

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1960 REPORTS**

**REPORT OF THE COMMITTEE ON GROUP
INSURANCE MORTALITY**

SECTION I. GROUP LIFE INSURANCE

THIS report adds the experience by number of lives for calendar years 1955 through 1959 under group term life insurance policies to that previously reported in the 1955 report of the Committee. Trusteeship and association cases insuring employees of member employers of the trusteeship or association, and union cases, whether or not insurance depends on continued employment, are excluded. The experience is limited to policies with at least 25 lives at issue.

Data are included only with respect to policies containing one of the three common disability provisions described briefly below:

- (i) The Waiver of Premium Disability clause, in general, provides for waiver of premium upon receipt of proof of total disability of at least 9 months duration, occurring before age 60. Proof of continued total disability is required annually thereafter.
- (ii) The Extended Death Benefit clause provides for payment of the full face amount, in general, upon death occurring within one year after termination of employment and prior to age 65 (or 60) if the employee was disabled at the time of termination of employment and continued disabled until death.
- (iii) The Total and Permanent Disability clause provides, upon an employee's disability prior to age 60, for payment of the face amount of insurance, in some instances in one sum, in others in instalments over a short period, usually 60 months.

The experience under the Total and Permanent Disability clause should be interpreted cautiously since companies have not generally offered these benefits for many years. The data in this report are based largely on the somewhat select group of older policies under which the clause was retained.

In viewing the separate death and disability experience it should be kept in mind that the experience is influenced by employer and insurance company practices in permitting the continuance of insurance on disabled lives and that, accordingly, for some purposes the combined death and disability experience may be more significant. In the case of the Waiver

TABLE 1
RATED AND NONRATED INDUSTRIES COMBINED

YEAR	YEARS EXPOSED	TOTAL CLAIMS*	RATIO ACTUAL TO TABULAR			ACCI- DENT CLAIMS	DIS- ABILITY CLAIMS*
			1941 CSO	1960 Group	'50-'59 Nonrated		
Waiver of Premium							
1950.....	2,552,163	15,605	57.5%			1,205	1,059
1951.....	2,319,197	14,256	56.7			1,201	612
1952.....	2,571,877	16,508	58.7			1,353	835
1953.....	2,914,784	17,986	56.8			1,535	943
1954.....	3,081,399	18,864	55.4			1,518	1,007
1955.....	3,289,221	19,620	54.6	69.0%	98.2%	1,681	1,187
1956.....	2,572,682	15,900	55.4	69.9	99.4	1,470	708
1957.....	2,472,718	16,411	58.0	73.0	103.6	1,380	666
1958.....	2,570,875	16,862	56.0	70.4	99.7	1,242	808
1959.....	3,386,186	21,486	55.3	69.6	98.8	1,642	1,250
'50-'54.....	13,439,420	83,219	57.0%	71.9%	103.2%	6,812	4,456
'55-'59.....	14,291,682	90,279	55.8	70.3	99.8	7,415	4,619
'50-'59.....	27,731,102	173,498	56.3	71.0	101.0	14,227	9,075
Extended Death Benefit							
1950.....	2,648,727	19,091	60.9%			1,441	
1951.....	2,366,677	16,438	58.9			1,224	
1952.....	2,298,704	16,873	60.7			1,223	
1953.....	2,284,411	16,287	59.1			1,230	
1954.....	2,155,781	14,667	56.4			1,128	
1955.....	1,136,521	7,576	54.5	68.2%	96.7%	557	
1956.....	789,225	5,837	56.9	70.7	99.7	391	
1957.....	722,131	5,353	57.5	71.5	100.9	370	
1958.....	651,992	5,274	58.7	72.6	101.7	303	
1959.....	722,442	5,748	57.9	71.7	100.4	343	
'50-'54.....	11,754,300	83,356	59.3%	74.0%	105.6%	6,246	
'55-'59.....	4,022,311	29,788	56.9	70.7	99.6	1,964	
'50-'59.....	15,776,611	113,144	58.6	73.2	103.9	8,210	
Total and Permanent Disability							
1950.....	3,824,623	28,665	66.1%			1,774	3,679
1951.....	2,925,855	21,687	64.4			1,402	2,144
1952.....	3,103,840	22,256	62.4			1,467	2,116
1953.....	3,244,485	23,040	62.0			1,504	2,191
1954.....	3,175,704	22,917	61.7			1,406	2,291
1955.....	2,566,643	18,625	60.2	75.1%	98.3%	1,132	1,682
1956.....	1,776,978	12,666	60.3	75.5	99.0	939	1,183
1957.....	1,797,333	12,508	59.3	74.1	97.3	915	1,154
1958.....	1,696,230	11,929	58.8	73.5	96.4	834	1,225
1959.....	2,653,201	18,730	58.0	72.6	94.8	1,052	2,211
'50-'54.....	16,274,507	118,565	63.4%	79.4%	104.4%	7,553	12,421
'55-'59.....	10,490,385	74,458	59.3	74.1	97.0	4,872	7,455
'50-'59.....	26,764,892	193,023	61.7	77.3	101.4	12,425	19,876

* 75% of Disability Claims on Waiver of Premium.

of Premium clause, the actual disability claims shown represent three-fourths of the approved claims.

In Table 1 the data are shown for each disability provision by calendar year in comparison with the 1941 Commissioners Standard Ordinary table, the 1960 Commissioners Standard Group Mortality table and the average 1950-1959 nonrated industries experience (Table 4). The downward trend observed in 1953 and 1954 was continued through 1955. Since 1955 the experience on Waiver of Premium and Extended Death Benefit clauses has produced fluctuations up and down, the higher ratios in 1957 and 1958 probably reflecting the effects of Asian influenza; the experience for groups with the Total and Permanent Disability clause has shown almost continuous improvement through 1959. These variations may be partly due to large shifts in exposures, since one of the large contributing companies was unable to submit any data for the 1955-59 period, and another for the years 1956, 1957 and 1958.

In Table 2, the aggregate data for the five most recent calendar years (1955 through 1959) appear for each disability clause, tabulated by five year age groups. The data are shown separately for rated and nonrated industries, as well as for both combined. The separation of the data between rated and nonrated industries is the same as was used for the 1955 report. The rated category comprises industry codes 10-23, 40, 42, 44, 61, 64, 110, 113, 115, 134, 220, 320-323, 331, 334 and 338-340.

Table 3 contains the experience observed for the calendar years 1950 through 1959 in order to secure the maximum exposure by industry in view of the small amount of data for some industries. Tabular claims were obtained by applying the ratios of Table 4 (experience of 1950-1959) to the exposed to risk by industry code for each five year age group. Actual to tabular ratios are, therefore, measured against a standard of 100%. In addition to the various ratios of actual to tabular claims in total, Table 3 shows for each industry code certain data with respect to experience through age 65.

Experience under cases with fewer than 50 lives at issue that remain in that class, as set forth in Table 5 of the previous report, is no longer available.

The data for the nonrated industries for the period 1950 through 1959 were used to compute, separately for disability, accidental death and total death, the ratios of actual claims to exposed to risk for each five year age group which are shown in Table 4. Since the determination of cause of death under group life policies may be less exact than for forms of group insurance under which a benefit is payable only in case of accidental death, the accidental death rates should be used with caution with respect to their applicability to forms of group insurance other than group life.

TABLE 2
CALENDAR YEARS 1955-1959

CENTRAL AGE	WAIVER OF PREMIUM						EXTENDED DEATH BENEFIT					TOTAL AND PERMANENT DISABILITY					
	Years Exposed	Total Claims*	Ratio A/T†		Accid. Deaths	Disab. Claims*	Years Exposed	Total Claims	Ratio A/T†		Accid. Deaths	Years Exposed	Total Claims	Ratio A/T†		Accid. Deaths	Disab. Claims
			1941 CSO	1960 Group					1941 CSO	1960 Group				1941 CSO	1960 Group		
Rated Industries																	
18.....	14,415	24	75	89	17	0	3,574	5	64	71	4	13,559	19	63	74	18	0
23.....	71,921	111	58	70	76	5	21,518	21	37	45	11	67,014	111	63	75	86	2
28.....	104,366	157	47	65	89	10	39,664	56	44	61	33	91,382	130	45	61	79	11
33.....	119,601	172	36	56	72	8	50,334	69	34	54	25	98,553	166	42	66	82	13
38.....	119,393	289	46	73	91	21	48,696	121	47	75	36	95,156	209	41	66	88	16
43.....	104,880	445	58	85	93	34	49,189	198	55	81	39	79,233	318	55	81	83	42
48.....	86,870	557	62	84	73	44	49,894	358	70	94	33	63,494	430	66	88	55	68
53.....	66,287	760	77	96	76	82	51,282	584	76	95	30	49,837	580	78	97	32	126
58.....	49,852	859	78	92	42	152	48,807	867	80	95	41	39,134	866	100	119	43	284
18-58....	737,585	3,374	62	84	629	356	362,958	2,279	68	88	252	597,362	2,829	67	90	566	562
63.....	37,258	821	67	78	37	.....	41,890	1,130	82	96	37	29,719	648	66	78	17	.....
68.....	20,012	722	73	84	20	.....	28,329	1,103	78	91	23	19,674	755	77	89	20	.....
73.....	9,477	482	68	77	14	.....	11,961	689	76	87	10	11,287	640	75	86	8	.....
78.....	3,207	241	66	76	4	.....	4,636	400	75	88	5	5,606	510	80	92	10	.....
83.....	877	103	68	76	3	.....	1,717	255	85	97	6	1,980	274	79	91	4	.....
88.....	179	27	56	69	0	.....	460	97	79	95	2	668	132	74	89	2	.....
93.....	38	9	59	73	0	.....	110	35	79	94	1	118	27	57	68	0	.....
98.....	6	0	0	0	0	.....	4	5	125	139	0	9	1	11	13	0	.....
63-98....	71,054	2,405	68	79	78	.....	89,107	3,714	79	92	84	69,061	2,987	74	86	61	.....
Total	808,639	5,779	65	82	707	356	452,065	5,993	74	90	336	666,423	5,816	70	88	627	562
Nonrated Industries																	
18.....	371,437	466	55	64	313	10	92,412	102	49	57	67	312,344	308	43	51	190	17
23.....	1,178,151	1,346	43	52	817	55	290,724	297	39	46	187	956,033	931	37	44	539	71
28.....	1,618,704	1,747	34	47	808	116	400,216	419	33	45	181	1,239,716	1,280	32	44	549	132
33.....	1,851,353	2,441	33	52	774	191	457,023	494	27	42	156	1,329,553	1,647	31	49	462	244
38.....	1,841,388	3,526	36	58	717	252	461,498	848	35	55	160	1,283,520	2,417	35	57	441	301
43.....	1,743,849	5,650	44	65	701	403	456,171	1,357	41	60	165	1,195,556	3,777	43	64	392	484
48.....	1,528,194	8,470	54	72	618	591	416,920	2,072	48	65	156	1,051,388	5,745	53	71	401	802
53.....	1,224,451	11,036	60	75	544	913	349,991	2,732	52	65	124	855,282	8,100	63	79	364	1,491
58.....	919,214	13,563	67	79	493	1,733	273,751	3,728	62	73	144	646,615	11,154	78	93	247	3,351
18-58....	12,276,741	48,245	52	69	5,785	4,264	3,198,706	12,049	47	63	1,340	8,870,007	35,359	54	71	3,585	6,893

* 75% of Disability Claims on Waiver of Premium.

† Actual/Tabular in percent.

TABLE 2—Continued

CENTRAL AGE	WAIVER OF PREMIUM						EXTENDED DEATH BENEFIT					TOTAL AND PERMANENT DISABILITY					
	Years Exposed	Total Claims*	Ratio A/T†		Accid. Deaths	Disab. Claims*	Years Exposed	Total Claims	Ratio A/T†		Accid. Deaths	Years Exposed	Total Claims	Ratio A/T†		Accid. Deaths	Disab. Claims
			1941 CSO	1960 Group					1941 CSO	1960 Group				1941 CSO	1960 Group		
Nonrated Industries—Continued																	
63.....	656,658	12,951	60	70	410	.....	194,555	3,724	58	68	120	468,406	9,203	60	70	258	.....
68.....	325,644	9,569	59	68	242	.....	102,483	3,132	62	71	64	261,311	8,276	64	74	152	.....
73.....	146,623	6,781	61	70	141	.....	46,749	2,183	62	71	41	135,885	6,920	68	77	122	.....
78.....	55,752	4,151	65	76	78	.....	19,440	1,530	69	80	33	59,443	4,799	71	82	67	.....
83.....	17,155	1,969	66	75	33	.....	6,607	839	73	83	21	21,871	2,695	71	81	30	.....
88.....	3,844	677	66	79	13	.....	1,489	288	72	87	7	5,928	1,111	70	84	22	.....
93.....	560	144	64	76	4	.....	200	49	61	74	2	980	247	62	74	7	.....
98.....	66	13	20	22	2	.....	17	1	6	7	0	131	32	25	28	2	.....
63-98.....	1,206,302	36,255	61	71	923	.....	371,540	11,746	62	72	288	953,955	33,283	65	75	660	.....
Total	13,483,043	84,500	55	70	6,708	4,264	3,570,246	23,795	54	67	1,628	9,823,962	68,642	58	73	4,245	6,893
Rated and Nonrated Industries Combined																	
18.....	385,852	490	56	65	330	10	95,986	107	49	58	71	325,903	327	44	52	208	17
23.....	1,250,072	1,457	44	53	893	60	312,242	318	38	46	198	1,023,047	1,042	39	46	625	73
28.....	1,723,070	1,904	35	48	897	126	439,880	475	34	47	214	1,331,098	1,410	33	46	628	143
33.....	1,970,954	2,613	33	52	846	199	507,357	563	28	44	181	1,428,106	1,813	32	50	544	257
38.....	1,960,781	3,815	37	58	808	273	510,194	969	36	57	196	1,378,676	2,626	36	57	529	317
43.....	1,848,729	6,095	45	66	794	436	505,360	1,555	42	62	204	1,274,789	4,095	44	65	475	526
48.....	1,615,064	9,027	54	73	691	635	466,814	2,430	50	68	189	1,114,882	6,175	54	72	456	870
53.....	1,290,738	11,796	61	76	620	995	401,273	3,316	55	69	154	905,119	8,680	64	80	396	1,617
58.....	969,066	14,422	67	80	535	1,885	322,558	4,595	65	76	185	685,749	12,020	79	94	290	3,635
18-58.....	13,014,326	51,619	52	70	6,414	4,619	3,561,664	14,328	50	66	1,592	9,467,369	38,208	54	73	415	7,455
63.....	693,916	13,772	60	71	447	.....	236,445	4,854	62	73	157	498,125	9,851	60	70	275	.....
68.....	345,656	10,291	60	69	262	.....	130,812	4,235	65	75	87	280,985	9,031	65	75	172	.....
73.....	156,100	7,263	62	70	155	.....	58,710	2,872	65	74	51	147,172	7,560	68	78	130	.....
78.....	58,959	4,392	65	76	82	.....	24,076	1,930	70	81	38	65,049	5,309	71	83	77	.....
83.....	18,032	2,072	66	75	36	.....	8,324	1,094	75	86	27	23,851	2,969	71	82	34	.....
88.....	4,023	704	66	78	13	.....	1,949	385	74	89	9	6,596	1,243	71	84	24	.....
93.....	598	153	63	76	4	.....	310	84	67	81	3	1,098	274	62	73	7	.....
98.....	72	13	18	20	2	.....	21	6	29	32	0	140	33	24	27	2	.....
63-98.....	1,277,356	38,660	61	71	1,001	.....	460,647	15,460	66	76	372	1,023,016	36,270	65	76	721	.....
Total	14,291,682	90,279	56	70	7,415	4,619	4,022,311	29,788	57	71	1,964	10,490,385	74,458	59	74	4,872	7,455

* 75% of Disability Claims on Waiver of Premium.

† Actual/Tabular in percent.

TABLE 3
CALENDAR YEARS 1950-1959

INDUSTRY CODE	INDUSTRY	WAIVER OF PREMIUM				EXTENDED DEATH BENEFIT			TOTAL AND PERMANENT DISABILITY				ALL DISAB. CLAUSES—THROUGH AGE 65					
		Years Exposed	Death		Disability*		Years Exposed	Death		Years Exposed	Death		Disability		All Claims*		Accidental Death	
			No.	A/T†	No.	A/T†		No.	A/T†		No.	A/T†	No.	A/T†	No.	A-T per M	No.	Per M
1 2 3 4	<i>Agriculture</i>																	
	Florists and Nurserymen	29,171	193	82	6	61	27,024	153	80	9,260	116	87	7	86	259	-1.2	34	0.6
	Fruit Growing	11,457	76	94	2	43	48,711	371	86	4,324	47	95	7	149	296	-0.7	26	0.4
	Stock Ranging and Ranching	4,905	26	88	1	63	1,462	4	49	815	3	36	1	111	18	-2.3	2	0.3
	Gen. Farm. and All Other Agr.	54,617	355	77	10	50	7,358	60	98	19,948	128	78	6	33	356	-0.9	42	0.6
	Total	100,150	630	81	19	53	84,555	588	85	34,347	294	83	21	66	929	-1.0	104	0.5
10 11 12 13 14 15 16 17 18 19 20 21 22 23	<i>Mining</i>																	
	Coal—Bit. (Surface)	27,438	219	126	13	129	3,863	33	118	7,892	63	118	5	71	246	+1.1	63	1.7
	Coal—Bit. (Underground)	68,492	610	119	45	194	29,224	193	105	12,961	119	109	57	548	714	+1.7	154	1.5
	Coal—Anthracite	13,946	148	142	16	286	20,277	312	141	1,506	19	135	5	294	335	+3.4	31	0.9
	Iron (Surface)	4,225	14	63	1	63	0	0	0	7,849	32	92	8	151	54	+0.0	5	0.4
	Iron (Underground)	7,902	82	123	2	90	25,940	290	130	3,304	55	140	1	33	255	+2.2	45	1.3
	Copper (Surface)	491	3	150	0	0	119,776	2,073	151	17,100	148	135	33	280	1,230	+3.9	165	1.3
	Copper (Underground)	14,954	82	86	8	136	39,655	234	128	7,251	61	116	18	269	318	+0.8	82	1.4
	Lead and Zinc (Surface)	183	0	0	0	0	0	0	0	730	4	129	0	0	4	-0.0	2	2.2
	Lead and Zinc (Underground)	57,525	555	115	31	140	6,022	38	114	2,679	20	137	5	263	445	+1.2	70	1.1
	Other Metals (Surface Only)	2,545	18	138	0	0	1,143	7	119	11,397	82	136	3	33	91	+1.4	16	1.1
	Other Metals (Incl. Surf. and Undergnd.)	39,730	257	144	20	155	12,537	118	166	14,982	108	141	12	121	451	+2.4	130	2.0
	Salt Production	3,465	35	114	1	83	4,245	33	101	26,905	270	112	32	150	224	+1.2	23	0.7
	Min. (Clay, Shales, Phosphate, etc.)	37,431	217	113	9	77	20,386	153	126	47,318	439	133	43	128	596	+1.3	112	1.1
Quarries (Slate, Stone and Marble)	51,129	494	124	23	134	26,505	274	128	39,027	432	115	61	191	802	+1.9	123	1.1	
	Total	329,456	2,734	120	169	148	309,573	3,758	140	700,901	1,852	122	283	184	5,765	+2.0	1,021	1.3
30	<i>Oil</i>																	
	Mineral Oil Prod., Ref. and Distrib.	486,013	2,600	114	128	91	1,015,799	6,682	109	589,148	4,660	102	865	178	10,240	+0.4	1,277	0.6
40 41 42 43 44	<i>Construction</i>																	
	Steel (Incl. Steel Bridges)	28,685	192	118	7	71	16,589	111	135	53,153	478	115	26	67	522	+0.8	102	1.1
	Wood, Brick and Stone	134,733	751	106	40	99	25,780	221	111	20,647	168	117	14	86	912	+0.6	143	0.8
	Shipbuilding (Iron and Steel)	101,493	767	116	22	63	28,100	385	155	43,308	311	115	40	114	1,098	+1.2	137	0.8
	Shipbuilding (Wood)	7,764	39	126	1	28	9,982	78	108	331	7	121	0	0	111	+1.0	19	1.1
Roads (Incl. Sewers, Bridges, etc.)	69,578	528	124	31	126	90,974	898	128	17,458	201	111	12	70	1,221	+1.7	181	1.1	
	Total	342,257	2,297	114	101	89	171,425	1,693	126	134,897	1,165	115	92	85	3,864	+1.1	582	0.9

*75% of Disability Claims on Waiver of Premium.

†Tabular Claims by Table 4; Actual/Tabular in percent.

TABLE 3—Continued

INDUSTRY CODE	INDUSTRY	WAIVER OF PREMIUM				EXTENDED DEATH BENEFIT			TOTAL AND PERMANENT DISABILITY				ALL DISAB. CLAUSES—THROUGH AGE 65					
		Years Exposed	Death		Disability*		Years Exposed	Death		Years Exposed	Death		Disability		All Claims*		Accidental Death	
			No.	A/T†	No.	A/T†		No.	A/T†		No.	A/T†	No.	A/T†	No.	A-T per M	No.	Per M
	<i>Iron and Steel and Other Metal Industries (except Lead)</i>																	
60	Steel Wrks (with/without Rolling Mills)	623,300	5,758	125	465	218	131,113	1,201	126	251,223	2,018	117	184	104	6.366	+1.5	675	0.7
61	Steel and Iron Foundries	422,847	3,318	119	224	160	89,471	815	116	210,849	1,808	121	151	91	4.357	+1.1	508	0.7
62	Steel Rolling	114,711	598	94	111	287	8,707	57	160	33,659	328	142	13	48	900	+1.0	87	0.6
63	Tube, Rod and Pipe Mills	101,644	615	115	29	98	56,463	507	133	105,942	872	108	95	113	1,427	+0.7	167	0.7
64	Malleable Iron Works	73,136	648	119	42	174	34,910	230	105	51,802	509	111	34	80	1,945	+0.9	116	0.8
65	Wire Drawing and Wire Products	156,014	1,071	116	62	127	80,974	545	113	118,230	997	110	54	59	1,802	+0.5	153	0.5
66	Smelting (Elec. Proc.) and Refining	53,594	298	104	8	49	129,470	663	101	17,516	193	212	19	131	892	+0.5	163	0.8
67	Other Smelting and Refining	56,601	260	102	25	140	16,765	115	117	189,706	1,215	111	387	309	1,473	+1.5	230	0.9
68	Nonferrous Metal Foundries	57,208	399	111	18	99	20,073	176	120	128,637	790	100	99	93	1,116	+0.3	107	0.5
	Total	1,659,055	12,965	119	984	180	567,946	4,309	117	1,107,564	8,730	115	1,036	124	19,278	+1.1	2,206	0.7
	<i>Metal Products</i>																	
79	Airplane Mfg.	703,031	2,542	98	198	106	231,132	783	83	1,784,445	5,968	92	1,098	105	9.406	-2.1	1,422	0.5
80	Auto. and Agric. Implements	491,519	3,008	111	294	179	860,499	6,383	109	905,977	6,193	111	529	80	12,147	+0.5	1,183	0.5
81	Car and RR Shops	65,323	491	115	46	204	3,779	63	206	24,349	333	121	35	171	651	+1.8	57	0.7
82	Sheet Met. Prod. (Stamping and Pressing)	401,410	2,485	110	127	104	132,342	908	108	257,479	1,883	108	126	65	3,879	+0.4	362	0.5
83	Steel Fabrication (Excl. Erecting)	218,658	1,526	117	87	124	44,974	289	96	77,145	589	114	60	105	1,843	+0.8	194	0.6
84	Drop Forging	52,855	356	110	20	120	28,037	218	119	57,160	497	116	28	55	789	+0.6	89	0.7
85	Heavy Machry. and Other Met. Prod.	1,198,623	8,367	106	489	123	555,981	4,556	113	822,102	6,681	109	488	76	13,736	+0.4	1,124	0.5
86	Light Met. Prod. and Mach. (Tools, Hdwr., Instmt. of Precision, etc.)	3,858,542	21,910	101	1,138	96	1,204,926	7,425	99	3,099,637	17,707	101	1,649	76	36,092	0.0	2,967	0.4
88	Boiler Making (Heavy Tanks, etc.)	163,430	956	112	45	94	18,824	136	96	49,427	441	100	38	96	1,098	+0.4	121	0.5
89	Mfg. Radio, TV, Electronic Equipmt.	338,020	999	87	64	79	149,824	491	86	419,271	1,392	95	214	97	2,661	-0.3	257	0.3
	Total	7,491,411	42,640	103	2,508	109	3,230,318	21,252	104	7,496,992	41,684	103	4,265	83	82,302	+0.1	7,776	0.4
100	<i>Lead Industry</i>																	
	Mfg. White and Red Lead Fdry. Wrk. and Mfg. Lead and Supp. incl. Batteries	12,753	47	80	0	0	10,848	79	116	37,026	205	103	27	104	283	+0.3	21	0.4
	<i>Chemical and Allied Industries</i>																	
110	Fertilizer Production	25,876	230	133	16	181	36,425	199	104	28,335	342	93	51	211	526	+0.9	81	1.0
111	Paint and Varnish Factories	82,149	571	110	17	62	43,627	311	106	112,022	877	113	78	94	1,202	+0.3	106	0.5
112	Aniline Dyes (Coal Tar)	3,847	27	109	0	0	4,895	34	129	10,085	86	112	16	200	109	+1.0	9	0.5
113	Explosives	74,657	313	98	45	211	45,501	163	83	236,046	1,376	103	202	127	1,491	+0.0	189	0.5
114	Soap, Tallow and Glue	47,806	280	106	6	37	47,157	216	102	72,576	460	94	48	89	706	-0.3	64	0.4
115	Heavy Acids (Sulphuric, Nitric, etc.)	11,489	71	105	5	141	250	3	103	11,217	89	118	7	80	123	+0.5	20	0.9
116	Light Acids (Acetic, Citric, etc.)	20,178	110	105	3	50	3,014	21	85	1,388	6	59	0	0	100	-0.3	9	0.4
117	General Chemical Mfg.	551,354	3,029	109	272	159	331,091	1,967	100	399,568	2,172	105	323	125	5,721	+0.3	666	0.5
	Total	817,356	4,631	107	364	143	511,960	2,914	100	871,237	5,408	104	725	121	9,978	+0.2	1,144	0.5

TABLE 3—Continued

INDUSTRY CODE	INDUSTRY	WAIVER OF PREMIUM				EXTENDED DEATH BENEFIT			TOTAL AND PERMANENT DISABILITY				ALL DISAB. CLAUSES—THROUGH AGE 65					
		Years Exposed	Death		Disability*		Years Exposed	Death		Years Exposed	Death		Disability		All Claims*		Accidental Death	
			No.	A/T†	No.	A/T†		No.	A/T†		No.	A/T†	No.	A/T†	No.	A-T per M	No.	Per M
129	<i>Clay, Glass and Stone</i>																	
130	Brk. Tile, Terra Cotta and Pott. Glazd.	29,208	206	108	10	106	1,660	13	101	38,916	189	85	18	67	298	-0.3	28	0.4
131	Brk., Tile, Terra Cotta and Pott. Oth.	183,657	1,136	106	75	128	94,429	721	117	70,392	532	100	37	68	1,837	+0.6	259	0.8
132	Glass Factrs. (Excl. Polshd. Plate Glass)	158,867	770	85	33	71	38,238	276	103	338,135	1,864	104	239	115	2,137	-0.2	226	0.4
133	Polished Plate Glass	25,105	172	102	17	204	267	24	95	9,307	33	114	2	45	184	+0.6	30	0.8
134	Lime, Cement and Gypsum	139,490	937	114	44	99	76,828	633	109	86,450	764	115	65	88	1,670	+0.6	244	0.9
	Marble and Stone Yards	14,592	95	102	7	135	2,891	22	134	2,094	28	111	11	579	121	+1.3	21	1.1
	Total.....	550,919	3,316	102	186	108	216,725	1,689	111	545,294	3,410	104	372	100	6,247	+0.3	808	0.6
	<i>Clothing Industries</i>																	
160	Hat Factories (Felt)	31,446	289	93	13	104	8,127	45	69	56,746	717	106	23	51	524	-0.3	31	0.4
161	Furriers	4,331	43	93	0	0	2,699	15	72	1,478	23	98	0	0	51	-0.5	2	0.3
162	All Other Clothing	522,066	2,045	71	108	65	237,556	901	68	183,570	952	76	108	76	2,903	-1.5	249	0.3
	Total.....	557,843	2,377	73	121	67	248,382	961	68	241,794	1,692	87	131	69	3,478	-1.4	282	0.3
	<i>Food and Kindred Industries</i>																	
180	Dairy Products	196,009	963	94	43	70	162,612	856	92	391,006	2,440	100	301	104	3,263	-0.2	284	0.4
181	Flour and Grain Mills and Elev.	75,910	577	109	18	70	25,053	181	93	130,769	942	101	106	100	1,245	+0.1	162	0.7
182	Canneries (Fish)	10,903	80	92	2	42	7,072	150	124	3,237	24	76	2	77	134	+0.5	9	0.5
183	Canneries (Meat, Fruit and Veg.)	97,764	540	84	26	74	45,242	258	83	119,755	792	96	114	125	1,184	-0.7	104	0.4
184	Slaught. and Packing Houses and Stock Yards	142,745	899	110	37	82	41,649	250	109	335,950	2,415	112	447	182	2,886	+1.0	290	0.6
185	Sugar Factories and Refineries	22,166	209	94	21	231	85,234	648	86	60,707	725	113	46	85	946	-0.2	108	0.7
186	Mfg. and Bottling Bev.	57,708	247	105	9	59	45,299	241	114	100,802	475	100	72	116	805	+0.2	95	0.5
187	Cereals, Prep. Fd. and All Oth. Fd.	384,176	1,955	97	83	70	242,743	1,351	94	540,651	3,213	97	467	117	5,049	-0.2	446	0.4
191	Beer and Oth. Malt Bev.—Mfg. and Bottng.	205,870	1,784	126	92	123	69,475	689	125	52,695	471	130	30	73	2,190	+1.6	145	0.5
192	Wines—Mfg. and Bottling	6,525	43	90	1	36	3,775	24	88	0	0	0	0	0	47	-0.5	0	0.6
193	Distilled Liquors—Mfg. and Bottling	58,245	345	99	23	119	38,147	251	108	5,922	56	153	2	50	497	+0.4	42	0.4
194	Wholesale Dealers in Alcoholic Bev.	30,697	210	129	7	71	11,497	80	126	3,781	26	127	0	0	243	+0.8	21	0.5
195	Retail Dealers in Alcoholic Bev.	2,107	18	175	0	0	0	0	0	0	0	0	0	0	15	+2.9	5	2.4
	Total.....	1,290,825	7,872	104	362	86	777,798	4,978	98	1,745,275	11,579	103	1,587	122	18,504	+0.2	1,717	0.5
	<i>Leather Ind. (Excl. Artificial Leather)</i>																	
200	Heavy Leather Goods	21,394	188	104	8	109	10,266	100	111	38,972	276	98	14	51	367	+0.1	20	0.3
201	Shoes and Other Light Leath. Goods	269,624	1,451	86	78	87	189,583	1,136	86	100,744	711	91	62	75	2,436	+0.7	159	0.3
202	Tanneries	62,764	537	107	22	104	44,161	440	112	48,638	513	113	63	153	915	+0.6	92	0.6
	Total.....	353,782	2,176	92	108	91	244,010	1,676	93	188,354	1,500	99	139	93	3,718	-0.3	271	0.4

*75% of Disability Claims on Waiver of Premium.

†Tabular Claims by Table 4; Actual/Tabular in percent.

TABLE 3—Continued

INDUSTRY CODE	INDUSTRY	WAIVER OF PREMIUM				EXTENDED DEATH BENEFIT			TOTAL AND PERMANENT DISABILITY				ALL DISAB. CLAUSES—THROUGH AGE 65					
		Years Exposed	Death		Disability*		Years Exposed	Death		Years Exposed	Death		Disability		All Claims*		Accidental Death	
			No.	A/T†	No.	A/T†		No.	A/T†		No.	A/T†	No.	A/T†	No.	A-T per M	No.	Per M
	<i>Lumber and Furniture</i>																	
220	Woodsmen and Loggers	20,619	120	92	4	58	1,024	8	94	1,224	12	84	1	100	102	-0.6	26	1.2
221	Lumb. Yrds. and Saw and Planing Mills	392,606	2,726	104	141	105	147,902	1,113	100	171,147	1,399	95	162	115	3,824	+0.3	582	0.9
222	Furn. and Wdwrng. (Carriages and Mus. Inst.)	499,987	3,195	97	152	92	281,937	2,051	102	227,452	1,748	98	134	75	4,919	+0.0	538	0.6
	Total	913,212	6,041	100	297	97	430,863	3,172	101	399,823	3,159	97	297	92	8,845	+0.2	1,146	0.7
	<i>Paper and Pulp Manufacturing</i>																	
240	Paper and Ground Wood Pulp Mills	425,646	2,680	106	187	139	178,013	1,175	101	682,379	4,626	105	714	145	6,329	+0.4	776	0.6
241	Sulphide Soda Pulp Mills	6,017	31	134	4	304	1,356	11	116	31,500	355	105	21	81	218	+0.5	18	0.5
242	Paper Boxes	174,380	966	105	43	84	104,195	593	106	220,493	1,222	102	129	83	2,140	+0.0	233	0.5
243	All Other Paper Mfg.	229,231	1,418	102	69	97	121,838	912	102	407,824	2,434	102	286	107	3,302	-0.0	351	0.5
	Total	835,274	5,095	105	303	118	405,402	2,691	103	1,342,196	8,637	104	1,150	122	11,989	+0.2	1,378	0.6
	<i>Printing</i>																	
260	Printing, Bookbinding and Publishing	619,487	4,199	105	147	73	337,599	2,719	105	976,911	7,968	107	520	67	9,862	+0.2	608	0.3
	<i>Textile Industries</i>																	
270	Bleaching, Dyeing, Prntng. and Finshng.	105,451	671	100	40	109	76,121	488	101	44,035	346	103	29	81	1,086	-0.1	93	0.4
271	Hemp, Jute, Rope and Cordage	66,525	585	116	16	69	33,113	203	84	112,133	893	113	114	131	1,143	+0.4	89	0.4
272	All Oth. Text. (Wool, Silk, etc.)	1,571,885	8,254	86	676	128	919,502	4,917	89	698,982	4,291	93	710	135	13,296	-0.6	1,089	0.4
	Total	1,743,861	9,510	88	732	125	1,028,736	5,608	90	855,150	5,530	96	853	131	15,525	-0.5	1,271	0.4
	<i>Miscellaneous Industries</i>																	
289	Plastic Products	175,108	881	102	31	62	43,009	185	92	14,603	95	122	4	38	924	+0.0	96	0.4
290	Artificial Leather (Using Pyroxylin)	5,912	51	140	4	235	5,110	36	105	42	0	0	0	0	64	+1.2	2	0.2
291	Cigars and Tobacco	65,346	398	101	59	262	44,972	326	100	131,352	712	107	315	329	1,429	+1.3	91	0.4
292	Elec. Cables and Supplies (not falling under Industry Code #100)	375,993	1,280	91	107	116	130,058	707	111	140,471	1,334	102	130	130	2,412	+0.4	242	0.4
293	Rubber	360,512	1,861	104	84	80	111,365	529	95	522,922	2,833	81	295	74	3,984	-0.5	386	0.4
294	Brooms and Brushes	21,052	123	98	7	110	3,918	30	105	31,831	208	98	25	105	271	+0.1	25	0.5
295	Buttons (Excl. Metl., Rubb., and Comp.)	6,675	40	85	2	63	5,318	41	90	1,619	10	53	1	67	59	-0.9	3	0.2
296	Celluloid and Cell. Art. (Pyroxylin Comp.)	6,981	63	131	0	0	0	0	0	28	0	0	0	0	52	+2.4	6	0.9
297	Drugs (Sundrs. inc. Perfms. Chew. Gum, etc.)	202,161	1,046	96	56	96	107,058	624	96	238,536	1,360	95	148	87	2,132	-0.4	137	0.3
298	Cotton Seed Oil and Oth. Veg. Oil Prod.	11,435	98	130	3	73	29,466	197	100	4,939	36	86	2	48	249	+0.5	34	0.8
299	Ice (Mfg., Harvesting and Distributing)	8,941	99	122	4	110	6,006	71	124	16,951	276	124	24	133	279	+2.5	20	0.7
300	Misc. Mfg. and Processing	402,787	2,235	105	81	64	229,081	1,292	96	187,474	1,158	107	119	91	3,648	+1.1	395	0.5
	Total	1,642,903	8,175	101	438	92	715,361	4,038	99	1,290,768	8,022	94	1,063	112	15,503	-0.0	1,437	0.4

TABLE 3—Continued

INDUSTRY CODE	INDUSTRY	WAIVER OF PREMIUM				EXTENDED DEATH BENEFIT			TOTAL AND PERMANENT DISABILITY				ALL DISAB. CLAUSES—THROUGH AGE 65					
		Years Exposed	Death		Disability*		Years Exposed	Death		Years Exposed	Death		Disability		All Claims*		Accidental Death	
			No.	A/T†	No.	A/T†		No.	A/T†		No.	A/T†	No.	A/T†	No.	A—T per M	No.	Per M
<i>Transportation and Public Service</i>																		
310	City Employees (Incl. More than 1 Class)	524,474	4,752	104	264	125	142,818	1,347	113	205,314	1,812	104	189	113	5,476	+0.6	452	0.6
320	Elec. and St. Rwys. (Pop. Cty. 500,000+)	4,853	51	114	7	403	142,298	1,806	132	135,821	2,305	125	258	196	2,620	+2.9	116	0.5
321	Elec. and St. Rwys. (Pop. City 250,000-500,000)	40	0	0	0	0	5,351	100	146	12,364	157	102	36	321	150	+2.9	10	0.6
322	Elec. and St. Rwys. (Smaller Towns and Interurban)	8,014	119	135	2	48	9,687	113	99	62,187	880	119	58	110	551	+1.3	38	0.5
323	Airplane Trans.	328,720	702	98	63	111	82,976	163	87	391,745	1,132	126	91	57	2,065	+1.7	616	0.8
325	Auto Sales and Service Stations	418,307	1,999	106	74	58	166,786	1,009	116	96,944	583	107	64	83	3,135	+0.3	336	0.5
326	Taxis and Buses	284,872	2,712	131	127	112	70,931	603	119	136,867	1,169	119	129	121	3,393	+1.7	170	0.4
327	Trucks, Transfer, etc.	306,133	1,632	125	69	78	149,530	890	127	84,994	521	126	46	76	2,720	+1.1	368	0.7
330	Water Trans. (Vessels Oth. than River)	29,847	291	139	12	107	21,254	139	111	33,315	251	114	26	91	534	+1.2	52	0.6
331	Water Trans. (Harbor and Dock Vessels on Rivers)	32,373	298	127	9	75	13,722	104	88	38,856	351	111	25	73	563	+1.1	73	0.9
334	Steam Railroads	21,157	243	119	11	120	638,655	11,013	125	94,306	2,067	116	326	303	6,808	+2.4	410	0.6
335	Express Companies	19,960	138	142	1	12	227,597	1,776	108	34,782	209	107	8	32	1,865	+0.7	133	0.5
336	Telephone	31,048	183	98	42	323	1,450	7	86	30,140	161	97	45	220	351	+0.6	17	0.3
337	Telephone	213,655	1,166	90	9	14	78,083	227	69	115,658	420	80	84	120	1,168	-1.0	107	0.3
338	Subway and Elevated	6,403	6	171	0	0	0	0	0	12,355	149	126	29	187	153	+3.9	12	1.0
339	Police	19,034	158	151	5	74	23,813	211	146	20,802	189	140	43	285	465	+2.8	45	0.7
340	Firemen	5,010	59	135	3	131	4,974	57	131	10,799	152	141	17	183	178	+3.0	10	0.5
341	Gas Works	29,258	208	115	16	179	53,053	328	96	244,515	2,491	114	214	111	1,836	+0.7	140	0.5
342	Elec. Light and Power	260,276	1,880	121	62	72	333,617	3,234	113	1,175,505	9,902	107	1,171	123	9,870	+0.5	941	0.6
350	Misc. Trans. and Public Service	140,160	851	108	18	40	21,771	198	109	20,714	199	113	31	149	931	+0.3	131	0.7
	Total	2,677,594	17,448	112	794	92	2,188,366	23,325	119	2,957,983	25,100	112	2,890	128	44,831	+0.8	4,177	0.6
<i>Clerical and Professional</i>																		
360	Clrd. (Bnks., Ins., and Oth. Off. Forces)	1,813,365	9,280	89	533	91	1,091,113	6,610	92	2,781,621	15,802	90	1,540	79	22,675	-0.6	1,465	0.3
361	Med. (Nurses, Sanitaria, Hosp., etc.)	164,771	842	75	37	62	96,565	604	75	96,203	482	72	71	86	1,421	-1.5	94	0.3
362	Theatrical	125,402	890	115	30	71	123,762	1,107	110	174,548	1,334	109	179	113	2,603	+0.8	154	0.4
363	Conf. of Meth. Minst. and Similar Org.	150,953	845	72	21	34	59,713	708	93	73,263	771	78	27	38	1,253	-1.7	79	0.3
	Total	2,254,491	11,857	88	621	83	1,371,153	9,029	93	3,125,635	18,389	90	1,817	80	27,952	-0.6	1,792	0.3

*75% of Disability Claims on Waiver of Premium.

†Tabular Claims by Table 4; Actual/Tabular in percent.

TABLE 3—Continued

INDUS- TRY CODE	INDUSTRY	WAIVER OF PREMIUM				EXTENDED DEATH BENEFIT			TOTAL AND PERMANENT DISABILITY				ALL DISAB. CLAUSES— THROUGH AGE 65					
		Years Exposed	Death		Disability*		Years Exposed	Death		Years Exposed	Death		Disability		All Claims*		Accidental Death	
			No.	A/T†	No.	A/T†		No.	A/T†		No.	A/T†	No.	A-T perM	No.	Per M		
	<i>Trade and Service</i>																	
370	Wholesale Merch. and Dealers	720,955	3,884	94	129	55	379,930	2,651	101	414,550	3,259	102	236	72	6,727	-0.3	578	0.4
371	Retail Merch. and Dealers	1,260,699	6,841	81	305	70	1,084,441	5,907	82	1,867,787	7,863	83	1,278	103	15,699	-0.8	1,124	0.3
372	Warehouses and Cold Strg. Plants	70,356	473	114	21	90	30,930	266	114	49,622	465	106	45	103	851	+0.6	61	0.4
373	Hotels and Restaurants	304,730	2,361	100	89	76	205,207	1,566	99	140,563	1,237	100	76	56	3,737	+0.1	237	0.4
374	Laundries (Incl. Dry Cleaning)	159,726	722	83	27	52	72,204	441	90	51,475	362	81	53	107	1,205	-0.7	90	0.3
375	Coal Delivery	43,584	272	108	9	64	14,991	134	104	11,479	136	122	8	74	388	+0.5	40	0.6
376	Operat. Mtnc. of Off. and Apart. Bldgs.	44,746	451	96	13	67	30,171	303	99	28,449	347	92	25	74	727	-0.0	46	0.5
380	Misc. Trade and Service	259,995	1,626	110	63	76	43,358	349	114	42,377	301	99	15	43	1,739	+0.4	230	0.7
390	Misc. not otherwise classified	187,669	1,183	95	37	55	48,560	366	109	17,295	193	112	7	50	1,296	+0.0	128	0.5
	Total	3,052,460	17,813	91	693	66	1,909,792	11,983	91	2,623,597	14,163	90	1,743	92	32,369	-0.5	2,534	0.4
	Grand Total	27,731,102	164,423	101	9,075	102	15,776,611	113,144	104	26,764,892	173,147	101	19,876	102	331,461	+0.1	31,552	0.5

The following companies contributed experience for the total period or a portion of the period of this study: Aetna Life Insurance Company, Connecticut General Life Insurance Company, Continental Assurance Company, Equitable Life Assurance Society (prior to 1955 only), John Hancock Mutual Life Insurance Company, Metropolitan Life Insurance Company (1950 only), Occidental Life Insurance Company of California, Prudential Insurance Company of America, Sun Life Assurance Company of Canada and The Travelers Insurance Company (all years except 1956-58).

TABLE 4
NONRATED INDUSTRIES
1950-1959 CRUDE QUINQUENNIAL DISABILITY, ACCIDENTAL DEATH AND
TOTAL DEATH RATES
(Force of Decrement)

CENTRAL AGE	WAIVER OF PREMIUM			EXTENDED DEATH BENEFIT		TOTAL AND PERMANENT DISABILITY			TOTAL ACCID. DEATH
	Disab.*	Accid. Death	Total Death	Accid. Death	Total Death	Disab.	Accid. Death	Total Death	
18.....	.00004	.00072	.00106	.00066	.00100	.00008	.00056	.00087	.00066
23.....	.00007	.00063	.00106	.00056	.00099	.00013	.00050	.00088	.00058
28.....	.00010	.00045	.00100	.00047	.00106	.00016	.00043	.00095	.00047
33.....	.00012	.00042	.00125	.00038	.00121	.00023	.00036	.00113	.00041
38.....	.00016	.00039	.00184	.00037	.00188	.00031	.00035	.00171	.00040
43.....	.00025	.00041	.00314	.00040	.00321	.00051	.00035	.00296	.00042
48.....	.00042	.00042	.00533	.00041	.00530	.00089	.00037	.00500	.00043
53.....	.00077	.00045	.00845	.00043	.00855	.00182	.00044	.00826	.00047
58.....	.00175	.00054	.01310	.00052	.01388	.00473	.00045	.01281	.00052
63.....	.....	.00065	.02003	.00064	.02109	.....	.00060	.02057	.00065
68.....	.....	.00075	.02936	.00081	.03198	.....	.00073	.03283	.00078
73.....	.....	.00105	.04573	.00123	.04872	.....	.00098	.05155	.00107
78.....	.....	.00154	.07142	.00187	.07818	.....	.00140	.08244	.00155
83.....	.....	.00227	.11245	.00315	.12651	.....	.00233	.12699	.00254
88.....	.....	.00361	.17317	.00647	.20791	.....	.00385	.19088	.00436
93.....	.....	.00876	.24906	.01210	.30242	.....	.00697	.27775	.00821
98.....	.....	.03158	.25263	0	.40625	.....	.00990	.29208	.01340

* 75% of Disability Claims on Waiver of Premium.