EMPLOYEE BENEFIT PLANS

Group Life Insurance

A. What methods are in use for determination of the provision in initial and renewal premiums for expenses, taxes, commissions, risk charges, and contingency margins for groups of various sizes, amount distributions, and administrative arrangements?

MR. MORTON D. MILLER described the work of the Industry Advisory Committee to the N.A.I.C. Technicians' Subcommittee in preparing a new Group Mortality table and an illustrative expense loading formula (see accompanying tables). He stated that the committee was formed in 1958 following the promulgation of the present scale of Group Life premium rates for the purpose of developing a new mortality table. The committee considered and rejected the use of population mortality statistics and based the new Group Mortality table on the Group Life Mortality experience collected by the Society's Mortality Committee for the period 1950 through 1958. A margin of 20% of the basic experience rates plus one death per 1,000 was included in the new table in order that a broad class of industries could be written at standard premium rates and to provide for accidental fluctuations in experience. Jenkins' fifth difference modified osculatory formula was used to obtain values for individual ages. The table was graded into 117½% of the 1958 CSO below age 18 and 105% of the 1958 CSO at age 73 with the same terminal age of 100. Mr. Miller stated that the committee recommends that the table be called the 1960 Commissioners Standard Group Mortality Table.

Mr. Miller said the committee was unable to ignore the question of expense loading, since the primary purpose of the new table is for calculation of premiums. He pointed out that historically expense loading formulas were applied to tables containing a heavy mortality margin. The committee felt it would be necessary to point out to the Commissioners that greater expense loadings must be promulgated in connection with the new Group Mortality table than had been used in the past and that these greater expense loadings were particularly necessary on account of the extension of Group Life Insurance to groups of less than 25 employees. He said the committee developed an illustrative loading formula based on the principle of expense differentials related to premium volume and including a specific provision for expenses for even the very largest groups. The illustrative loading formula adds $2.40 per year per thousand on the first $40,000 of insurance, incorporates an additional percentage of the

PROPOSED 1960 COMMISSIONERS STANDARD
GROUP MORTALITY TABLE

Age	q_x	l_x	d_x	$\mathring{e}_x$
0	.00832	10,000,000	83,200	66.86
1	.00207	9,916,800	20,528	66.41
2	.00179	9,896,272	17,714	65.55
3	.00172	9,878,558	16,991	64.67
4	.00165	9,861,567	16,272	63.78
5	.00159	9,845,295	15,654	62.88
6	.00153	9,829,641	15,039	61.98
7	.00148	9,814,602	14,526	61.08
8	.00145	9,800,076	14,210	60.17
9	.00142	9,785,866	13,896	59.25
10	.00142	9,771,970	13,876	58.34
11	.00145	9,758,094	14,149	57.42
12	.00148	9,743,945	14,421	56.50
13	.00155	9,729,524	15,081	55.58
14	.00163	9,714,443	15,835	54.67
15	.00172	9,698,608	16,682	53.76
16	.00181	9,681,926	17,524	52.85
17	.00190	9,664,402	18,362	51.95
18	.00199	9,646,040	19,196	51.04
19	.00203	9,626,844	19,542	50.14
20	.00209	9,607,302	20,079	49.25
21	.00214	9,587,223	20,517	48.35
22	.00218	9,566,706	20,855	47.45
23	.00221	9,545,851	21,096	46.55
24	.00224	9,524,755	21,335	45.65
25	.00226	9,503,420	21,478	44.76
26	.00228	9,481,942	21,619	43.86
27	.00230	9,460,323	21,759	42.96
28	.00233	9,438,564	21,992	42.05
29	.00236	9,416,572	22,223	41.15
30	.00240	9,394,349	22,546	40.25
31	.00245	9,371,803	22,961	39.34
32	.00251	9,348,842	23,466	38.44
33	.00260	9,325,376	24,246	37.53
34	.00271	9,301,130	25,206	36.63
35	.00285	9,275,924	26,436	35.73
36	.00302	9,249,488	27,933	34.83
37	.00321	9,221,555	29,601	33.93
38	.00345	9,191,954	31,712	33.04
39	.00372	9,160,242	34,076	32.15
40	.00402	9,126,166	36,687	31.27
41	.00437	9,089,479	39,721	30.39
42	.00475	9,049,758	42,986	29.53
43	.00518	9,006,772	46,655	28.66
44	.00564	8,960,117	50,535	27.81
45	.00615	8,909,582	54,794	26.97
46	.00670	8,854,788	59,327	26.13
47	.00731	8,795,461	64,295	25.30
48	.00798	8,731,166	69,675	24.49
49	.00872	8,661,491	75,528	23.68

PROPOSED 1960 COMMISSIONERS STANDARD
GROUP MORTALITY TABLE—*Continued*

Age	q_x	l_x	d_x	$\mathring{e}_x$
50	.00952	8,585,963	81,738	22.88
51	.01040	8,504,225	88,444	22.10
52	.01137	8,415,781	95,687	21.32
53	.01244	8,320,094	103,502	20.56
54	.01361	8,216,592	111,828	19.82
55	.01488	8,104,764	120,599	19.08
56	.01624	7,984,165	129,663	18.36
57	.01770	7,854,502	139,025	17.66
58	.01924	7,715,477	148,446	16.97
59	.02087	7,567,031	157,924	16.29
60	.02262	7,409,107	167,594	15.63
61	.02451	7,241,513	177,489	14.98
62	.02660	7,064,024	187,903	14.34
63	.02886	6,876,121	198,445	13.72
64	.03131	6,677,676	209,078	13.11
65	.03400	6,468,598	219,932	12.52
66	.03700	6,248,666	231,201	11.94
67	.04032	6,017,465	242,624	11.38
68	.04401	5,774,841	254,151	10.84
69	.04803	5,520,690	265,159	10.32
70	.05233	5,255,531	275,022	9.81
71	.05686	4,980,509	283,192	9.33
72	.06158	4,697,317	289,261	8.86
73	.06642	4,408,056	292,783	8.41
74	.07153	4,115,273	294,365	7.97
75	.07704	3,820,908	294,363	7.54
76	.08314	3,526,545	293,197	7.13
77	.08998	3,233,348	290,937	6.73
78	.09771	2,942,411	287,503	6.35
79	.10625	2,654,908	282,084	5.98
80	.11548	2,372,824	274,014	5.63
81	.12532	2,098,810	263,023	5.30
82	.13563	1,835,787	248,988	4.99
83	.14635	1,586,799	232,228	4.70
84	.15751	1,354,571	213,358	4.42
85	.16920	1,141,213	193,093	4.15
86	.18146	948,120	172,046	3.89
87	.19439	776,074	150,861	3.65
88	.20816	625,213	130,144	3.41
89	.22308	495,069	110,440	3.17
90	.23955	384,629	92,138	2.94
91	.25806	292,491	75,480	2.70
92	.27923	217,011	60,596	2.47
93	.30376	156,415	47,513	2.23
94	.33249	108,902	36,209	1.99
95	.36880	72,693	26,809	1.73
96	.42059	45,884	19,298	1.45
97	.51284	26,586	13,634	1.13
98	.70156	12,952	9,087	.80
99	1.00000	3,865	3,865	.50

ILLUSTRATIVE GROSS PREMIUM FACTORS* PER $1,000 OF INSURANCE

Age	Annual	Monthly	Age	Annual	Monthly
15	$ 2.26	$ .19	55	$ 19.55	$ 1.65
16	2.38	.20	56	21.34	1.80
17	2.50	.21	57	23.25	1.97
18	2.61	.22	58	25.28	2.14
19	2.67	.23	59	27.42	2.32
20	2.75	.23	60	29.72	2.51
21	2.81	.24	61	32.20	2.72
22	2.86	.24	62	34.95	2.96
23	2.90	.25	63	37.92	3.21
24	2.94	.25	64	41.13	3.48
25	2.97	.25	65	44.67	3.78
26	3.00	.25	66	48.61	4.11
27	3.02	.26	67	52.97	4.48
28	3.06	.26	68	57.82	4.89
29	3.10	.26	69	63.10	5.34
30	3.15	.27	70	68.75	5.81
31	3.22	.27	71	74.70	6.32
32	3.30	.28	72	80.90	6.84
33	3.42	.29	73	87.26	7.38
34	3.56	.30	74	93.97	7.95
35	3.74	.32	75	101.21	8.56
36	3.97	.34	76	109.23	9.24
37	4.22	.36	77	118.21	10.00
38	4.53	.38	78	128.37	10.86
39	4.89	.41	79	139.59	11.81
40	5.28	.45	80	151.71	12.83
41	5.74	.49	81	164.64	13.93
42	6.24	.53	82	178.19	15.07
43	6.81	.58	83	192.27	16.26
44	7.41	.63	84	206.93	17.50
45	8.08	.68	85	222.29	18.80
46	8.80	.74	86	238.40	20.16
47	9.60	.81	87	255.38	21.60
48	10.48	.89	88	273.47	23.13
49	11.46	.97	89	293.08	24.79
50	12.51	1.06	90	314.71	26.62
51	13.66	1.16	91	339.03	28.68
52	14.94	1.26	92	366.84	31.03
53	16.34	1.38	93	399.07	33.75
54	17.88	1.51	94	436.82	36.95
			95	484.52	40.98

* Subject to addition of a policy constant of $2.40 per thousand for annual and $.20 per thousand for monthly premiums each calculated on the first $40,000 of insurance with the resulting total subject to reduction by the application of advance expense adjustment factors as follows:

Total Annual Premium before Discount	Total Monthly Premium before Discount	Advance Expense Adjustment
Under $2,400	Under $200	0%
$ 2,400– 2,999	$ 200– 249	1
3,000– 3,599	250– 299	2
3,600– 4,199	300– 349	3
4,200– 4,799	350– 399	4
4,800– 5,399	400– 449	5
5,400– 5,999	450– 499	6
6,000– 7,199	500– 599	7
7,200– 8,399	600– 699	8
8,400– 9,599	700– 799	9
9,600– 11,999	800– 999	10
12,000– 17,999	1,000– 1,499	11
18,000– 35,999	1,500– 2,999	12
36,000– 59,999	3,000– 4,999	13
60,000–119,999	5,000– 9,999	14
120,000–179,999	10,000–14,999	15
180,000–239,999	15,000–19,999	16
240,000–359,999	20,000–29,999	17
360,000–479,999	30,000–39,999	18
480,000–719,999	40,000–59,999	19
720,000 and over	60,000 and over	20

mortality table to provide for percentage expenses, and then provides for a scale of discount factors ranging from 1% to 20% related to the total premium volume of the case. He stated that the combination of the proposed table and illustrative loading formula produced reductions from the present Group Life premiums ranging from very slight on small groups to as much as 15% for very large groups.

Mr. Miller said that the committee has urged representatives from the states having statutes regulating Group Life premium rates to make a uniform promulgation of new Group Life premium rates and that this new promulgation is expected some time in 1961. Mr. Miller indicated that the new table was not intended to apply to Group Permanent insurance.

MR. JOHN T. BIRKENSHAW described the practice of the Confederation Life Association in charging expenses to individual cases in experience-rating. He stated that commissions are charged as incurred if they are paid on a level scale and that they are amortized over a ten year period if commissions are paid on a first year and renewal basis. Taxes are assessed as incurred and a 2% contingency charge is made against all premiums. Mr. Birkenshaw indicated that self-administered cases are given an expense reduction equal to the amount Confederation Life feels they would have incurred had they administered the plan.

MR. BERTRAM N. PIKE of the John Hancock discussed the practice of his Company in setting renewal rate levels. He said that renewal premium rates of his Company are determined by projecting expected loss ratios and expected charges for administrative expenses, taxes, commissions, risk spread, and contingency reserve contributions. To these projected figures are added a margin for claim fluctuation and a margin for any charges to be made for amortization of prior deficits arising from unfavorable prior experience. He indicated that this method of setting renewal rates does not recognize precisely the administrative arrangements on each individual case, but he felt that the difference in retention charges as a result of the difference in administrative arrangements is quite small in relation to the rate adjustments which would normally be considered at renewal.

Mr. Pike also indicated that he felt the problem of large amounts of insurance is more one of underwriting requirements than renewal rate levels. His Company separates from the year-to-year experience of a group the impact of any amounts of insurance larger than those which the Company feels the group should be expected to absorb within its own margins. The excess amounts of insurance are either pooled with other similar cases or give rise to an earmarked stabilization reserve under the policy.