

TRANSACTIONS OF SOCIETY OF ACTUARIES 1958 REPORTS

REPORT OF THE COMMITTEE ON EXPERIENCE UNDER SELF-ADMINISTERED RETIREMENT PLANS

THIS report follows the pattern of the 1953 report of the Special Committee on Experience under Self-Administered Retirement Plans (*TSA* 1953 Reports, 52). It deals with pensioner mortality only, showing the more recent experience of three of the groups dealt with in the earlier report, and adding the experience of five other groups.

As has been pointed out previously, the compilation of experience data on self-administered retirement plans involves problems which have long since been surmounted, if they ever did exist, in the case of insurance company experience. Some of these problems are:

- a) There is no machinery for the regular reporting or exchange of experience data on self-administered retirement plans, such as has been well-established among the insurance companies for many years.
- b) There is a noticeable reluctance on the part of many important employers and their consultants to provide experience for use in published reports.
- c) There is a considerable shortage of capacity on the part of consulting firms to process such data as are available.

It is hoped that at least some of these difficulties will gradually be overcome. The Committee are unanimously of the opinion that there is a real need for collection, analysis, and publication of experience under self-administered retirement plans. There is a real possibility that the publication of the Committee's reports will demonstrate the value of joint experience studies under self-administered retirement plans, and thereby encourage employers and actuaries to volunteer their cooperation in connection with future such studies.

Since the Committee on Group Annuity Mortality is now using the *Ga*-1951 Table (without projection) as a standard of comparison (also reporting on the 1937 Standard Annuity Table), and since the *Ga*-1951 Table is felt to involve a more realistic curve of current mortality by age than the earlier table, the *Ga*-1951 Table has been used for determination of expected deaths for purposes of the present report. Therefore, the experience reported in 1953 has (with the exception of two groups) been repeated in this report, with appropriate adjustments for the revised mortality basis.

As in the case of the 1953 report, the experience has been limited as follows:

- a) As far as possible only regular ("service") retirements, as distinguished from retirements due to disability occurring prior to the normal retirement age, have been included. It is likely that because of variations in policies and definitions some disability retirements are included in the experience (as is, of course, the case with group annuity mortality experience as well).
- b) The experience is reported only by number of lives, there being available little or no experience by amount of pension. In some cases male and female data could not be separated, but for these groups the proportion of females was small.
- c) Experience of the eight groups has not been combined. Each group involves enough deaths so that it was felt that its own experience is of significance, and there is considerable doubt as to whether either the groups themselves or the conditions leading to retirement have been sufficiently homogeneous to justify combining the experience.

Table 1 reports the ratios of actual to expected mortality, by five-year age groups, for each of the eight groups studied. Groups D and E of the 1953 report are omitted from this report, since no new data were available.

Table 2 is a summary of composite mortality ratios for ages 65 and over, limited to males where possible, charted according to the calendar year periods for which data were separately available. The group annuity experience for corresponding periods is also shown in this table for comparison.

While the secular improvements in mortality noted in the 1953 report are generally confirmed by the new data, as to periods up to about 1950, there appear to be indications of a leveling off of this improvement during the current decade, especially in the larger groups where the experience is presumably of greatest significance. This change in trend may be indicative of the presence of one or a combination of several factors, such as

- a) a real slowing down in mortality improvement among groups of retired people;
- b) a trend away from compulsory retirement, which would tend to exclude a disproportionate number of healthier lives from pensioner experience;
- c) a tendency, in cases where disability retirement involves greater benefits than nondisability, to apply a stricter definition of disability, thus throwing an increasing proportion of disabled lives into the pensioner experience.

TABLE 1
MORTALITY OF PENSIONERS UNDER SELF-ADMINISTERED RETIREMENT PLANS
RATIOS OF ACTUAL DEATHS TO EXPECTED
ACCORDING TO Ga-1951 MORTALITY TABLE (WITHOUT PROJECTION)

ATTAINED AGES	GROUP A Retired Government Employees, Including Only "Nondisability Annuitants"				
	7/35-6/40	7/40-6/45	7/45-6/50	7/50-6/55	7/55-6/57
MALES					
Under 55.....	150% (43) *	(2)	* (3)	80% (21)	171% (22)
55-59.....	158 (252)	141% (92)	127% (340)	129 (424)	111 (170)
60-64.....	132 (885)	142 (942)	157 (1940)	147 (3031)	137 (1494)
65-69.....	121 (2381)	121 (2887)	128 (3962)	132 (6333)	131 (3554)
70-74.....	126 (2851)	120 (4020)	112 (5489)	107 (7649)	109 (3915)
75-79.....	124 (2316)	117 (3253)	108 (4588)	102 (6556)	102 (3304)
80-84.....	125 (1285)	118 (2130)	109 (2926)	99 (4229)	97 (2238)
85-89.....	113 (406)	118 (762)	109 (1269)	106 (1908)	106 (1096)
90 & over.....	133 (168)	118 (212)	123 (372)	119 (658)	111 (335)
65 & over.....	124% (9407)	119% (13264)	113% (18606)	112 112% (27333)	110% (14442)
All.....	125 (10587)	120 (14300)	117 (20889)	112 (30809)	112 (16128)
FEMALES					
Under 55.....	* (1)	* (0)	* (0)	* (3)	* (1)
55-59.....	* (8)	* (8)	75% (16)	70% (36)	65% (19)
60-64.....	118% (23)	124% (43)	106 (125)	97 (263)	86 (146)
65-69.....	174 (126)	119 (150)	134 (364)	110 (639)	88 (319)
70-74.....	126 (170)	104 (266)	108 (480)	98 (770)	95 (444)
75-79.....	162 (189)	127 (288)	116 (448)	106 (710)	111 (426)
80-84.....	167 (116)	150 (206)	134 (342)	117 (526)	112 (294)
85-89.....	187 (67)	146 (82)	125 (136)	131 (296)	120 (164)
90 & over.....	128 (14)	154 (28)	123 (46)	124 (92)	130 (63)
65 & over.....	155% (682)	124% (1020)	121% (1816)	109% (3033)	103% (1710)
All.....	153 (714)	125 (1071)	119 (1957)	107 (3335)	101 (1876)

* Less than 10 deaths.

NOTE.—Number of actual deaths corresponding to each mortality ratio is shown in parentheses.

TABLE 1—Continued

ATTAINED AGES	GROUP B Service Pensioners of a Group of Public Utility Companies Covered under a Uniform Plan. Retirement Is Compulsory at 65, and Service Pensioners Include Employees Retired for Disability if Eligible for a Service Pension				
	1933-37	1938-42	1943-47	1948-52	1953-57
	MALES				
Under 55.....	270% (20)	515% (34)	559% (33)	684% (39)	523% (46)
55-59.....	256 (100)	256 (117)	379 (155)	335 (136)	362 (158)
60-64.....	187 (206)	195 (308)	197 (379)	210 (475)	182 (458)
65-69.....	156 (259)	129 (389)	132 (681)	124 (990)	125 (1283)
70-74.....	143 (181)	135 (279)	130 (487)	114 (739)	115 (1155)
75-79.....	168 (128)	141 (180)	114 (257)	115 (471)	109 (788)
80-84.....	134 (45)	122 (70)	133 (137)	102 (201)	102 (382)
85-89.....	132 (12)	110 (23)	85 (29)	113 (73)	128 (155)
90 & over.....	* (5)	* (3)	126 (13)	111 (21)	127 (37)
65 & over.....	152% (633)	131% (944)	127% (1604)	117% (2495)	116% (3800)
All.....	167 (959)	151 (1403)	144 (2171)	131 (3145)	125 (4462)
FEMALES					
Under 55.....	309% (21)	312% (38)	299% (58)	241% (73)	274% (130)
55-59.....	216 (38)	181 (64)	193 (113)	178 (180)	150 (229)
60-64.....	139 (30)	185 (88)	160 (143)	134 (208)	120 (332)
65-69.....	168 (35)	180 (81)	135 (140)	113 (251)	104 (444)
70-74.....	202 (27)	145 (40)	154 (100)	138 (204)	117 (379)
75-79.....	167 (12)	185 (31)	113 (38)	141 (108)	129 (233)
80-84.....	* (4)	239 (16)	167 (26)	135 (48)	143 (119)
85-89.....	* (0)	* (3)	* (5)	186 (21)	155 (41)
90 & over.....	* (0)	* (2)	* (3)	* (0)	* (7)
65 & over.....	174% (78)	174% (173)	141% (312)	128% (632)	117% (1223)
All.....	184 (167)	187 (363)	161 (626)	140 (1093)	126 (1914)

* Less than 10 deaths.

TABLE 1—Continued

ATTAINED AGES	GROUP C Regular (Nondisability) Male Pensioners, Retired at or after Age 65, of an Electric Utility Company				
	1935-39	1940-45	1946-51	1952-54	1955-57
	MALES				
65-69.....	* (8)	107% (97)	96% (150)	125% (143)	108% (133)
70-74.....	135% (78)	136 (108)	109 (186)	123 (128)	111 (144)
75-79.....	117 (63)	118 (105)	129 (138)	112 (107)	131 (138)
80-84.....	124 (34)	126 (74)	126 (97)	113 (48)	91 (66)
85-89.....	163 (14)	156 (28)	101 (35)	95 (26)	102 (25)
90 & over....	* (5)	* (5)	* (7)	* (9)	107 (16)
65 & over....	129% (202)	123% (417)	111% (613)	117% (461)	111% (522)
All.....	129 (202)	123 (417)	111 (613)	117 (461)	111 (522)

ATTAINED AGES	GROUP F Regular (Nondisability) Pensioners of a Chemical Manufacturing Company. Retirement Is Compulsory at Age 65		
	7/42-6/46	7/46-6/50	7/50-6/54
	SALARIED		
65-69.....	141% (18)	82% (21)	121% (50)
70-74.....	171 (13)	103 (21)	107 (35)
75-79.....	* (7)	* (9)	88 (19)
80-84.....	* (0)	* (1)	* (5)
85-89.....	* (1)	* (1)	* (0)
90 & over....	* (0)	* (0)	* (0)
65 & over....	167% (39)	99% (53)	109% (109)
All.....	167 (39)	99 (53)	109 (109)
	WAGE		
65-69.....	104% (35)	138% (79)	121% (92)
70-74.....	87 (21)	115 (57)	115 (90)
75-79.....	* (4)	138 (35)	106 (52)
80-84.....	* (1)	* (9)	99 (18)
85-89.....	* (0)	* (1)	* (4)
90 & over....	* (0)	* (0)	* (1)
65 & over....	88% (61)	128% (181)	114% (257)
All.....	88 (61)	128 (181)	114 (257)

* Less than 10 deaths.

NOTE.—Number of actual deaths corresponding to each mortality ratio is shown in parentheses.

TABLE 1—Continued

ATTAINED AGES	GROUP G Government Employees Retired at or after Age 65	
	1930-40	1940-47
	MALES	
65-69.....	117% (163)	124% (270)
70-74.....	115 (300)	118 (348)
75-79.....	122 (232)	112 (339)
80-84.....	110 (72)	106 (223)
85-89.....	165 (14)	135 (88)
90 & over.....	* (0)	* (5)
65 & over.....	118% (781)	116% (1273)
All.....	118 (781)	116 (1273)

ATTAINED AGES	GROUP H Nondisability Pensioners of a Railroad Company, under a Plan Supplementing the Railroad Retirement Act. Early and Normal Retirements Are Included	
	1948-53	1954-57
	MALES AND FEMALES (OVER 90% MALES)	
55-59.....	* (2)	* (0)
60-64.....	* (1)	200% (14)
65-69.....	159% (241)	166 (349)
70-74.....	117 (289)	130 (511)
75-79.....	102 (123)	116 (281)
80-84.....	90 (18)	96 (75)
85 & over.....	* (0)	111 (10)
65 & over.....	124% (671)	131% (1226)
All.....	124 (674)	132 (1240)

* Less than 10 deaths.

NOTE.—Number of actual deaths corresponding to each mortality ratio is shown in parentheses.

TABLE 1—Continued

ATTAINED AGES	GROUP I Nondisability Pensioners of an Automobile Manufacturing Company. Early and Normal Retirements Included		
	1955	1/56-10/56	11/56-9/57
	MALES		
55-59.....	* (0)	* (0)	* (0)
60-64.....	* (4)	193% (11)	* (6)
65-69.....	151% (105)	124 (106)	136% (137)
70-74.....	109 (58)	98 (69)	95 (83)
75-79.....	117 (27)	110 (34)	98 (35)
80-84.....	* (7)	169 (15)	83 (10)
85-89.....	* (0)	* (1)	* (2)
65 & over.....	129% (197)	114% (225)	112% (267)
All.....	128 (201)	116 (236)	111 (273)

ATTAINED AGES	GROUP J Nondisability Pensioners of a Railroad Company, Including Only Those Retired at Age 65 or Later			
	1935-39	1940-44	1945-49	1950-54
	MALES			
65-69.....	87% (171)	106% (447)	99% (594)	104% (820)
70-74.....	77 (21)	121 (351)	112 (661)	105 (859)
75-79.....	* (0)	138 (45)	111 (367)	110 (750)
80-84.....	* (0)	* (1)	129 (42)	105 (318)
85-89.....	* (0)	* (0)	* (0)	109 (26)
90 & over.....	* (0)	* (0)	* (0)	* (0)
65 & over.....	85% (192)	113% (844)	107% (1664)	106% (2773)
All.....	85 (192)	113 (844)	107 (1664)	106 (2773)

* Less than 10 deaths.

NOTE.—Number of actual deaths corresponding to each mortality ratio is shown in parentheses.

TABLE 2

GROUP	NUMBER OF DEATHS INCLUDED (65 & OVER)	PERCENTAGE OF ACTUAL DEATHS TO EXPECTED BY <i>Ga</i> -1951 TABLE (WITHOUT PROJECTION) FOR PERIOD INDICATED MALES* AGE 65 AND OVER																											
		Year of Exposure:																											
		30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Group Annuity . . .	42,003																												
A	83,052																												
B	9,476																												
C	2,215																												
F* Salaried	201																												
F* Wage	499																												
G	2,054																												
H*	1,897																												
I	689																												
J*	5,473																												

* Groups marked with an asterisk include some females.

It will be noted that the slowing down of secular improvement is evident in the group annuity experience, where factors (b) and (c) would have little or no effect. From this it might be inferred that there has been some real slowing down in secular improvement in all of the groups, although this, of course, may be a temporary condition.

The following further observations are offered to assist in the interpretation of the data:

- a) The over-all mortality ratios for ages 65 and over, compared in Table 2, seem surprisingly close to each other and to the group annuity ratios, especially in the light of the rather significant differences in conditions of retirement.
- b) The experience for ages below 65, where given, shows materially higher mortality ratios. This characteristic, also noted in comparing the published group annuity experience for "early" and "normal" retirements, is indicative of the general tendency of employees in good health to remain in active service until compelled to retire, or at least until they have reached a point where no further increase in pension is available.