

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1957 REPORTS**

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

**GROUP ANNUITY MORTALITY**

**T**HE current report includes only the regular matured life study and has been prepared on the same general basis as previous reports and thus is limited to the experience of single life matured annuities under Group Annuity contracts. This report continues the practice of showing comparisons with the *Ga-1951* Male and Female Tables, respectively, (without projection) as well as with the 1937 Standard Annuity Table.

As in last year's report, experience under plans which do not have a stated normal retirement date and under which annuities are purchased at the actual retirement dates of the employees has been excluded from the study in order to secure increased homogeneity.

Tables 1 and 2 show the experience for the year 1956 at attained five year age groups for lives retiring on and after normal retirement date and for lives retiring prior to normal retirement date, respectively. Table 3 compares the experience for the year 1956 for lives retiring on and after normal retirement date with the corresponding experience for other periods.

Attention is directed to the fact that there were a number of deaths reported in 1956 which actually occurred prior to 1956. The figures in this report relating to the experience prior to 1956 have not been adjusted in this regard in Tables 1 and 2 since it is known that there were similar omissions for the year 1956. The totals for 1955 and 1951-1955 shown in Table 3 have been adjusted.

In general, the 1956 experience seems to indicate a continuation of the previous trend toward improvement in mortality of retired lives.

The companies listed on page 81 contributed experience for the investigation covered by this report.

TABLE 1

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR THE YEAR 1956  
RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH 1937 STANDARD ANNUITY TABLE				COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)			
					By Number of Lives		By Amount of Annual Income		By Number of Lives		By Amount of Annual Income	
	Exposed	Actual Deaths	Exposed	Actual Deaths	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.
MEN												
50 & under	2.50	0	\$ 1,755	\$ 0	.00	(*) *%	\$ 6	(*) *%	.00	(*) *%	\$ 2	(*) *%
51-55.....	40.85	1	69,071	360	.48	(*) *	859	(*) *	.42	(*) *	650	(*) *
56-60.....	427.41	10	691,689	11,973	7.89	(*) 127	12,725	(*) 94	6.21	(*) 161	9,991	(*) 120
61-65.....	18,363.15	459	16,841,380	442,398	518.02	(83) 89	472,843	(75) 94	437.61	(98) 105	398,993	(89) 111
66-70.....	70,775.63	2,348	53,831,400	1,684,240	2,520.06	(99) 93	1,905,414	(91) 88	2,298.25	(108) 102	1,735,263	(100) 97
71-75.....	36,362.78	1,824	23,806,783	1,166,863	1,856.30	(109) 98	1,213,665	(105) 96	1,844.25	(110) 99	1,205,326	(106) 97
76-80.....	12,849.91	1,047	8,441,739	669,249	940.66	(113) 111	621,847	(111) 108	1,024.96	(104) 102	678,875	(102) 99
81-85.....	3,589.42	449	2,636,772	348,157	374.71	(120) 120	276,905	(105) 126	438.86	(102) 102	324,486	(89) 107
86-90.....	785.50	148	752,958	147,092	116.08	(122) 127	111,226	(115) 132	134.37	(105) 110	128,722	(99) 114
91-95.....	112.00	27	92,726	20,369	22.97	(132) 118	18,757	(158) 109	25.45	(119) 106	20,816	(142) 98
96 & over..	9.42	1	8,113	420	2.86	(*) *	2,435	(*) *	2.99	(*) *	2,551	(*) *
All Ages	143,318.57	6,314	\$107,174,386	\$4,491,121	6,360.03	(104) 99%	\$4,636,682	(97) 97%	6,213.37	(107) 102%	\$4,505,675	(100) 100%

TABLE 1—Continued

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH 1937 STANDARD ANNUITY TABLE				COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)							
					By Number of Lives		By Amount of Annual Income		By Number of Lives		By Amount of Annual Income					
	Exposed	Actual Deaths	Exposed	Actual Deaths	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.				
WOMEN																
50 & under	7.26	0	\$ 3,857	\$ 0	.03	(*)	*/%	\$ 17	(*)	*/%	.00	(*)	*/%	\$ 8	(*)	*/%
51-55.....	213.76	1	111,797	474	1.96	(*)	*	1,020	(*)	*	.96	(*)	*	511	(*)	*
56-60.....	1,808.51	14	958,908	7,954	22.76	(75)	62	12,130	(57)	66	12.84	(133)	109	6,824	(102)	117
61-65.....	6,837.90	84	3,118,898	44,932	121.70	(69)	69	55,048	(73)	82	80.44	(105)	104	36,280	(111)	124
66-70.....	11,044.80	195	4,260,489	77,455	268.47	(72)	73	103,386	(74)	75	198.85	(97)	98	76,510	(100)	101
71-75.....	4,630.59	137	1,796,360	51,007	162.16	(83)	84	63,072	(85)	81	153.80	(87)	89	59,889	(89)	85
76-80.....	1,486.00	102	640,483	50,024	75.89	(119)	134	32,919	(136)	152	88.19	(102)	116	38,291	(117)	131
81-85.....	447.00	44	241,015	31,004	32.66	(156)	135	17,737	(183)	175	41.32	(124)	106	22,486	(145)	138
86-90.....	101.00	18	55,423	8,929	10.51	(140)	171	5,834	(109)	153	13.64	(108)	132	7,602	(84)	117
91-95.....	19.00	1	6,863	300	2.71	(*)	*	988	(*)	*	3.65	(*)	*	1,312	(*)	*
96 & over.	3.00	2	1,582	1,078	.66	(*)	*	346	(*)	*	.95	(*)	*	496	(*)	*
All Ages	26,598.82	598	\$ 11,195,675	\$ 273,157	699.51	(84)	85%	\$ 292,497	(90)	93%	594.64	(99)	101%	\$ 250,209	(105)	109%

\* Less than 10 deaths.

† Percentages in parentheses are for the year 1955; these are as published in the 1956 Reports without adjustment for corrections received in 1957.

TABLE 2

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR THE YEAR 1956  
RETIREMENT PRIOR TO NORMAL RETIREMENT DATE

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH 1937 STANDARD ANNUITY TABLE				COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)			
	Exposed	Actual Deaths	Exposed	Actual Deaths	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.
MEN												
50 & under	187.24	6	\$ 34,873	\$ 564	1.34	(*) %	272	(*) %	.77	(*) %	\$ 175	(*) %
51-55.....	783.59	25	410,532	8,681	9.93	(326) 252	5,205	(211) 167	7.57	(429) 330	3,961	(277) 219
56-60.....	5,646.43	215	3,288,372	108,676	100.37	(234) 214	58,912	(161) 184	78.69	(299) 273	46,226	(205) 235
61-65.....	13,647.42	575	9,823,405	340,891	341.77	(176) 168	246,233	(180) 138	279.84	(215) 205	201,645	(220) 169
66-70.....	10,551.05	517	6,558,632	298,693	374.93	(135) 138	232,034	(111) 129	341.68	(148) 151	211,282	(122) 141
71-75.....	4,658.66	286	2,614,602	173,714	235.28	(112) 122	132,815	(115) 131	233.19	(113) 123	131,785	(116) 132
76-80.....	1,378.00	134	873,850	85,047	101.14	(117) 132	65,058	(106) 131	110.26	(107) 122	71,247	( 97) 119
81-85.....	418.83	49	299,847	41,119	43.44	(131) 113	31,086	(106) 132	50.87	(112) 96	36,390	( 91) 113
86 & over..	86.00	20	111,099	23,517	12.89	(*) 155	16,013	(*) 147	14.85	(*) 135	18,577	(*) 127
All Ages	37,357.22	1,827	\$24,015,212	\$1,080,902	1,221.09	(151) 150%	\$ 787,628	(136) 137%	1,117.72	(166) 163%	\$ 721,288	(148) 150%

TABLE 2—Continued

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH 1937 STANDARD ANNUITY TABLE				COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)			
					By Number of Lives		By Amount of Annual Income		By Number of Lives		By Amount of Annual Income	
	Exposed	Actual Deaths	Exposed	Actual Deaths	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.
WOMEN												
50 & under	115.73	0	\$ 22,571	\$ 0	.58	(*) *%	\$ 122	(*) *%	.25	(*) *%	\$ 54	(*) *%
51-55.....	576.49	10	151,795	3,839	4.76	(237) 210	1,258	(239) 305	2.34	(482) 427	622	(479) 617
56-60.....	1,620.54	14	514,500	4,456	19.20	(69) 73	6,162	(86) 72	10.53	(126) 133	3,378	(156) 132
61-65.....	2,185.65	41	773,275	12,358	37.37	(108) 110	13,233	(103) 93	24.25	(167) 169	8,601	(158) 144
66-70.....	1,639.47	34	553,883	12,867	39.84	(94) 85	13,470	(98) 96	29.53	(127) 115	9,982	(132) 129
71-75.....	632.58	25	215,927	8,621	22.20	(83) 113	7,603	(73) 113	21.08	(88) 119	7,234	(76) 119
76-80.....	191.58	16	86,435	6,011	9.77	(143) 164	4,451	(60) 135	11.41	(122) 140	5,177	(51) 116
81-85.....	40.00	6	23,419	5,529	2.82	(*) *	1,646	(*) *	3.53	(*) *	2,079	(*) *
86 & over..	10.00	1	4,309	66	1.01	(*) *	438	(*) *	1.30	(*) *	571	(*) *
All Ages	7,012.04	147	\$ 2,346,114	\$ 53,747	137.55	(104) 107%	\$ 48,383	(98) 111%	104.22	(139) 141%	\$ 37,698	(126) 143%

\* Less than 10 deaths.

† Percentages in parentheses are for the year 1955; these are as published in the 1956 Reports without adjustment for corrections received in 1957.

TABLE 3  
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE TO 12-31-56  
 RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

CALENDAR YEARS	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH 1937 STANDARD ANNUITY TABLE				COMPARISON WITH G0-1951 TABLE (WITHOUT PROJECTION)			
					By Number of Lives		By Amount of Annual Income		By Number of Lives		By Amount of Annual Income	
	Exposed	Actual Deaths	Exposed	Actual Deaths	Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.
MEN												
1924-1940..	56,297.34	2,923	\$ 59,377,823	\$ 2,964,846	2,369.53	123%	\$ 2,553,456	116%	2,289.45	128%	\$ 2,485,673	119%
1941-1945..	114,397.15	5,905	86,810,361	4,792,550	4,908.85	120	3,918,035	122	4,766.51	124	3,862,496	124
1946-1950..	256,894.00	11,990	171,307,970	8,254,898	10,913.99	110	7,533,929	110	10,553.92	114	7,375,031	112
1951-1955..	517,925.53	24,294	358,230,640	16,262,942	22,419.88	108	15,474,282	105	21,765.02	112	15,063,360	108
1955.....	129,755.76	6,081	93,660,549	4,005,264	5,689.47	107	4,042,255	99	5,541.06	110	3,926,167	102
1956.....	143,318.57	6,314	107,174,386	4,491,121	6,360.03	99	4,636,682	97	6,213.37	102	4,505,675	100
WOMEN												
1924-1940..	9,852.36	275	\$ 5,823,610	\$ 153,541	219.79	125%	\$ 127,454	120%	174.83	157%	\$ 99,999	154%
1941-1945..	17,593.08	491	8,937,855	239,864	416.16	118	214,271	112	339.17	145	176,096	136
1946-1950..	38,883.60	909	17,087,770	423,918	947.61	96	429,591	99	784.37	116	364,336	116
1951-1955..	87,676.96	1,983	36,229,335	861,270	2,241.26	88	937,052	92	1,884.60	105	802,246	107
1955.....	23,143.69	525	9,561,754	229,645	602.66	87	249,397	92	510.10	103	213,699	107
1956.....	26,598.82	598	11,195,675	273,157	699.51	85	292,197	93	594.64	101	250,209	109

## CONTRIBUTING COMPANIES

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Bankers Life Company  
Canada Life Assurance Company  
Confederation Life Association  
Connecticut General Life Insurance Company  
Equitable Life Assurance Society  
Great-West Life Assurance Company  
John Hancock Mutual Life Insurance Company  
Massachusetts Mutual Life Insurance Company  
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