ratios that was given to the clerical ratios. The miscellaneous expenses of the office followed rent.

The work of the chief adjuster in each adjusting office consists in general supervision of the work of the office and a review of claim settlements in all lines. The salaries of the chief adjusters were therefore spread as an overhead following the ratios developed by the time studies of investigating and adjusting.[1] The expenses of the adjusting offices in New York City and Brooklyn were now added to complete the picture of the field.

Having completed the distribution to line of insurance of the adjusting expense in the field, there remained the problem of the allocation to line of the home office expense. This was very

[1] In Table II is given the number of claim notices in the casualty lines for the entire country for 1927, the average number of investigating and adjusting minutes per claim notice, the total number of minutes employed on each line, and the percentage distribution of this time to line of insurance.

In Table III the same information is given for clerical time.

simple for the supervisory force since separate groups had charge of different lines of insurance. Where a group had charge of more than one line as was the case with automobile insurance, their salaries were assigned to line according to the figures developed by the time study of investigators and adjusters in the field. The clerical work in the home office follows closely the clerical work in the field and therefore the ratios developed from the time study of the clerical force in the field were used to distribute to line the expenses of the clerks in the home office.

Claim department rent and miscellaneous expense in the home office followed the distribution of the salaries. The addition of the home office and field charges gave the major part of the expense in dollars and cents for the adjusting work of the company allocated to lines of insurance.

When the bureau charges and the legal claim expense had been included the work was done.

The table below shows for the casualty lines the loss expense ratio to earned premiums. Legal claim expenses are included.

Line of Insurance	Earned Premiums	Loss Expenses	Loss Expense Ratio
Workmen's compensation	24,013,367.27	1,781,043.04	7.42
Liability other than auto	6,522,166.49	838,022.05	12.85
Auto liability	15,818,590.03	1,389,767.52	8.79
Auto property damage	6,036,232.86	997,071.36	16.52
Auto collision	1,353,221.43	64,596.53	4.77
Property damage and collision other than auto	356,067.17	35,727.64	10.03
Burglary	2,439,909.97	91,242.58	3.74
Plate glass	869,210.17	67,614.37	7.78
Steam boiler	838,513.63	7,875.53	.94
Machinery	151,956.22	3,336.30	2.20

There are several rather significant facts which were brought to light as a result of this study. Auto liability and liability other than auto furnished less than 10% of the claim notices in the casualty lines and yet required over 28% of the time of the adjusters and investigators to settle them. Auto property damage with 29% of the claim notices required more of the adjusters and investigators time than the compensation with over 53% of the total notices in the casualty lines.

	Distribution of Claim Notices in the Field	Distribution of Adj. & Inv. Time in the Field	Distribution of Clerical Time in the Field
Workmen's compensation	53.24%	29.33%	57.74%
Employers' liability	2.03	1.37	1.78
General liability	4.20	8.99	4.28
Auto liability	5.71	19.44	7.48
Property damage other than auto	1.02	1.29	.84
Auto property damage	28.99	31.89	22.49
Auto collision	1.54	2.26	1.20
Burglary	.96	3.53	2.18
Plate glass—regular	1.58	1.51	1.46
Auto plate glass	.50	.20	.32
Steam boiler	.14	.21	.15
Machinery	.09	.08	.08
Total	100.00	100.00	100.00

From the field study it is evident that the adjusting cost is lowest in the South and West and highest in the metropolitan districts. This is particularly true of the automobile and liability lines where every claim notice bears a threat of suit and the investigation must be made with great care.

It may also be stated as a general rule that where an adjusting office is low in the cost of settling one kind of claim, it is low in all lines. Thus in adjusting offices of four large metropolitan centers, the average cost of settlement was considerably above the country average in every line. On the other hand two southern offices were considerably below the average for all lines. In fact, the average cost of adjusting in the first group of offices was more than twice that in the second group.

As was to be expected, travel expense was lowest where the territory was the most restricted and the population the densest.

The standard deviation from the average time required to adjust a claim was greatest in the automobile lines and least in plate glass. Compensation showed a considerable number of cases in which the settlement was very simple and consisted principally in the payment of medical, and a few cases which are likely to stretch over years before they can be finally closed.

These figures are offered to your consideration not because they are accurate but because they are the result of a painstaking effort to arrive at the truth. Certain mistakes were made which can be avoided in another study. As actual figures take the place of estimates in the few cases still outstanding, we shall get closer to

the truth. It is to be hoped that this description of the efforts of one company to approximate more nearly the truth will lead other companies to investigate still further along the same line and to share their methods and results with the members of this Society. In this way we may in time develop improved methods of handling this extremely difficult problem in insurance accounting.

TABLE II

TIME USED TO INVESTIGATE AND ADJUST CLAIM NOTICES IN THE FIELD, ENTIRE COUNTRY, 1927

	Number of Claim Notices	Average No. Minutes Per Claim Notice	Total Number of Minutes	Percentage Distribution to Line
Workmen's compensation	188,218	26.9	5,074,033	29.23
Employers' liability	7,195	33	237,435	1.37
General liability	14,852	105	1,559,460	8.99
Auto liability	20,207	167	3,374,569	19.44
Property damage other than auto	3,609	62	223,758	1.29
Auto property damage	102,483	54	5,534,082	31.89
Auto collision	5,445	72	392,040	2.26
Burglary	3,386	181	612,866	3.53
Plate glass—regular	5,581	47	262,307	1.51
Auto plate glass	1,775	20	35,500	.20
Steam boiler	489	74	36,186	.21
Machinery	310	45	13,950	.08
Total	353,550	49.1	17,356,186	100.00

TABLE III

CLERICAL TIME CONSUMED ON CLAIM NOTICES IN THE FIELD, ENTIRE COUNTRY, 1927

	Number of Claim Notices	Average No. Minutes Per Claim Notice	Total Number of Minutes	Percentage Distribution to Line
Workmen's compensation	188,218	22.3	4,208,959	57.74
Employers' liability	7,195	18	129,510	1.78
General liability	14,852	21	311,892	4.28
Auto liability	20,207	27	545,589	7.48
Property damage other than auto	3,609	17	61,353	.84
Auto property damage	102,483	16	1,639,728	22.49
Auto collision	5,445	16	87,120	1.20
Burglary	3,386	47	159,142	2.18
Plate glass—regular	5,581	19	106,039	1.46
Auto plate glass	1,775	13	23,075	.32
Steam boiler	489	23	11,247	.15
Machinery	310	19	5,890	.08
Total	353,550	20.6	7,289,544	100.00