REPORTS OF CASUALTY INSURANCE— LOSS RESERVE SCHEDULES

BY

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The sessions of the National Convention of Insurance Commissioners, the insurance press and financial reports have given considerable time and space to the question of proper admitted values to be placed on bond and stock assets of casualty and surety companies. The total on the balance sheet known as "Admitted Assets" has been in the limelight since market disturbances began but on the liability side, "Total liabilities, except Capital and Surplus" has remained in the background. Each year, the Committee on Valuations has a report to make which is the principal topic under discussion at the December meeting of the commissioners but the standing committee on Reserves Other Than Life has had no report in the proceedings on the matter of loss reserves since 1917. When financial strength and solvency are under consideration, proper reserve or liability values are as important as asset values.

In the auditing of annual statements of casualty and surety companies by state supervisors, examiners and company executives, the asset schedules are carefully scrutinized, but observation has shown that the schedules supporting liabilities are in many cases examined only as to the totals that are carried into page five of the statement. The construction of these loss reserve schedules and the past history they reveal as to inadequate reserves in prior years' statements has, very often, escaped notice or comment. Schedules G, J, K, O and P are as important as Schedules A, B, C, D and N.

The construction of Schedule P should prove to be of more interest to the student than any of the other loss reserve schedules. At the outset, it is well to know if the company writes at full manual rates and is careful in the selection of risks or if the rates charged are of its own promulgation or a deviation from manual.

The excess of the grand total of gross premiums written as shown in Column 1 over the previous year's grand total should agree with the net writings appearing as income on page two, Items 7 and 8. The distribution to policy years of the calendar year's net premium income should be verified through the amounts appearing in footnote (a) on page two of the annual statement. The earned premiums represented by the grand total of Column 2 of the schedule subtracted from the grand total of Column 1 should equal the unearned premium reserve, Items 22 and 23 of the Recapitulation on page seven. If no policies are written which run more than one year from date of policy then the entire difference or unearned premium reserve is found to be in the last policy year. A participating company which has charged in its premiums a loading solely for dividends, such loading having been approved, may show a greater difference between the two grand totals than the amount of the unearned premiums due to the deduction of such loading or dividends from the earned premiums shown in Column 2.

The excess of the grand total of liability loss payments over the grand total of Column 3 in the previous year's schedule should agree with the net losses paid, Items 4 and 5, page three. The distribution of these loss payments to policy years can be approximately verified by comparing the additions to the several policy years with the decreases in the unpaid losses of the respective policy years as shown by Column 12 for the two years.

The excess of the grand totals of the allocated and unallocated loss expense payments over the previous year's grand totals cannot be verified through the expense items shown on page three. However, some companies in their claim expense accounting will report only allocated claim expense under Item 20, page three. In such cases the change in the grand total of Column 4 agrees with the disbursement line. In the listing of the grand totals of earned premiums, losses paid, allocated and unallocated loss expenses of the 1933 schedules of representative casualty companies the following ratios of the aggregate of the totals obtain:

Ratio of allocated expense to earned premiums..	4.871%
Ratio of unallocated expense to earned premiums	6.461%
Ratio of loss expense to earned premiums..	11.332%
Ratio of allocated expense to loss payments....	10.781%
Ratio of unallocated expense to loss payments..	14.302%
Ratio of loss expense to loss payments.....	25.083%

Any schedule under examination which reflects ratios much in excess of the above 11 and 25 per cent ratios will bear further investigation as to the proper proportion of general expense which is distributed in the schedule as unallocated liability loss expense.

A correct mechanical construction of Schedule P does not mean that a proper loss reserve will result. The purpose of the schedule is two-fold: to show loss experience by policy years and to exhibit an adequate reserve for unpaid losses, including incurred but not reported claims, and future claim adjustment expenses thereon. Inadequacy of the unpaid loss reserve for the current year is not as apparent as the understatement of the reserve for the unpaid losses at the end of the previous year. Continuous inadequate reserves lead to a presumption of inadequate current year's reserves. The following test applied to Schedule P brings out the inadequacy of the reserves a year ago on completed policy years:

TEST OF ADEQUACY OF SCHEDULE "P" DEC. 31, 1930, LIABILITY LOSS RESERVES
Name of Company (In Receivership during 1933)

Policy Year	Loss and Loss Expense Payments per Schedule "P"—Company's Figures, Column 7		Amount Reserve Should Have Been	Reserve Carried by Company 1930
1924		$1,174,818		
		$1,166,508		
	Paid in 1931	$ 8,310		
	Still Open	$ 5,455	$ 13,765	$ 8,000
1925		$1,409,540		
		$1,403,083		
	Paid in 1931	$ 6,457		
	Still Open	$ 3,578	$ 10,035	$ 12,000
1926		$1,807,716		
		$1,767,222		
	Paid in 1931	$ 40,494		
	Still Open	$ 27,988	$ 68,482	$ 39,950
1927		$2,047,121		
		$1,931,577		
	Paid in 1931	$ 115,544		
	Still Open	$ 41,165	$ 156,709	$ 76,500
1928		$2,699,971		
		$2,496,568		
	Paid in 1931	$ 203,403		
	Still Open	$ 139,929	$ 343,332	$162,750
1929		$2,689,100		
		$2,251,717		
	Paid in 1931	$ 437,383		
	Still Open	$ 302,010	$ 739,393	$261,315
		Totals	$1,331,716	$560,515
		Reserve Carried	$ 560,515	
Calculation Sheet 2M-1934			$ 771,201	Inadequate or 138%

Ultimate settlement costs constitute the real test for loss reserve adequacy. Some losses remain unpaid from one to ten years or longer and to wait until all losses outstanding as of a certain date are paid would delay the test so as to make it almost worthless. Corrections for inadequate reserves should be made when the liability for loss still exists. During the year following the construction of a company's loss reserve, a large portion of such losses become paid and the balance of the claims still outstanding have, during the twelve months, been so developed that quite accurate estimates of the probable settlement costs can then be made. Individual cases may be misjudged but the aggregate should approach somewhat near the actual future costs of all the claims. In the above test the reserve for the "Still Open" claims are the amounts used by the company in Column 12, the case-basis. If these cases are still underestimated the 138 per cent inadequacy will grow; however, with the development they have had, some credence should be given them, at least for trend or test purposes. The reserve for the incompleted policy year of 1930 was $682,187, a "remainder" reserve, but as Column 14 for 1929 and prior policy years always showed developed loss ratios in excess of the 60 per cent the conclusion may be made that the formula reserve for the last and incomplete policy year is inadequate.

The upward development of the loss ratio for each policy year as shown in Columns 14 and 23 of the schedule is another telltale of inadequate reserves. The above company's development of liability loss ratios was as follows:

Policy Year	Earned Premiums	DEVELOPED LOSS RATIO AT END OF							
		1924	1925	1926	1927	1928	1929	1930	1931
1924	$1,467,185	60.4	60.0	70.4	76.8	79.1	80.0	80.0	80.4
1925	2,074,733		60.0	60.0	60.4	65.4	67.6	68.1	68.1
1926	2,668,567			60.0	60.0	60.0	65.6	67.7	68.8
1927	3,155,940				60.0	60.0	60.0	63.6	66.2
1928	4,059,823					60.0	61.5	65.4	70.0
1929	4,115,430						60.0	60.0	72.7
1930	4,406,071							60.0	60.0
1931	3,058,593								60.0

When a policy year becomes completed or practically completed, as was policy year 1924 at the end of 1925 and thereafter the development of the year's loss ratio is upward from 60.0 per cent to 80.4 per cent, it is evident that somewhere along the line the remaining claims were under-reserved by an amount approximating 20.4 per cent of the $1,467,185 of earned premiums. To begin a policy year with only a 60 per cent loss ratio when the schedule of experience indicates that eventually the ratio will be 70 per cent is not making use of Column 20 headed, "Voluntary additional reserves for unpaid liability losses". It might be well to change the word, "Voluntary", in the column heading to "Required". When a company adds to a "remainder" reserve an amount required to bring the reserve for the policy year to a point of adequacy such additional reserve should not be termed a voluntary reserve.

Applying the test to Schedule P—Part 2, the workmen's compensation loss reserves of this company as of December 31, 1930 show the following inadequacy on completed policy years:

TEST OF ADEQUACY OF SCHEDULE "P" DEC. 31, 1930,
COMPENSATION LOSS RESERVES
Name of Company (In Receivership during 1933)

Policy Year	Loss and Loss Expense Payments per Schedule "P"—Company's Figures, Column 34		Amount Reserve Should Have Been	Reserve Carried by Company 1930
1924		$ 971,011		
		$ 963,651		
	Paid in 1931	$ 7,360		
	Still Open	$ 34,201	$ 41,561	$ 33,527
1925		$1,183,804		
		$1,168,997		
	Paid in 1931	$ 14,807		
	Still Open	$ 28,862	$ 43,669	$ 35,433
1926		$1,256,647		
		$1,227,073		
	Paid in 1931	$ 29,574		
	Still Open	$ 55,207	$ 84,781	$ 68,093
1927		$1,236,589		
		$1,213,395		
	Paid in 1931	$ 23,194		
	Still Open	$ 86,033	$ 109,227	$ 91,157
1928		$1,747,193		
		$1,642,873		
	Paid in 1931	$ 104,320		
	Still Open	$ 143,875	$ 248,195	$188,215
1929		$2,072,991		
		$1,751,057		
	Paid in 1931	$ 321,934		
	Still Open	$ 300,005	$ 621,939	$321,331
		Totals	$1,149,372	$737,756
		Reserve Carried	$ 737,756	
Calculation Sheet 2M-1934			$ 411,616	Inadequate or 56%

In this test the last completed policy year clearly shows the underestimate made of cases which were young as to development. Failure to include a reserve for some incurred but not reported claims may also have contributed to the inadequacy. On the older policy years, when interest discount is given consideration, the inadequacy was not as serious. The reserve carried for the incomplete policy year 1930 was $302,283. Case-basis reserves were used by the company for all policy years.

Column 3 of Schedule O of this company's 1931 annual statement showed a total inadequacy of $346,623 in the loss reserves of the 1930 statement on lines other than liability and workmen's compensation.

The loss reserve schedules in this company's 1931 annual statement indicate that reserves as of December 31, 1930 were inadequate by approximately the following amounts:

Schedule P—Part 1, completed policy years...	$ 771,201
"Still Open" cases, estimated at 50 per cent...	260,063
Incompleted policy year of 1930, assuming ultimate loss ratio of 70 per cent on $2,377,357 of earned premiums and deducting payments of $744,228 made during 1930 and the $682,187 of reserve carried................	236,734
Schedule P—Part 2, completed policy years...	411,616
"Still Open" cases, estimated at 25 per cent...	162,046
Incompleted policy year of 1930, assuming ultimate loss ratio of 78 per cent on $1,482,040 of earned premiums and deducting payments of $687,251 made during 1930 and the $302,283 of reserve carried................	166,457
Schedule O reserves inadequate..............	346,623
Total inadequacy.......................	$2,354,740

On December 31, 1930 the surplus was reported at $1,015,296 with $1,000,000 of capital and a special contingent reserve of $100,000. Forty-seven insurance commissioners relicensed the company sometime during the year 1931. Receivers were appointed early in 1933. Proper reserve or liability values are as important as asset values. Depreciation of asset values is not the only major contributing factor to the payment by receivers to creditors and claimants of from 40 to 60 cents on the dollar. When claims and claim expense are reserved for on that basis creditors cannot expect more, as any impaired capital that may remain as a surplus to policyholders is absorbed through asset shrinkage. Receivers and liquidators of fire insurance companies have been able to pay higher liquidating dividends, as the problem of adequate loss reserve values is not present in the same degree as it is with casualty and surety companies.

Retrospection will show that some other casualty and surety companies which became insolvent during the depression were annually relicensed by many states when the reserve values for several years back were poorly calculated. Applying the above test to the 1933 loss reserve schedules of several companies licensed at this time results in 1932 surplus reductions of from 50 to 100 per cent. The 1934 schedules will reflect their financial condition as it should have been reported for December 31, 1933.

On the other hand, there are many casualty companies where reserve values are as important as asset values and company executives can rightly look with pride at their consistently adequate loss reserves or the "equity" which is contained therein. Applying the same test, in the same manner, to a company licensed in all of the states, the following results are shown:

TEST OF ADEQUACY OF SCHEDULE "P" DEC. 31, 1932,
LIABILITY LOSS RESERVES

Name of Company..........................

Policy Year	Loss and Loss Expense Payments per Schedule "P"—Company's Figures, Column 7		Amount Reserve Should Have Been	Reserve Carried by Company 1932
1926		$ 284,078 $ 284,078		
	Paid in 1933 Still Open	.. ..	..	..
1927		$ 453,443 $ 453,343		
	Paid in 1933 Still Open	$ 100 ..	$ 100	..
1928		$ 641,909 $ 640,032		
	Paid in 1933 Still Open	$ 1,877 $ 7,814	$ 9,691	$ 11,050
1929		$ 842,145 $ 804,902		
	Paid in 1933 Still Open	$ 37,243 $ 5,800	$ 43,043	$ 17,850
1930		$1,042,652 $ 916,852		
	Paid in 1933 Still Open	$ 125,800 $ 17,809	$143,609	$261,459
1931		$1,193,877 $ 946,502		
	Paid in 1933 Still Open	$ 247,375 $ 53,288	$300,663	$460,131
		Totals	$497,106	$750,490
		Reserve Carried	$750,490	

Calculation Sheet 2M-1934

In addition to the above indicated "equity" of $253,384 on completed policy years a further amount of about $74,142 should be realized out of the reserve of $610,372 carried for the incomplete policy year 1932. Earned premiums, so far, on that year were $1,482,829 with loss and loss expense payments of $279,325. The final developed loss ratio on that year is estimated at 55 per cent.

A downward development of the loss ratio naturally follows when the reserves carried for the unpaid losses is in excess of the ultimate settlement costs. In the above company the development of the liability loss ratio has been:

Policy Year	Earned Premiums	DEVELOPED LOSS RATIO AT END OF							
		1926	1927	1928	1929	1930	1931	1932	1933
1926	$ 650,517	60.0	60.0	60.0	42.4	43.7	43.7	43.7	43.7
1927	887,976		60.0	60.0	60.0	49.8	50.9	51.1	51.1
1928	1,340,109			60.0	60.0	60.0	47.1	48.2	48.5
1929	1,641,936				60.0	60.0	60.0	50.1	51.6
1930	1,963,669					60.0	60.0	60.0	54.0
1931	2,345,536						60.0	60.0	60.0
1932	2,546,078							60.0	60.0
1933	1,578,055								60.0

It should be observed that a slight increase in the developed loss ratio at the end of the fifth year over the ratio at the end of the fourth year may be due entirely to the addition of the five per cent of the distributed unallocated liability claim expense for the current year which according to the formula method of distribution is added to the amounts shown in Columns 5 and 7 of the previous year's schedule. This increase is made in following the mechanics of the schedule even though there may be no further unpaid claims outstanding for that policy year at the end of the fourth year. Referring to the foregoing test it will be noted that on a percentage basis policy year 1929 was considerable under-reserved. The payments added to Column 7 during 1933 amounting to $37,244 included $8,193 of such distributed unallocated claim expense which is twice the 14.302 per cent hereinbefore mentioned. An error in punching the policy year on a loss payment card may also be reflected in the test.

When loss reserves and unearned premium reserves are rich with "equity", a meticulous valuation of bond and stock investments on a market, average market, or some other basis becomes of lesser importance.

A study of this type on loss reserve schedules does not produce final figures. Interest discount on installments claims, additional earned audit premiums, if any, and recoverable salvage are not taken into consideration. However, with only the two annual statements of a company at the disposal of the auditor he is able to make some interesting deductions which should play no minor part in the analysis of the financial statement of a casualty and surety company.