

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1967 REPORTS**

**REPORT OF THE COMMITTEE ON  
GROUP ANNUITIES**

**GROUP ANNUITY MORTALITY**

**T**HE current report is limited to a study of the experience of single life matured annuities under Group Annuity contracts. The mortality experience is compared with the *Ga*-1951 male and female tables (without projection), as in prior years. Also, the mortality experience reported in Tables 1, 2, and 3 is compared with the *Ga*-1951 male table with Projection C to 1966, using ages set back five years in the case of female lives. Any experience reported in 1966 which actually occurred in 1965 and prior years is reflected in the tables in the appropriate years.

Tables 1, 2, and 3 show the experience for the year 1966 by attained five-year age groups for lives retiring on or after normal retirement date, for lives retiring prior to normal retirement date, and for lives retiring under plans having no stated normal retirement date, respectively.

Tables 4, 5, and 6 compare the experience for the year 1966 with corresponding experience for other periods for categories analogous to those shown in Tables 1, 2, and 3, respectively.

Tables 7, 8, and 9 show the experience for successive five-year periods and by age groups for categories analogous to those shown in Tables 1, 2, and 3, respectively.

Male mortality (as measured by *Ga*-1951 without projection) after normal retirement date under plans with a stated normal retirement date, shown in Table 1, indicated a notable decrease both by lives and amounts for the first time since 1962. This may very well be only a chance fluctuation. It is also possible that, as has happened frequently in the past, adjustments to the 1966 experience submitted with the 1967 data will change the picture. In any event, it is premature to speculate on the alternate possibility that it demonstrates a resumption of the downward trend of previous years which might have been temporarily interrupted by chance deviations during 1963-65.

Male mortality compared with *Ga*-1951 with Projection C to year-end has been virtually constant during the three years 1964-66, during which this comparison was made. Again it is premature to draw any conclusions.

Female mortality shown in Table 1 dropped sharply from the level for the year 1965. However, 1966 seems to be following the historical pattern

of relatively steady improvement in female mortality, although the extent of improvement is possibly abnormally high. It appears that the relatively high mortality ratios in 1965, as was the case in 1961 and 1963, were due to chance deviations. The pattern of steady improvement is reflected more clearly in Table 7, the form of which minimizes fluctuations.

Tables 2 and 5 indicate that the mortality of those who retire prior to normal retirement date is continuing to improve much more rapidly than that for other groups. There can be little question that this trend reflects to a significant degree the fact that more and more healthy lives are taking advantage of the more liberal early-retirement benefits being provided in a steadily increasing proportion of plans. [NOTE.—This inference is corroborated by statistical evidence obtained independently by the chairman as to the impact on retirement patterns of liberalizing early-retirement benefits.]

The following companies have contributed experience for the investigation covered by this report:

Aetna Life Insurance Company  
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  
Metropolitan Life Insurance Company  
North American Life Assurance Company  
Occidental Life Insurance Company  
Pacific Mutual Life Insurance Company  
Prudential Insurance Company of America  
Sun Life Assurance Company of Canada  
The Travelers Insurance Company

TABLE 1  
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR 1966  
 RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GQ-1951 TABLE (WITHOUT PROJECTION)				COMPARISON WITH GQ-1951 TABLE (WITH PROJECTION C TO 1966)			
					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.
Males												
50 and under	62.84		\$ 34,757		.26	(†) †	\$ 177	(†) †	0.22	†	\$ 147	†
51-55	226.44	6	346,296	\$ 4,354	2.16	(†) †	3,325	(†) †	1.79	†	2,749	†
56-60	1,700.00	61	2,707,652	68,620	23.94	(251) 255%	38,829	(154) 177%	19.76	309%	32,142	213%
61-65	25,730.82	654	35,006,256	756,793	602.27	(114) 109	816,738	(96) 93	498.71	131	676,268	112
66-70	105,884.22	3,730	123,679,131	4,030,169	3,497.97	(107) 107	4,061,046	(103) 99	2,896.45	129	3,362,818	120
71-75	82,791.08	4,282	81,931,737	4,105,592	4,266.25	(106) 100	4,192,206	(101) 98	3,610.37	119	3,545,472	116
76-80	44,730.19	3,679	36,820,221	2,716,740	3,611.17	(104) 102	2,937,571	(98) 92	3,196.42	115	2,596,953	105
81-85	16,529.70	1,969	11,499,074	1,370,500	2,029.59	(103) 97	1,410,415	(100) 97	1,885.38	104	1,309,895	105
86-90	3,689.14	664	2,642,875	463,577	631.56	(100) 105	456,118	(92) 102	615.62	108	445,289	104
91-95	594.10	136	450,857	131,865	135.92	(110) 100	103,774	(105) 127	135.92	100	103,774	127
96 and over	69.17	11	81,345	9,837	22.32	(61) 49	26,831	(46) 37	22.32	49	26,831	37
All ages	282,007.70	15,192	\$295,200,201	\$13,658,047	14,823.41	(106) 102%	\$14,047,030	(100) 97%	12,882.96	118%	\$12,102,338	113%

\* Percentages in parentheses are for the year 1965 as adjusted in 1966.

† Less than 10 deaths (actual or expected).

TABLE 1—Continued

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)				COMPARISON WITH GA-1951 TABLE (WITH PROJECTION C TO 1966)			
					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.
Females												
50 and under	37.67	.....	\$ 21,383	.....	.06	(†) †	\$ 52	(†) †	0.04	†	\$ 48	†
51-55	372.33	2	217,340	\$ 2,431	1.57	(†) †	958	(†) †	1.86	†	1,087	†
56-60	3,126.24	23	2,022,593	15,424	22.13	(159) 104%	14,513	(165) 106%	24.75	93%	16,230	95%
61-65	13,922.65	126	9,462,973	82,018	164.85	(92) 76	111,110	(88) 74	161.73	78	109,200	75
66-70	28,409.52	424	15,955,540	227,133	521.30	(88) 81	290,036	(90) 78	472.95	90	263,437	86
71-75	18,869.34	482	8,807,267	232,990	644.29	(86) 75	297,709	(80) 78	507.19	95	235,060	99
76-80	9,057.51	421	3,726,016	172,778	533.66	(82) 79	219,113	(77) 79	386.22	109	158,551	109
81-85	2,884.69	233	1,159,031	92,061	265.62	(104) 88	106,993	(110) 86	201.52	116	81,228	113
86-90	637.83	104	290,050	43,782	86.94	(95) 120	39,739	(83) 110	72.73	143	33,178	132
91-95	118.42	21	54,617	12,330	22.97	(140) 91	10,631	(133) 116	19.45	108	8,997	137
96 and over..	17.00	4	8,285	737	5.06	(†) †	2,747	(†) †	3.97	†	2,073	†
All ages...	77,453.20	1,840	\$ 41,725,095	\$ 881,684	2,268.45	(90) 81%	\$ 1,093,601	(88) 81%	1,852.41	99%	\$ 909,089	97%

TABLE 2  
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR 1966  
 RETIREMENT PRIOR TO NORMAL RETIREMENT DATE

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)				COMPARISON WITH GA-1951 TABLE (WITH PROJECTION C TO 1966)			
					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.
Males												
50 and under	1,202.27	19	\$ 265,688	\$ 5,067	4.54	(†) †	\$ 1,241	(†) †	3.71	†	\$ 1,029	†
51-55.....	2,449.83	74	1,944,926	44,961	23.56	(259) 314%	18,524	(195) 243%	19.53	379%	15,330	293%
56-60.....	16,991.67	467	14,647,969	311,248	235.51	(212) 198	205,009	(177) 152	195.08	239	169,763	183
61-65.....	48,909.54	1,617	49,995,695	1,448,029	1,014.39	(167) 159	1,037,675	(143) 140	839.93	193	859,243	169
66-70.....	35,494.82	1,441	33,996,416	1,234,033	1,140.24	(138) 126	1,087,459	(118) 113	944.19	153	900,480	137
71-75.....	14,725.25	883	11,536,391	593,833	742.80	(125) 119	578,098	(109) 103	627.45	141	488,007	122
76-80.....	5,767.15	476	3,766,677	261,150	463.24	(109) 103	299,610	(105) 87	409.81	116	264,787	99
81-85.....	1,840.43	221	1,071,595	143,279	223.32	(111) 99	130,982	(119) 109	207.16	107	121,590	118
86 and over..	422.00	86	257,670	47,733	76.73	(109) 112	48,017	(145) 99	75.16	114	47,186	101
All ages....	127,802.96	5,284	\$117,483,027	\$4,089,333	3,924.33	(143) 135%	\$ 3,406,615	(128) 120%	3,322.02	159%	\$ 2,867,415	143%

\* Percentages in parentheses are for the year 1965 as adjusted in 1966.

† Less than 10 deaths (actual or expected).

TABLE 2—Continued

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)				COMPARISON WITH GA-1951 TABLE (WITH PROJECTION C TO 1966)			
					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.
Females												
50 and under	239.29	2	\$ 67,545	\$ 366	.53	(†) †	\$ 175	(†) †	.47	†	\$ 155	†
51-55.....	1,289.64	17	544,069	7,557	5.33	(†) †	2,280	(†) †	5.96	†	2,549	†
56-60.....	5,346.41	63	2,341,861	22,737	35.14	(213) 179%	15,439	(163) 147%	39.83	158%	17,510	130%
61-65.....	12,249.77	168	5,699,025	76,873	138.61	(139) 121	64,440	(145) 119	137.62	122	63,981	120
66-70.....	8,695.90	182	3,491,471	72,122	156.25	(123) 116	62,453	(108) 115	142.19	128	56,853	127
71-75.....	3,252.35	121	1,213,415	39,082	107.24	(109) 113	39,762	(96) 98	85.28	142	31,687	123
76-80.....	1,230.17	48	424,817	16,738	72.46	(112) 66	25,079	(95) 67	52.44	92	18,147	92
81-85.....	365.00	39	138,655	12,692	33.89	(64) 115	12,857	(59) 99	25.79	151	9,773	130
86 and over..	75.42	15	37,454	4,552	10.83	(†) 139	5,504	(†) 83	9.09	†	4,624	†
All ages...	32,743.95	655	\$ 13,958,312	\$ 252,719	560.28	(126) 117%	\$ 227,989	(118) 111%	498.67	131%	\$ 205,279	123%

TABLE 3  
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR 1966  
 RETIREMENT UNDER A PLAN HAVING NO STATED NORMAL RETIREMENT DATE

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GQ-1951 TABLE (WITHOUT PROJECTION)				COMPARISON WITH GQ-1951 TABLE (WITH PROJECTION C TO 1966)			
					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.
Males												
50 and under	48.06	1	\$ 24,441	\$ 488	.17	(†) †	\$ 104	(†) †	.12	†	\$ 83	†
51-55.....	141.39	2	144,952	1,793	1.37	(†) †	1,406	(†) †	1.14	†	1,160	†
56-60.....	1,371.98	36	1,404,346	37,390	19.24	(196) 187%	19,826	(148) 189%	15.95	226%	16,415	228%
61-65.....	10,359.38	311	12,369,812	318,511	227.40	(166) 137	272,324	(155) 117	188.24	165	225,495	141
66-70.....	29,136.81	1,081	29,605,785	1,073,213	968.74	(116) 112	971,164	(107) 111	802.13	135	804,184	133
71-75.....	24,639.91	1,354	18,401,126	959,255	1,271.19	(105) 107	945,255	(102) 101	1,075.91	126	799,711	120
76-80.....	12,260.90	999	7,457,047	561,207	983.89	(101) 102	595,325	(97) 94	870.30	115	526,347	107
81-85.....	4,010.28	473	2,229,568	253,564	492.02	(98) 96	274,173	(100) 92	457.08	103	254,752	100
86-90.....	865.06	148	449,310	74,248	148.17	(85) 100	76,734	(75) 97	144.42	102	74,776	99
91 and over..	139.00	36	81,123	28,187	33.31	(82) 108	19,297	(92) 146	33.31	108	19,297	146
All ages...	82,972.77	4,441	\$ 72,167,510	\$ 3,307,856	4,145.50	(110) 107%	\$ 3,175,608	(108) 104%	3,588.60	124%	\$ 2,722,220	122%

\* Percentages in parentheses are for the year 1965 as adjusted in 1966.

† Less than 10 deaths (actual or expected).

TABLE 3—Continued

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)				COMPARISON WITH GA-1951 TABLE (WITH PROJECTION C TO 1966)			
					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.
Females												
50 and under	26.89	2	\$ 23,972	\$ 1,645	.01	(†) †	\$ 50	(†) †	.01	†	\$ 46	†
51-55.....	129.20	2	88,141	1,153	.52	(†) †	370	(†) †	.57	†	415	†
56-60.....	681.21	3	460,942	2,857	4.61	(†) †	3,125	(†) †	5.18	†	3,527	†
61-65.....	3,003.48	47	2,084,106	27,623	35.82	(108) 131%	24,892	(120) 111%	35.04	134%	24,358	113%
66-70.....	5,854.20	85	3,773,273	62,598	108.07	(96) 79	69,089	(112) 91	97.99	87	62,700	100
71-75.....	3,637.19	111	2,027,142	64,583	122.24	(92) 91	68,048	(86) 95	96.69	115	53,835	122
76-80.....	1,313.87	68	667,533	36,290	77.01	(86) 88	39,262	(82) 92	55.75	122	28,409	128
81-85.....	391.19	35	210,812	18,156	36.11	(76) 97	19,387	(78) 94	27.41	128	14,707	123
86-90.....	64.42	13	36,461	7,353	8.77	(†) †	5,106	(†) †	7.42	†	4,279	†
91 and over..	14.00	3	3,975	2,303	3.32	(†) †	975	(†) †	2.62	†	787	†
All ages...	15,115.65	369	\$ 9,376,357	\$ 224,561	396.48	(94) 93%	\$ 230,304	(97) 98%	328.68	112%	\$ 193,063	116%



**TABLE 4**  
**INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE**  
**TO DECEMBER 31, 1966**  
**RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE**

CALENDAR YEARS	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)			
					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.
<b>Males</b>								
1924-40 . . .	56,540.10	2,928	\$ 59,680,408	\$ 2,967,078	2,297.00	127%	\$ 2,493,497	119%
1941-45 . . .	115,220.85	5,935	87,693,656	4,814,525	4,794.06	124	3,891,268	124
1946-50 . . .	258,642.39	12,095	173,206,594	8,328,414	10,623.36	114	7,447,834	112
1951-55 . . .	520,840.87	24,356	359,826,913	16,316,415	21,857.52	111	15,127,462	108
1956-60 . . .	875,212.08	41,866	708,322,926	30,784,125	39,107.48	107	29,954,760	103
1961-65 . . .	1,232,373.44	64,920	1,184,244,575	53,811,619	60,738.30	107	53,469,136	101
1965 . . . . .	272,652.86	14,869	276,736,531	13,008,462	14,040.94	106	12,947,674	100
1966 . . . . .	282,007.70	15,192	295,200,201	13,658,047	14,823.41	102	14,047,030	97
<b>Females</b>								
1924-40 . . .	9,855.07	275	\$ 5,814,703	\$ 153,541	174.37	158%	\$ 99,243	155%
1941-45 . . .	17,704.13	494	8,967,500	241,062	340.11	145	175,821	137
1946-50 . . .	39,312.67	916	17,234,672	427,673	788.92	116	365,298	117
1951-55 . . .	88,039.53	1,993	36,324,456	863,614	1,892.85	105	803,792	107
1956-60 . . .	173,418.01	3,938	75,905,982	1,698,060	4,098.92	96	1,736,326	98
1961-65 . . .	296,500.64	7,510	147,696,190	3,389,071	8,003.49	94	3,640,414	93
1965 . . . . .	71,321.96	1,812	37,361,148	837,040	2,022.69	90	952,016	88
1966 . . . . .	77,453.20	1,840	41,725,095	881,684	2,268.45	81	1,093,601	81

TABLE 5

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE  
TO DECEMBER 31, 1966  
RETIREMENT PRIOR TO NORMAL RETIREMENT DATE

CALENDAR YEARS	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)			
					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.
Males								
1924-40	16,778.02	740	\$ 14,785,704	\$ 606,943	405.75	182%	\$ 354,243	171%
1941-45	26,198.01	1,460	18,005,442	776,627	725.90	201	527,590	147
1946-50	65,029.08	3,460	37,541,512	1,794,647	1,767.04	196	1,124,839	160
1951-55	133,875.29	6,791	78,537,412	3,663,544	3,805.06	178	2,349,408	156
1956-60	251,071.03	12,048	173,631,435	7,228,842	7,473.02	161	5,067,892	143
1961-65	463,398.98	20,660	385,651,542	14,822,930	13,992.00	148	11,115,770	133
1965	114,150.42	4,999	100,744,684	3,732,704	3,491.88	143	2,924,078	128
1966	127,802.96	5,284	117,483,027	4,089,333	3,924.33	135	3,406,615	120
Females								
1924-40	1,938.83	44	\$ 815,994	\$ 20,273	17.54	251%	\$ 7,847	258%
1941-45	3,860.82	102	1,447,016	38,267	45.39	225	18,983	202
1946-50	10,141.66	231	3,383,911	80,824	129.08	179	49,890	162
1951-55	23,062.59	527	7,420,821	191,059	321.79	164	117,274	163
1956-60	50,830.11	1,152	17,544,625	394,349	772.60	149	279,120	141
1961-65	108,830.08	2,278	42,359,817	811,597	1,772.00	129	680,154	119
1965	28,660.27	606	11,694,926	223,793	480.12	126	189,394	118
1966	32,743.95	655	13,958,312	252,719	560.28	117	227,989	111

TABLE 6

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE  
TO DECEMBER 31, 1966  
RETIREMENT UNDER A PLAN HAVING NO STATED NORMAL RETIREMENT DATE

CALENDAR YEARS	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)			
					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.
Males								
1956-60	126,321.25	6,207	\$ 77,999,774	\$ 3,547,283	5,479.50	113%	\$ 3,200,271	111%
1961-65	299,377.88	16,008	235,461,132	11,095,524	13,781.08	116	9,787,753	113
1965	72,402.08	3,847	61,235,259	2,823,522	3,500.21	110	2,625,617	108
1966	82,972.77	4,441	72,167,510	3,307,856	4,145.50	107	3,175,608	104
Females								
1956-60	13,672.17	276	\$ 6,601,490	\$ 130,228	300.40	92%	\$ 141,965	92%
1961-65	46,410.60	1,115	25,920,728	591,812	1,116.42	100	597,868	99
1965	12,656.22	302	7,491,709	174,904	321.89	94	180,337	97
1966	15,115.65	369	9,376,357	224,561	396.48	93	230,304	98

**TABLE 7**  
**INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE**  
**TO DECEMBER 31, 1966**  
**RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE**  
**COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)**

**MALES**

Attained Ages	1946-50	1951-55	1956-60	1958-62	1959-63	1960-64	1961-65	1962-66
Actual Deaths—by Number of Lives								
60 and under . . .	46	51	96	155	180	202	235	265
61-65 . . . . .	1,211	2,143	2,866	3,095	3,155	3,201	3,300	3,322
66-70 . . . . .	4,791	9,663	14,418	16,250	17,018	17,707	18,136	18,428
71-75 . . . . .	3,163	6,773	12,679	15,515	17,125	18,404	19,584	20,444
76-80 . . . . .	1,731	3,549	7,479	9,879	11,270	12,706	14,233	15,606
81-85 . . . . .	855	1,568	3,136	4,271	5,009	5,813	6,836	7,792
86-90 . . . . .	232	494	957	1,325	1,565	1,823	2,109	2,457
91-95 . . . . .	60	104	214	288	305	362	444	520
96 and over . . . .	6	11	21	26	33	41	43	51
Total . . . . .	12,095	24,356	41,866	50,804	55,660	60,259	64,920	68,885
Ratio: Act./Exp.—by Number of Lives								
60 and under . . .	189%	182%	153%	166%	167%	175%	197%	214%
61-65 . . . . .	118	117	113	112	112	113	115	115
66-70 . . . . .	113	113	107	107	107	108	108	107
71-75 . . . . .	113	110	108	108	110	109	109	107
76-80 . . . . .	110	107	106	104	104	104	104	103
81-85 . . . . .	119	108	102	103	103	102	102	101
86-90 . . . . .	108	111	104	104	104	104	103	103
91-95 . . . . .	154	134	122	117	106	104	104	103
96 and over . . . .	*	104	79	69	72	77	69	66
Total . . . . .	114%	111%	107%	107%	107%	107%	107%	106%
Ratio: Act./Exp.—by Amount of Annual Income								
60 and under . . .	199%	158%	125%	113%	120%	113%	117%	133%
61-65 . . . . .	114	116	109	102	102	103	100	99
66-70 . . . . .	114	108	101	101	101	101	101	101
71-75 . . . . .	112	108	104	102	102	101	101	100
76-80 . . . . .	101	104	101	99	100	101	100	98
81-85 . . . . .	121	99	102	102	101	101	101	100
86-90 . . . . .	90	108	105	108	105	101	98	96
91-95 . . . . .	169	157	108	89	86	84	90	101
96 and over . . . .	*	92	63	45	40	87	79	71
Total . . . . .	112%	108%	103%	101%	101%	101%	101%	100%

\* Less than 10 deaths (actual or expected).

TABLE 7—Continued

## FEMALES

Attained Ages	1946-50	1951-55	1956-60	1958-62	1959-63	1960-64	1961-65	1962-66
Actual Deaths—by Number of Lives								
60 and under . . .	41	68	77	91	108	121	145	152
61-65 . . . . .	164	325	460	564	609	613	673	674
66-70 . . . . .	258	647	1,255	1,554	1,751	1,855	1,963	2,045
71-75 . . . . .	233	424	1,006	1,418	1,638	1,851	2,121	2,251
76-80 . . . . .	128	291	666	881	1,113	1,308	1,490	1,715
81-85 . . . . .	63	173	311	440	542	608	764	888
86-90 . . . . .	25	53	127	180	216	244	270	337
91-95 . . . . .	4	12	29	44	51	62	75	87
96 and over . . . . .			7	7	6	10	9	12
Total . . . . .	916	1,993	3,938	5,179	6,034	6,672	7,510	8,161
Ratio: Act./Exp.—by Number of Lives								
60 and under . . .	119%	126%	100%	102%	112%	118%	133%	134%
61-65 . . . . .	114	109	97	102	102	96	98	92
66-70 . . . . .	108	104	95	95	97	95	94	90
71-75 . . . . .	125	96	90	92	91	90	90	85
76-80 . . . . .	108	102	102	91	95	93	90	87
81-85 . . . . .	135	127	100	102	106	100	102	97
86-90 . . . . .	144	116	120	112	111	107	101	106
91-95 . . . . .	*	*	103	113	109	111	116	109
96 and over . . . .	*	*	*	*	*	83	*	66
Total . . . . .	116%	105%	96%	95%	97%	95%	94%	90%
Ratio: Act./Exp.—by Amount of Annual Income								
60 and under . . .	100%	110%	108%	106%	113%	123%	137%	141%
61-65 . . . . .	123	115	103	107	106	101	100	91
66-70 . . . . .	108	109	96	94	97	93	93	90
71-75 . . . . .	124	93	86	89	89	87	86	83
76-80 . . . . .	102	106	107	94	94	93	87	86
81-85 . . . . .	150	126	100	101	107	98	102	97
86-90 . . . . .	158	108	118	129	123	115	105	106
91-95 . . . . .	*	*	107	114	125	128	129	126
96 and over . . . .	*	*	*	*	*	93	*	54
Total . . . . .	117%	107%	98%	97%	98%	94%	93%	90%

\* Less than 10 deaths (actual or expected).

**TABLE 8**  
**INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE**  
**TO DECEMBER 31, 1966**  
**RETIREMENT PRIOR TO NORMAL RETIREMENT DATE**  
**COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)**  
**MALES**

Attained Ages	1946-50	1951-55	1956-60	1958-62	1959-63	1960-64	1961-65	1962-66
Actual Deaths—by Number of Lives								
60 and under . . .	651	1,135	1,551	1,869	2,075	2,286	2,426	2,614
61-65 . . . . .	1,238	2,308	3,855	4,622	5,209	5,688	6,280	6,926
66-70 . . . . .	843	1,856	3,217	4,008	4,533	5,060	5,717	6,301
71-75 . . . . .	470	886	2,013	2,522	2,811	3,036	3,371	3,686
76-80 . . . . .	218	422	905	1,233	1,432	1,691	1,894	2,095
81-85 . . . . .	36	160	389	485	538	609	713	833
86-90 . . . . .	4	22	103	131	164	183	215	254
91-95 . . . . .		2	14	19	26	32	42	54
96 and over . . . . .			1				2	5
Total . . . . .	3,460	6,791	12,048	14,889	16,788	18,585	20,660	22,768
Ratio: Act./Exp.—by Number of Lives								
60 and under . . .	334%	309%	253%	236%	237%	240%	235%	233%
61-65 . . . . .	243	228	198	182	180	175	171	168
66-70 . . . . .	166	156	151	146	145	142	142	138
71-75 . . . . .	138	129	128	128	130	128	127	125
76-80 . . . . .	126	111	118	115	113	115	112	110
81-85 . . . . .	94	108	114	112	110	108	106	104
86-90 . . . . .	*	82	113	100	106	103	105	109
91-95 . . . . .	*	8	124	95	94	92	100	108
96 and over . . . . .	*	*	*	*	*	*	*	*
Total . . . . .	196%	178%	161%	153%	153%	150%	148%	144%
Ratio: Act./Exp.—by Amount of Annual Income								
60 and under . . .	251%	249%	196%	200%	200%	200%	197%	188%
61-65 . . . . .	206	206	164	147	147	147	145	144
66-70 . . . . .	144	140	137	137	135	130	126	122
71-75 . . . . .	131	120	121	115	119	117	117	112
76-80 . . . . .	115	102	118	113	111	115	111	105
81-85 . . . . .	78	94	105	116	119	116	117	112
86-90 . . . . .	*	150	93	87	104	100	102	102
91-95 . . . . .	*	*	106	45	38	37	88	100
96 and over . . . . .	*	*	*	*	*	*	*	*
Total . . . . .	160%	156%	143%	137%	137%	135%	133%	129%

\* Less than 10 deaths (actual or expected).

TABLE 8—Continued

## FEMALES

Attained Ages	1946-50	1951-55	1956-60	1958-62	1959-63	1960-64	1961-65	1962-66
Actual Deaths—by Number of Lives								
60 and under . . .	64	117	194	240	275	305	334	362
61-65 . . . . .	59	155	327	466	544	596	672	726
66-70 . . . . .	54	126	292	394	454	497	567	666
71-75 . . . . .	34	71	186	258	298	326	372	451
76-80 . . . . .	16	40	99	128	158	182	225	241
81-85 . . . . .	3	13	47	56	64	65	71	99
86-90 . . . . .	1	4	6	13	17	20	29	41
91-95 . . . . .		1	1	5	7	6	8	7
96 and over . . . . .								
Total . . . . .	231	527	1,152	1,560	1,817	1,997	2,278	2,593
Ratio: Act./Exp.—by Number of Lives								
60 and under . . .	260%	254%	220%	211%	215%	215%	212%	209%
61-65 . . . . .	173	186	165	163	162	152	147	137
66-70 . . . . .	173	147	144	142	137	125	119	117
71-75 . . . . .	139	119	119	118	118	111	109	113
76-80 . . . . .	*	119	115	103	104	100	103	92
81-85 . . . . .	*	125	139	111	106	89	78	88
86-90 . . . . .	*	*	*	120	115	101	110	123
91-95 . . . . .	*	*	*	*	*	*	*	*
96 and over . . . . .		*	*	*	*	*	*	*
Total . . . . .	179%	164%	149%	144%	142%	133%	129%	124%
Ratio: Act./Exp.—by Amount of Annual Income								
60 and under . . .	259%	255%	228%	196%	206%	205%	185%	184%
61-65 . . . . .	166	216	147	154	151	133	135	127
66-70 . . . . .	183	151	147	134	134	121	115	114
71-75 . . . . .	113	101	106	114	113	106	103	103
76-80 . . . . .	*	106	111	92	96	88	84	79
81-85 . . . . .	*	136	138	115	113	98	87	90
86-90 . . . . .	*	*	*	79	59	69	80	87
91-95 . . . . .	*	*	*	*	*	*	*	*
96 and over . . . . .		*	*	*	*	*	*	*
Total . . . . .	162%	163%	141%	135%	135%	123%	119%	116%

\* Less than 10 deaths (actual or expected).

**TABLE 9**  
**INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE**  
**TO DECEMBER 31, 1966**  
**RETIREMENT UNDER A PLAN HAVING NO STATED NORMAL RETIREMENT DATE**  
**COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)**  
**MALES**

Attained Ages	1956-60	1958-62	1959-63	1960-64	1961-65	1962-66
Actual Deaths—by Number of Lives						
60 and under	60	105	139	165	190	204
61-65.....	525	803	1,020	1,205	1,398	1,554
66-70.....	2,411	3,648	4,233	4,715	4,988	5,219
71-75.....	1,802	3,014	3,637	4,283	4,810	5,412
76-80.....	943	1,624	2,051	2,486	2,931	3,560
81-85.....	342	612	808	994	1,234	1,561
86-90.....	104	197	267	331	385	489
91-95.....	15	31	40	52	65	88
96 and over..	5	6	7	8	7	9
Total...	6,207	10,040	12,202	14,239	16,008	18,096
Ratio: Act./Exp.—by Number of Lives						
60 and under	303%	271%	269%	251%	241%	228%
61-65.....	150	142	148	151	156	156
66-70.....	119	122	124	125	124	121
71-75.....	108	114	114	114	112	109
76-80.....	102	106	109	109	106	105
81-85.....	93	95	99	98	99	98
86-90.....	95	100	107	108	102	102
91-95.....	84	106	104	100	97	99
96 and over..	*	*	*	*	*	*
Total...	113%	116%	118%	118%	116%	114%
Ratio: Act./Exp.—by Amount of Annual Income						
60 and under	169%	223%	233%	202%	197%	190%
61-65.....	131	125	137	137	144	141
66-70.....	110	115	117	116	116	113
71-75.....	112	112	113	112	108	105
76-80.....	104	108	110	109	105	102
81-85.....	105	104	103	92	95	94
86-90.....	102	107	108	112	104	104
91-95.....	53	81	68	98	94	109
96 and over..	*	*	*	*	*	*
Total...	111%	114%	116%	115%	113%	111%

\* Less than 10 deaths (actual or expected).

TABLE 9—Continued

## FEMALES

Attained Ages	1956-60	1958-62	1959-63	1960-64	1961-65	1962-66
Actual Deaths—by Number of Lives						
60 and under	11	16	24	31	37	43
61-65.....	50	77	96	119	135	169
66-70.....	119	197	268	297	348	390
71-75.....	54	126	175	240	309	393
76-80.....	22	65	99	141	184	241
81-85.....	15	31	47	63	77	102
86-90.....	5	10	14	19	23	34
91-95.....					2	4
96 and over.....						1
Total...	276	522	723	910	1,115	1,377
Ratio: Act./Exp.—by Number of Lives						
60 and under	*	*	206%	213%	213%	213%
61-65.....	123%	108%	108	111	109	118
66-70.....	107	99	107	98	98	95
71-75.....	65	84	90	96	96	96
76-80.....	50	73	84	93	95	97
81-85.....	105	99	105	105	94	92
86-90.....	*	*	136	126	115	124
91-95.....	*	*	*	*	*	*
96 and over.....		*	*	*	*	*
Total...	92%	94%	101%	101%	100%	100%
Ratio: Act./Exp.—by Amount of Annual Income						
60 and under	*	*	200%	213%	196%	199%
61-65.....	95%	88%	95	105	109	112
66-70.....	109	99	111	95	101	99
71-75.....	64	75	84	87	88	93
76-80.....	58	79	84	97	96	100
81-85.....	131	102	111	109	98	97
86-90.....	*	*	162	157	107	121
91-95.....	*	*	*	*	*	*
96 and over.....		*	*	*	*	*
Total...	92%	90%	100%	98%	99%	101%

\* Less than 10 deaths (actual or expected).



