

# TRANSACTIONS OF SOCIETY OF ACTUARIES 1972 REPORTS

## II. MORTALITY UNDER LIFE INCOME SETTLEMENTS AND MATURED DEFERRED ANNUITIES BETWEEN 1965 AND 1970 ANNIVERSARIES

### ABSTRACT

This report covers intercompany mortality experience on (1) life income settlements arising out of death claims, subdivided into payee and nonpayee elections; (2) life income settlements arising out of maturities or cash surrenders; and (3) matured deferred annuity contracts (including maturities at optional retirement dates).

Results are obtained both for contracts with a guaranteed period or refund provision and for contracts without such provisions. The results for male and female lives are shown separately. Categories 2 and 3 are also separated into pension trust issues and other issues. For the first time data were subdivided by size between contracts with less than \$2,400 of annual income and those with \$2,400 or more. Also for the first time, data were submitted separately for each of the first ten durations instead of for the first five durations only.

### LIFE INCOME SETTLEMENTS ARISING FROM DEATH CLAIMS

Refund settlements (or settlements with a guaranteed period) accounted for 98 per cent of total exposures and female lives for 95 per cent or more of both refund and nonrefund exposures. Mortality ratios were generally lower than in the last study. For female refund contracts ratios were lower for both payee and nonpayee elections, being about 90 per cent overall (a decrease of about 10 percentage points), with ratios under age 60 being significantly greater than those over age 60.

### LIFE INCOME SETTLEMENTS ARISING FROM MATURITIES AND SURRENDERS

Refund settlements accounted for 95 per cent of total exposures, and pension trust issues have increased to about 20 per cent of both refund and nonrefund exposures. Male ratios were about the same as the last study or slightly higher, and female ratios were slightly lower. For non-pension trust refund contracts the male aggregate ratio was 90 per cent and the female 82 per cent, with ratios for durations 1 and 2 combined being significantly lower than for later durations.

### MATURED DEFERRED ANNUITIES

Aggregate mortality ratios on non-pension trust issues decreased significantly from the last study for both males and females and for both refund and non-refund contracts (some 10 or so percentage points for each category), male refund being 90 per cent and female refund 80 per cent. Pension trust aggregate mortality ratios also decreased but continued to be significantly greater than non-pension trust ratios.

## COMPARISON OF MORTALITY RATIOS FOR REFUND CONTRACTS

For the three major categories of this study and for immediate annuities from the 1963-67 period, the lowest aggregate ratios for non-pension trust issues occurred on payee elections under life income settlements arising from death claims for males and on matured deferred annuities and settlements arising from maturities and surrenders for females. The highest ratios arose from immediate annuities for both sexes.

Distinct evidence of selection by duration appeared for females with payee elections under settlements arising from death claims.

Data for analysis by size of annuity were limited, and the only evidence of marked difference by size was for males, pension trust issues, refund settlements arising from maturities, and surrenders.

## COMPARISON OF MORTALITY RATIOS BY MORTALITY TABLE

For refund settlements, aggregate ratios were generally around 90 per cent for the *a*-1949 Ultimate Table without projection, 100 per cent for that table with Projection B, and 120 per cent on the 1971 Individual Annuity Mortality Table. For matured deferred annuities (non-pension trust issues), the ratios on the same tables were centered around 80, 90, and 110 per cent, respectively.

## INDEX OF TABLES

Table	Description
1.	Life Income Settlements with a Guaranteed Period or a Refund Provision Arising from Death Claims, Male Lives, Payee and Nonpayee Elections, by Attained Age and Duration Groups
2.	Life Income Settlements with a Guaranteed Period or a Refund Provision Arising from Death Claims, Female Lives, Payee and Nonpayee Elections, by Attained Age and Duration Groups
3.	Life Income Settlements Arising from Death Claims, Male and Female Lives, Payee and Nonpayee Elections, with and without a Guaranteed Period or a Refund Provision, All Ages and Durations Combined
4.	Life Income Settlements with a Guaranteed Period or a Refund Provision Arising from Maturities and Surrenders, Male Lives, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups
5.	Life Income Settlements with a Guaranteed Period or a Refund Provision Arising from Maturities and Surrenders, Female Lives, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups
6.	Life Income Settlements Arising from Maturities and Surrenders, Male and Female Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, All Ages and Durations Combined
7.	Trend of Mortality under Life Income Settlements with a Guaranteed Period or a Refund Provision, Excluding Maturities and Surrenders under

Table	Description
	Pension Trust Issues, Male and Female Lives, Payee and Nonpayee Elections, by Attained Age and Duration Groups
8.	Life Income Settlements with a Guaranteed Period or a Refund Provision, Male Lives, Payee and Nonpayee Elections, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups, on <i>a</i> -1949 Ultimate Table with Projection B
8A.	Life Income Settlements with a Guaranteed Period or a Refund Provision, Male Lives, Payee and Nonpayee Elections, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups, on 1971 Individual Annuity Mortality Table
9.	Life Income Settlements with a Guaranteed Period or a Refund Provision, Female Lives, Payee and Nonpayee Elections, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups, on <i>a</i> -1949 Ultimate Table with Projection B
9A.	Life Income Settlements with a Guaranteed Period or a Refund Provision, Female Lives, Payee and Nonpayee Elections, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups, on 1971 Individual Annuity Mortality Table
9B.	Life Income Settlements with a Guaranteed Period or a Refund Provision, Male and Female Lives, Payee and Nonpayee Elections, Non-Pension Trust and Pension Trust, All Ages and Durations Combined, by Mortality Table
10.	Matured Deferred Annuities, Male and Female Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, All Ages and Durations Combined
11.	Matured Deferred Annuities, Male Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups
12.	Matured Deferred Annuities, Female Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups
13.	Trend of Mortality under Matured Deferred Annuities, Non-Pension Trust, Male and Female Lives, with and without a Guaranteed Period or a Refund Provision, by Attained Age and Duration Groups
14.	Matured Deferred Annuities, Male Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups, on <i>a</i> -1949 Ultimate Table with Projection B
14A.	Matured Deferred Annuities, Male Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups, on 1971 Individual Annuity Mortality Table
15.	Matured Deferred Annuities, Female Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust,

Table	Description
	by Attained Age and Duration Groups, on <i>a</i> -1949 Ultimate Table with Projection B
15A.	Matured Deferred Annuities, Female Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups, on 1971 Individual Annuity Mortality Table
15B.	Matured Deferred Annuities, Male and Female Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, All Ages and Durations Combined, by Mortality Table
16.	Comparison of Contracts with a Guaranteed Period or a Refund Provision, Male and Female Lives, Payee Elections Arising from Death Claims, Life Income Settlements Arising from Maturities and Surrenders (Other than Pension Trust), Matured Deferred Annuities (Other than Pension Trust), Individual Immediate Refund Annuities, by Attained Age and Duration Groups
17.	Comparison of Contracts with a Guaranteed Period or a Refund Provision, Male and Female Lives, Pension Trust, Life Income Settlements Arising from Maturities and Surrenders, Matured Deferred Annuities, by Attained Age and Duration Groups
18.	Life Income Settlements with a Guaranteed Period or a Refund Provision Arising from Death Claims, Experience between 1950 and 1970 Anniversaries, Male and Female Lives, Payee and Nonpayee Elections, by Attained Age and Duration Groups
19.	Life Income Settlements with a Guaranteed Period or a Refund Provision Arising from Maturities and Surrenders, Experience between 1950 and 1970 Anniversaries, Male and Female Lives, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups
20.	Matured Deferred Annuities with a Guaranteed Period or a Refund Provision, Experience between 1950 and 1970 Anniversaries, Male and Female Lives, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups
21.	Matured Deferred Annuities without a Guaranteed Period or a Refund Provision, Experience between 1950 and 1970 Anniversaries, Male and Female Lives, Non-Pension Trust and Pension Trust, by Attained Age and Duration Groups
22.	Life Income Settlements Arising from Death Claims, Male and Female Lives, with and without a Guaranteed Period or a Refund Provision, Payee and Nonpayee Elections, All Ages and Durations Combined, by Size of Annuity
23.	Life Income Settlements Arising from Maturities and Surrenders, Male and Female Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, All Ages and Durations Combined, by Size of Annuity

Table	Description
24.	Matured Deferred Annuities, Male and Female Lives, with and without a Guaranteed Period or a Refund Provision, Non-Pension Trust and Pension Trust, All Ages and Durations Combined, by Size of Annuity
A.	Contributing Companies, Proportions of Total Exposures
B.	Distribution of Companies' Aggregate Mortality Ratios by Number of Companies
C.	Life Income Settlements with a Guaranteed Period or a Refund Provision Arising from Death Claims, Male and Female Lives, Payee and Nonpayee Elections: Exposures, Actual and Expected Deaths, and Mortality Ratios by Attained Age Groups and Duration
D.	Life Income Settlements with a Guaranteed Period or a Refund Provision Arising from Maturities and Surrenders, Male and Female Lives, Non-Pension Trust and Pension Trust: Exposures, Actual and Expected Deaths, and Mortality Ratios by Attained Age Groups and Duration
E.	Matured Deferred Annuities with and without a Guaranteed Period or a Refund Provision, Male and Female Lives, Non-Pension Trust and Pension Trust: Exposures, Actual and Expected Deaths, and Mortality Ratios by Attained Age Groups and Duration
F.	Life Income Settlements without a Guaranteed Period or a Refund Provision, Male and Female Lives; Settlements Arising from Death Claims, Payee and Nonpayee Elections; Settlements Arising from Maturities and Surrenders, Non-Pension Trust and Pension Trust: Exposures, Actual and Expected Deaths, and Mortality Ratios by Attained Age Groups and Duration

NOTE: The 1971 Individual Annuity Mortality Table appears in *TSA*, XXIII (1971 Annual Meeting Number), 496.

**T**HIS report covers the intercompany experience under the following three major categories of contracts between 1965 and 1970 anniversaries:

1. Life income settlements arising out of death claims, subdivided into
  - a) Payee elections.
  - b) Nonpayee elections.
 The companies were asked to omit data where the type of election was not known.
2. Life income settlements arising out of (a) the maturity of endowment or retirement income policies or (b) the cash surrender of insurance or annuity contracts.
3. Maturities of deferred annuity contracts (including maturities at optional retirement dates) with a death benefit prior to maturity and a cash value at maturity substantially equal to the reserve.

Categories 1 and 2 include settlements which are regarded as supplementary contracts, even though they have a rate basis applicable to new annuity issues (whether with or without an allowance for saving in expenses).

Each of the categories is subdivided into contracts with a guaranteed period or refund provision and contracts without such provisions. Categories 2 and 3 are further subdivided into non-pension trust issues and pension trust issues. The limited data on nonrefund contracts precluded making the more extensive analyses made on refund contracts. Accordingly, only brief summaries are shown, comparing nonrefund and refund settlements in the aggregate.

This study marks the first time that companies were asked to subdivide their data by size based on the amount of annual income, contracts with an annual income of less than \$2,400 comprising one class and contracts with an annual income of \$2,400 or more comprising the other class. The limited volume of data in the \$2,400 and over class precluded making any extensive analyses by amount. Also for the first time, companies were requested to submit data separately for each of the first ten policy years in order to permit testing of the effect of selection beyond the first five policy years.

The results for male and female lives are shown separately. The experience is shown both by number of contracts and by amount of annual income.

Expected deaths were calculated on the Annuity Table for 1949 Ultimate, which was designed to represent the mortality in 1949 under immediate nonrefund annuities after the first contract year. Sections of the report also present analyses based on this table with Projection B, allowing for mortality improvement from 1950 to the study period, and the 1971 Individual Annuity Mortality Table, which was designed to represent the mortality in 1971 under nonrefund and refund immediate annuities, life income settlements, and matured deferred annuities.

Previous studies are listed below:

- 1934-40 anniversaries—*TASA*, XLII, 172-80 (limited to life income settlements)
- 1940-45 anniversaries—*TASA*, XLVIII, 133-65
- 1945-50 anniversaries—*TSA*, 1951 Reports, 19-71
- 1950-55 anniversaries—*TSA*, 1956 Reports, 37-109
- 1955-60 anniversaries—*TSA*, 1961 Reports, 40-82
- 1960-65 anniversaries—*TSA*, 1966 Reports, 191-247 (supplement)

Table A of the Appendix shows the names of the sixteen contributing companies and their proportionate contributions. Table B of the Appendix shows the distribution of the contributing companies' aggregate mortality ratios by number of contracts.

#### LIFE INCOME SETTLEMENTS ARISING FROM DEATH CLAIMS

The exposures, actual deaths, and expected deaths are shown in Table C of the Appendix for contracts with a guaranteed period or a refund provision and in Table F for contracts without such provisions. Of the total exposure by amount, females accounted for 96 per cent on refund settlements and 95 per cent on nonrefund settlements. A substantial portion of the experience on refund settlements is in the "certain" period, which may run up to twenty years. For nonrefund settlements over 63 per cent of the total exposure by amount of annual income was from one company.

Tables 1 and 2 present summaries of the mortality ratios on refund settlements by attained age and duration groups for males and females, respectively; payee and nonpayee elections are shown separately. Combined ratios for payee and nonpayee elections are not shown; since the ratios are quite different, the combination of the two would be affected by the proportion of each included, and this proportion varies appreciably among the contributing companies.

Table 3 compares the aggregate experience for refund and nonrefund settlements. Refund settlements accounted for 98 per cent of the exposure both by number of contracts and by amount of annual income.

#### *Male Lives*

Of the total exposure by amount for refund settlements, 35 per cent was on payee elections and 65 per cent was on nonpayee elections, as compared with 38 per cent and 62 per cent, respectively, in the last study.

The aggregate mortality ratios on payee elections under refund settlements were 81 per cent by number and 73 per cent by amount, which showed a decrease from the last study of 24 percentage points by number of contracts and 39 percentage points by amount of annual income. The mortality on nonpayee elections was 127 per cent by number and 135 per cent by amount, exceeding that on payee elections in the aggregate by 46 percentage points by number and 62 percentage points by amount. These latter differences are considerably more than the corresponding differences of 28 and 16 percentage points in the last study, although they correspond quite closely to those of 42 and 75 percentage points in the

TABLE 1  
LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A REFUND  
PROVISION ARISING FROM DEATH CLAIMS - MALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Payee Elections												
Under 50	*	*	*	*	*	*	*	*	*	*	*	*
50-59	*	*	*	*	72%	76%	*	*	*	*	58%	57%
60-69	*	*	96%	69%	78	82	*	*	74%	64%	68	87
70-79	*	*	68	79	76	78	*	*	54	66	62	67
80 and over	*	*	*	80	81	83	*	*	*	63	63	70
All	94%	108%	82%	77%	79%	81%	81%	161%	62%	64%	63%	73%
Nonpayer Elections												
Under 50	*	*	32.3%	140%	188%	208%	*	*	251%	81%	137%	176%
50-59	*	*	158	134	140	140	*	*	142	180	171	157
60-69	*	*	181	145	150	141	*	*	195	170	174	159
70-79	*	*	*	123	116	114	*	*	*	144	133	124
80 and over	*	*	*	90	95	94	*	*	*	88	121	103
All	171%	87%	153%	123%	128%	127%	108%	64%	179%	139%	147%	135%

\* Fewer than 10 contracts terminated by death.

NOTE: -Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.



TABLE 2

LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A REFUND  
 PROVISION ARISING FROM DEATH CLAIMS—FEMALE LIVES  
 EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
 MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Payee Elections												
Under 50....	*	*	*	<i>389%</i>	<i>309%</i>	<i>291%</i>	*	*	*	<i>1,015%</i>	<i>688%</i>	<i>467%</i>
50-59.....	<i>199%</i>	<i>84%</i>	<i>78%</i>	165	134	132	<i>154%</i>	<i>96%</i>	<i>98%</i>	228	176	153
60-69.....	86	75	90	94	93	89	98	74	87	101	96	93
70-79.....	49	65	77	84	83	81	50	72	76	97	92	88
80 and over..	60	93	81	94	93	93	68	90	76	94	92	92
All.....	72%	74%	81%	91%	90%	89%	71%	77%	78%	96%	93%	91%
Nonpayee Elections												
Under 50....	*	*	<i>181%</i>	<i>225%</i>	<i>212%</i>	<i>196%</i>	*	*	<i>176%</i>	<i>331%</i>	<i>277%</i>	<i>253%</i>
50-59.....	<i>129%</i>	<i>142%</i>	113	186	158	151	<i>141%</i>	<i>152%</i>	136	182	164	158
60-69.....	109	74	102	104	103	100	144	90	117	102	107	108
70-79.....	83	82	85	87	87	86	74	75	84	92	90	87
80 and over..	70	92	88	82	83	83	60	89	83	84	84	83
All.....	88%	87%	90%	88%	88%	88%	85%	86%	90%	89%	89%	89%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

study preceding the last one. However, the data on male lives are still relatively limited.

The experience on nonrefund settlements as shown in Table 3 was too limited to justify any conclusions.

### *Female Lives*

Of the total exposure by amount in Table 2, 43 per cent was on payee elections and 57 per cent was on nonpayee elections, compared with 45 per cent and 55 per cent, respectively, in the last study.

TABLE 3  
LIFE INCOME SETTLEMENTS ARISING FROM DEATH CLAIMS  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE  
(All Ages and Durations Combined)

	BY NUMBER OF CONTRACTS		BY AMOUNT OF ANNUAL INCOME	
	Males	Females	Males	Females
With a guaranteed period or refund provision:				
Payee elections.....	81% (220)	89% (9,338)	73%	91%
Nonpayee elections.....	127 (373)	88 (9,094)	135	89
Without a guaranteed period or refund provision:				
Payee elections.....	36 (5)	75 (203)	9	83
Nonpayee elections.....	202 (15)	89 (129)	273	82

NOTE.—Number of contracts terminated by death shown in parentheses.

The aggregate mortality ratios on payee elections were 89 per cent by number of contracts and 91 per cent by amount of annual income, a decrease of about 7 percentage points, while the ratios on nonpayee elections were 88 per cent by number and 89 per cent by amount, a decrease of about 16 percentage points as compared with the 1960-65 experience.

This study marks the first time that the aggregate mortality ratios on payee elections have exceeded those on nonpayee elections. The differences are 1 percentage point by number and 2 percentage points by amount. In the last study the ratios for nonpayee elections exceeded those on payee elections by 7 and 9 percentage points by number and amount, respectively. For all ages combined, the nonpayee ratio is less than the payee ratio at durations 11 and over, whereas the payee ratio is less at the

earlier durations, where the effects of selection are more evident. The mortality ratios at ages under 60 are still generally higher than those at ages 60 and over, with particularly high ratios occurring at ages under 50.

The volume of data entering Table 3 on nonrefund settlements was quite small relative to that for refund settlements. The aggregate mortality ratio by number for female, nonrefund, nonpayee elections significantly exceeded that for female, nonrefund, payee elections, whereas there was little difference for refund settlements. However, the aggregate ratio by amount for female, nonrefund, nonpayee elections is about the same as that for female, nonrefund, payee elections, and this is also the case for refund settlements.

#### LIFE INCOME SETTLEMENTS ARISING FROM MATURITIES AND SURRENDERS

The exposures, actual deaths, and expected deaths are shown in Table D of the Appendix for settlements with a guaranteed period or a refund provision and in Table F for settlements without such provisions.

Of the total exposure by amount on refund settlements on non-pension trust issues, 66 per cent was on male lives; the corresponding figure on pension trust issues was 88 per cent. For nonrefund settlements, males accounted for 53 per cent of the exposure by amount on non-pension trust issues, compared with 71 per cent on pension trust issues. For nonrefund settlements, one company accounted for over 64 per cent of non-pension trust exposures and over 83 per cent of pension trust exposures, by amount of annual income.

Pension trust issues continue to account for an increasing percentage of the total exposure under life income settlements arising from maturities and surrenders. For refund settlements they were 20 per cent of the total amount, as compared with 17, 12, and 4 per cent in the last three studies. Pension trust nonrefund settlements were less significant than refund settlements in dollar amount of exposure, but their percentage increase in exposure was greater, increasing from 10 percent of the total exposure under nonrefund settlements in the previous study to 22 per cent of such total exposure in this study.

Tables 4 and 5 present summaries of the mortality ratios on refund settlements by attained age and duration groups for males and females, respectively. The tables show non-pension trust issues and pension trust issues separately. No combination is shown, since the two types of business are dissimilar in several ways.

Table 6 compares the aggregate experience for refund and nonrefund settlements. Refund settlements accounted for 95 per cent of the total

TABLE 4

LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A REFUND  
PROVISION ARISING FROM MATURITIES AND SURRENDERS—MALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Other than Pension Trust Issues												
Under 50 . . . . .	*	*	*	*	*	*	*	*	*	*	*	*
50-59 . . . . .	62%	101%	77%	133%	100%	90%	56%	104%	169%	351%	235%	111%
60-69 . . . . .	79	91	88	83	86	86	77	91	87	80	85	86
70-79 . . . . .	71	84	90	92	91	90	68	92	88	89	89	88
80 and over . . . . .	60	76	81	91	90	89	157	69	83	94	93	94
All . . . . .	76%	89%	89%	91%	90%	89%	87%	89%	88%	91%	90%	90%
Pension Trust Issues												
Under 50 . . . . .	*	*	*	*	*	*	*	*	*	*	*	*
50-59 . . . . .	451%	361%	*	*	*	460%	288%	160%	*	*	*	254%
60-69 . . . . .	112	118	188%	235%	191%	132	108	108	185%	219%	187%	117
70-79 . . . . .	93	96	106	114	109	108	54	81	105	106	105	100
80 and over . . . . .	*	*	109	96	97	96	*	*	110	106	106	105
All . . . . .	113%	114%	116%	109%	113%	113%	96%	99%	112%	106%	109%	105%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 5  
LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A REFUND  
PROVISION ARISING FROM MATURITIES AND SURRENDERS—FEMALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Other than Pension Trust Issues												
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	180%	97%	89%	*	72%	108%	153%	123%	209%	*	147%	138%
60-69.....	63	79	79	97%	87	81	57	80	77	111%	91	82
70-79.....	61	78	68	77	75	75	44	84	70	75	74	74
80 and over..	63	42	68	87	86	86	41	47	80	90	90	88
All.....	70%	77%	72%	83%	81%	81%	59%	79%	75%	85%	83%	82%
Pension Trust Issues												
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	93%	115%	129%	*	124%	110%	84%	95%	119%	*	111%	94%
70-79.....	*	56	86	91%	88	86	*	57	76	84%	79	78
80 and over..	*	*	*	103	100	100	*	*	*	95	99	96
All.....	97%	101%	93%	94%	93%	95%	92%	86%	84%	86%	85%	86%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

exposure on settlements from maturities and surrenders, both by number of contracts and by amount of annual income.

### Male Lives

For ages 60 and over, the mortality on non-pension trust issues continued at approximately the same level as in the last study, which is appreciably below the level of mortality of the *a*-1949 Ultimate Table. The 1965-70 aggregate mortality ratio on the *a*-1949 Ultimate Table for refund settlements was 89 per cent by number and 90 per cent by amount. These ratios may be compared with corresponding figures of 91 per cent

TABLE 6  
LIFE INCOME SETTLEMENTS ARISING FROM MATURITIES AND SURRENDERS  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE  
(All Ages and Durations Combined)

	BY NUMBER OF CONTRACTS		BY AMOUNT OF ANNUAL INCOME	
	Males	Females	Males	Females
With a guaranteed period or refund provision:				
Other than pension trust . . .	89% (14,366)	81% (7,586)	90%	82%
Pension trust . . . . .	113 (4,820)	95 (477)	105	86
Without a guaranteed period or refund provision:				
Other than pension trust . . .	89 (713)	80 (503)	81	80
Pension trust . . . . .	111 (315)	114 (85)	111	67

NOTE.—Number of contracts terminated by death shown in parentheses.

and 88 per cent in the 1960-65 study. As in the previous study, the mortality ratio by number at durations 1 and 2 is generally considerably lower than at the later durations. However, the death of two persons with large amounts of income at ages 80 and over, durations 1 and 2, resulted in a ratio of 157 per cent by amount for that cell and a ratio of 87 per cent by amount for durations 1 and 2, all ages combined, which is only slightly lower than that at the later durations.

The mortality ratios for pension trust issues are generally above 100 per cent by number and by amount. Ages 70 and over—representing 59 per cent of the exposure by amount—continue to show lighter mortality than ages under 70, but even here the ratios exceed 100 per cent in the aggregate.

Table 6 indicates that the aggregate mortality ratios for non-pension trust settlements continued well below the level of the  $\alpha$ -1949 Ultimate Table and closely parallel the comparable ratios on matured deferred annuities (shown in Table 10). For pension trust issues the aggregate mortality ratios exceeded 100 per cent for all four categories for male lives.

#### *Female Lives*

The mortality ratios on non-pension trust issues for refund settlements (shown in Table 5) continued at a level generally less than 90 per cent both by number and by amount. The mortality ratios at durations 1 and 2 were generally much lower than those at the later durations, particularly by amount; the aggregate ratio by amount for durations 1 and 2 showed a decrease of 11 percentage points over the corresponding ratio in the last study.

The experience on pension trust issues was small. The aggregate ratios again showed improvement over those in the previous study. The excess of the aggregate pension trust ratio by number over the non-pension trust ratio by number remained at about the same level as in the last study, but the excess by amount decreased from 12 to 4 percentage points.

As shown in Table 6, the mortality experience on nonrefund issues closely follows both that on refund issues, except for females under pension trust issues, and the corresponding experience on matured deferred annuities (shown in Table 10).

#### TREND OF MORTALITY UNDER LIFE INCOME SETTLEMENTS

Table 7 summarizes mortality ratios on refund settlements in broad age and duration groups for each of the last six study periods. Pension trust issues were excluded from the experience after 1950; the increasing importance of these issues and the different mortality experienced under them would obscure the trends. It was not possible to exclude the experience prior to 1950 under pension trust issues, but this experience was so small that its effect is negligible. Payee and nonpayee elections are shown separately; the experience on payee elections combines settlements arising from death claims and maturities and surrenders.

The conversion of the data for the 1940-45 period from the 1937 Standard Annuity Table to the  $\alpha$ -1949 Ultimate Table was described in the study covering the period between anniversaries in 1955 and 1960 (*1961 Reports*, p. 62).

For male payee elections the aggregate mortality ratios tended to be at about the same level as in the 1960-65 period, with the ratios by num-

TABLE 7

TREND OF MORTALITY UNDER LIFE INCOME SETTLEMENTS  
WITH A GUARANTEED PERIOD OR A REFUND PROVISION  
EXCLUDING MATURITIES AND SURRENDERS UNDER PENSION TRUST ISSUES  
EXPERIENCE BETWEEN ANNIVERSARIES IN INDICATED YEARS  
MORTALITY RATIOS ON 2-1949 ULTIMATE TABLE

ATTAINED AGES	DURATIONS 1-5						DURATIONS 6 AND OVER						ALL DURATIONS					
	1940- 45	1945- 50	1950- 55	1955- 60	1960- 65	1965- 70	1940- 45	1945- 50	1950- 55	1955- 60	1960- 65	1965- 70	1940- 45	1945- 50	1950- 55	1955- 60	1960- 65	1965- 70
MALE PAYEE ELECTIONS ARISING FROM MATURITIES, SURRENDERS, AND DEATH CLAIMS																		
By Number of Contracts																		
Under 60	108%	87%	90%	84%	126%	89%	*	117%	98%	104%	108%	98%	112%	93%	92%	90%	122%	92%
	108	102	87	90	86	86	108%	105	98	100	87	86	109	102	90	93	86	86
60-69	104	87	96	99	81	78	111	108	101	100	93	91	108	102	100	100	92	90
70 and over	107%	96%	90%	92%	88%	84%	111%	108%	101%	100%	92%	90%	108%	102%	96%	97%	91%	89%
All	107%	96%	90%	92%	88%	84%	111%	108%	101%	100%	92%	90%	108%	102%	96%	97%	91%	89%
By Amount of Annual Income																		
Under 60	109%	78%	89%	90%	118%	88%	*	89%	111%	111%	105%	166%	103%	79%	94%	95%	115%	107%
	92	111	87	91	84	86	98%	104	98	102	84	84	93	110	90	94	84	86
60-69	93	82	98	95	80	94	118	112	100	101	90	90	107	103	100	100	89	90
70 and over	94%	101%	90%	92%	85%	89%	114%	110%	100%	102%	89%	90%	100%	105%	95%	98%	88%	89%
All	94%	101%	90%	92%	85%	89%	114%	110%	100%	102%	89%	90%	100%	105%	95%	98%	88%	89%

\* Fewer than 10 contracts terminated by death.

NOTE. Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.



TABLE 7—Continued

ATTAINED AGES	DURATIONS 1-5						DURATIONS 6 AND OVER						ALL DURATIONS					
	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70
FEMALE PAYEE ELECTIONS ARISING FROM MATURITIES, SURRENDERS, AND DEATH CLAIMS																		
By Number of Contracts																		
73 Under 60. 60-69 . . . . 70 and over . . . .  All . . . .	144%	119%	96%	88%	115%	128%	<i>152%</i>	145%	132%	119%	143%	130%	146%	129%	113%	104%	130%	129%
	103	101	87	79	71	75	114	109	96	93	89	89	108	105	92	88	83	84
	100	89	83	82	77	66	113	110	100	94	94	85	107	105	98	93	93	85
	110%	101%	87%	81%	77%	74%	116%	112%	100%	95%	94%	86%	113%	108%	97%	92%	92%	85%
By Amount of Annual Income																		
Under 60. 60-69 . . . . 70 and over . . . .  All . . . .	133%	112%	107%	79%	128%	125%	<i>151%</i>	150%	143%	131%	159%	205%	137%	126%	123%	105%	145%	165%
	106	104	87	83	73	76	118	114	101	95	95	94	110	109	94	90	88	87
	102	90	85	87	74	69	104	106	101	96	94	88	104	102	98	95	93	87
	109%	101%	89%	85%	77%	74%	112%	111%	102%	97%	95%	89%	111%	107%	98%	94%	93%	88%

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 7--Continued

ATTAINED AGES	DURATIONS 1-5						DURATIONS 6 AND OVER						ALL DURATIONS					
	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70
MALE NONPAVEE ELECTIONS ARISING FROM DEATH CLAIMS																		
By Number of Contracts																		
74 Under 60. 60-69. 70 and over. All.	252%	209%	203%	221%	147%	178%	248%	280%	209%	213%	154%	149%	249%	253%	207%	215%	152%	154%
	179	137	180	161	226	*	221	201	134	127	134	150	197	168	144	135	150	141
	184	186	191	106	98	*	*	86	133	113	116	107	116	111	145	111	114	105
	201%	171%	192%	156%	155%	118%	158%	154%	153%	145%	130%	128%	177%	160%	162%	148%	133%	127%
By Amount of Annual Income																		
Under 60. 60-69. 70 and over. All.	412%	118%	241%	336%	147%	152%	343%	237%	240%	233%	181%	163%	372%	185%	240%	265%	172%	161%
	168	206	121	194	231	*	210	215	77	136	126	174	180	209	88	151	143	159
	190	269	169	109	60	*	*	117	170	132	104	127	238	159	169	125	99	114
	217%	205%	183%	197%	136%	79%	272%	162%	159%	162%	126%	147%	245%	180%	166%	172%	128%	135%

\* Fewer than 10 contracts terminated by death.

NOTE.— Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 7—Continued

ATTAINED AGES	DURATIONS 1-5						DURATIONS 6 AND OVER						ALL DURATIONS					
	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70
FEMALE NONPAYEE ELECTIONS ARISING FROM DEATH CLAIMS																		
By Number of Contracts																		
75 Under 60. 60-69.... 70 and over....  All..	166%	121%	144%	135%	134%	138%	174%	140%	162%	151%	141%	164%	170%	130%	154%	144%	139%	156%
	129	111	102	98	99	87	122	127	116	113	106	103	124	121	111	108	104	100
	131	113	112	102	97	84	119	129	110	114	103	85	122	125	110	111	102	85
	138%	114%	114%	105%	101%	88%	125%	129%	115%	116%	105%	88%	129%	124%	115%	113%	104%	88%
By Amount of Annual Income																		
Under 60. 60-69.... 70 and over....  All..	158%	128%	148%	138%	145%	153%	191%	159%	159%	155%	135%	177%	172%	142%	153%	148%	139%	169%
	145	116	101	108	99	110	116	124	119	112	118	107	132	121	111	110	112	108
	139	111	115	102	89	77	113	126	112	114	106	86	119	122	113	111	103	85
	145%	116%	115%	107%	95%	86%	121%	129%	116%	116%	109%	89%	130%	124%	116%	113%	106%	89%

ber showing a slight decrease and the ratios by amount showing a slight increase. The ratios for ages under 60, which account for about 4 per cent of the exposure, generally showed sizable decreases, in contrast to the increase they had shown in the 1960-65 period over the 1955-60 period.

For female payee elections the aggregate mortality ratios decreased both by number and by amount, continuing a downward trend extending over thirty years. Most of the current decrease was attributable to ages 70 and over, which was the only age group to show decreases in the aggregate both by number and by amount.

Male nonpayee elections continued to show decreases both by number and by amount for the first five durations, but in the aggregate, although the ratio by number decreased, the ratio by amount increased.

Female nonpayee elections continued to show significant decreases in mortality, with ratios of 88 per cent by number and 89 per cent by amount, for all ages and durations combined. The corresponding ratios in the 1960-65 period were 104 and 106 per cent, respectively.

Since life settlements without a guaranteed period or refund provision were first included in the 1960-65 experience, there are not enough data for studying trends of experience under these contracts.

#### MORTALITY RATIOS FOR LIFE INCOME SETTLEMENTS FOR MALES AND FEMALES ON *a*-1949 ULTIMATE TABLE WITH PROJECTION B

Tables 8 and 9 show the mortality ratios on refund settlements for males and females, respectively, based on the *a*-1949 Ultimate Table with Projection B. The calculation of the basis for expected deaths is described in the Appendix, page 118.

For nonpayee elections arising from death claims, the mortality ratios for male lives are still well above 100 per cent at attained ages under 80. The aggregate ratio by number remained at about the same level as in the 1960-65 period, but the aggregate ratio by amount increased by 14 percentage points, to 156 per cent. For female lives, the aggregate mortality ratios by number and by amount are both under 100 per cent, showing a decrease of 16 percentage points by number and 18 percentage points by amount from the 1960-65 period. The decrease in the aggregate mortality ratios is attributable mainly to the decrease at ages 70 and over.

For all payee elections combined (excluding pension trust issues), the aggregate ratios for males continued close to 100 per cent, while those for females were generally less than 100 per cent.

TABLE 8  
LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A REFUND  
PROVISION—MALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE  
WITH PROJECTION B

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Nonpayee Elections Arising from Death Claims												
Under 50.....	*	*	<i>47.4%</i>	<i>17.3%</i>	<i>24.3%</i>	<i>27.8%</i>	*	*	<i>31.8%</i>	<i>10.2%</i>	<i>17.2%</i>	<i>22.2%</i>
50-59.....	*	*	<i>187</i>	<i>165</i>	<i>171</i>	<i>170</i>	*	*	<i>176</i>	<i>224</i>	<i>212</i>	<i>194</i>
60-69.....	*	*	<i>225</i>	<i>176</i>	<i>183</i>	<i>172</i>	*	*	<i>238</i>	<i>205</i>	<i>211</i>	<i>193</i>
70-79.....	*	*	<i>*</i>	<i>140</i>	<i>133</i>	<i>131</i>	*	*	<i>*</i>	<i>164</i>	<i>152</i>	<i>141</i>
80 and over..	*	*	<i>*</i>	<i>95</i>	<i>100</i>	<i>98</i>	*	*	<i>*</i>	<i>92</i>	<i>127</i>	<i>109</i>
All.....	<i>206%</i>	<i>103%</i>	<i>181%</i>	<i>142%</i>	<i>148%</i>	<i>147%</i>	<i>127%</i>	<i>73%</i>	<i>209%</i>	<i>160%</i>	<i>169%</i>	<i>156%</i>

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 8—Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Payee Elections Arising from Maturities and Surrenders (Excluding Pension Trust Issues) and Death Claims												
Under 50	*	*	*	*	*	<i>285%</i>	*	*	*	*	*	<i>182%</i>
50-59	<i>80%</i>	<i>123%</i>	<i>99%</i>	<i>124%</i>	<i>112%</i>	109	<i>71%</i>	<i>125%</i>	<i>180%</i>	<i>242%</i>	<i>211%</i>	130
60-69	96	109	106	99	104	104	94	110	104	95	101	103
70-79	83	96	104	104	104	103	78	106	102	100	101	100
80 and over	61	80	85	96	95	94	<i>160</i>	74	87	99	97	99
All	91%	104%	103%	100%	100%	100%	102%	105%	101%	99%	100%	101%
Payee Elections Arising from Maturities and Surrenders—Pension Trust Issues												
Under 50	*	*	*	*	*	*	*	*	*	*	*	*
50-59	<i>535%</i>	<i>425%</i>	*	*	*	<i>541%</i>	<i>358%</i>	<i>198%</i>	*	*	*	<i>315%</i>
60-69	136	142	225%	283%	228%	158	130	130	222%	263%	224%	141
70-79	108	111	123	128	125	124	62	93	122	119	121	115
80 and over	*	*	117	102	104	103	*	*	118	113	114	112
All	136%	135%	135%	121%	128%	130%	115%	116%	129%	117%	124%	121%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

MORTALITY RATIOS FOR LIFE INCOME SETTLEMENTS ON  
1971 INDIVIDUAL ANNUITY MORTALITY TABLE

Tables 8A and 9A show the mortality ratios on refund settlements for males and females, respectively, based on the 1971 Individual Annuity Mortality Table.

For nonpayee elections arising from death claims, the mortality ratios for male lives generally exceed 160 per cent, while the ratios for female lives are almost level at about 117 per cent by duration, for all ages combined. The female ratios for all durations combined drop rapidly as age increases.

For all payee elections combined (excluding pension trust issues), the mortality ratios generally exceed 100 per cent. For male lives the difference between the aggregate ratios for nonpayee elections and payee elections is great, but the corresponding difference for female lives is small.

Table 9B shows the aggregate mortality ratios for life income settlements with a guaranteed period or a refund provision on the three mortality tables used to calculate the expected deaths: the *a*-1949 Ultimate Table, the *a*-1949 Ultimate Table with Projection B, and the 1971 Individual Annuity Mortality Table.

## MATURED DEFERRED ANNUITIES

The exposures, actual deaths, and expected deaths are shown in Table E of the Appendix. Males accounted for 44 per cent of the exposure by amount of annual income on non-pension trust issues and 88 per cent on pension trust issues. Of non-pension trust issues to males, 86 per cent by amount were with a guaranteed period or refund provision; the corresponding figure for females was 71 per cent. Of the pension trust issues, which amounted to 12 per cent of the total exposure, 95 per cent were with a guaranteed period or refund provision. It should be noted that two companies contributed 76 per cent of the exposure on pension trust issues.

Table 10 provides a summary of the aggregate mortality ratios and number of contracts terminated by death in each category. All these ratios showed decreases over the corresponding ratios in the last study.

*Male Lives*

Table 11 shows the experience for male lives. The aggregate mortality ratios of about 77 per cent on non-pension trust contracts without a guaranteed period or refund provision were about 12 percentage points lower than on non-pension trust contracts with such a provision.

TABLE 8A  
LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A  
REFUND PROVISION—MALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON 1971 INDIVIDUAL ANNUITY MORTALITY TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
	Nonpayee Elections Arising from Death Claims											
Under 50 . . . . .	*	*	463%	172%	241%	275%	*	*	317%	101%	171%	221%
50-59 . . . . .	*	*	189	167	173	172	*	*	178	227	215	197
60-69 . . . . .	*	*	240	191	199	187	*	*	257	224	229	210
70-79 . . . . .	*	*	*	165	156	154	*	*	*	193	179	166
80 and over . . . . .	*	*	*	117	123	122	*	*	*	114	156	134
All . . . . .	224%	113%	198%	161%	167%	165%	141%	84%	233%	182%	191%	177%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.



TABLE 8A--Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Payee Elections Arising from Maturities and Surrenders (Excluding Pension Trust Issues) and Death Claims												
Under 50....	*	*	*	*	*	<i>282%</i>	*	*	*	*	*	<i>181%</i>
50-59.....	<i>81%</i>	<i>126%</i>	<i>101%</i>	<i>125%</i>	<i>113%</i>	111	<i>72%</i>	<i>128%</i>	<i>184%</i>	<i>246%</i>	<i>215%</i>	133
60-69.....	104	121	117	110	115	115	102	123	115	106	112	114
70-79.....	97	112	121	123	122	121	91	124	118	119	119	118
80 and over..	75	95	102	119	117	115	<i>198</i>	89	105	122	120	122
All.....	101%	118%	118%	120%	119%	118%	115%	119%	116%	120%	119%	118%
Payee Elections Arising from Maturities and Surrenders—Pension Trust Issues												
Under 50....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	<i>548%</i>	<i>444%</i>	*	*	*	<i>558%</i>	<i>365%</i>	<i>203%</i>	*	*	*	<i>322%</i>
60-69.....	149	159	<i>252%</i>	<i>314%</i>	<i>256%</i>	176	143	145	<i>248%</i>	<i>293%</i>	<i>250%</i>	157
70-79.....	<i>125</i>	129	143	153	147	146	72	109	142	141	142	135
80 and over..	*	*	<i>145</i>	126	128	127	*	*	<i>145</i>	140	140	138
All.....	151%	153%	156%	146%	151%	152%	128%	132%	150%	142%	146%	141%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 9  
LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A  
REFUND PROVISION—FEMALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE WITH PROJECTION B

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
	Nonpayee Elections Arising from Death Claims											
Under 50.....	*	*	235%	278%	265%	245%	*	*	220%	412%	344%	316%
50-59.....	160%	176%	141	230	196	187	174%	189%	169	225	203	196
60-69.....	132	90	124	125	125	120	109	109	142	123	129	130
70-79.....	95	93	97	99	99	98	84	85	96	104	102	99
80 and over..	74	97	92	86	87	87	63	93	87	87	87	87
All.....	100%	98%	101%	96%	97%	97%	95%	96%	100%	97%	98%	97%

\* Fewer than 10 contracts terminated by death.

Note. -Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 9—Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Payee Elections Arising from Maturities and Surrenders (Excluding Pension Trust Issues) and Death Claims												
Under 50....	*	*	*	<i>412%</i>	<i>394%</i>	<i>378%</i>	*	*	*	<i>863%</i>	<i>661%</i>	<i>481%</i>
50-59.....	232%	114%	100%	171	143	150	190%	136%	159%	245	209	182
60-69.....	83	94	99	114	108	102	87	94	98	126	113	105
70-79.....	59	79	83	91	90	89	56	85	84	99	96	94
80 and over..	<i>64</i>	81	82	95	94	94	<i>63</i>	83	81	96	95	95
All.....	84%	88%	87%	95%	94%	93%	77%	90%	87%	100%	98%	96%
Payee Elections Arising from Maturities and Surrenders—Pension Trust Issues												
Under 50....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	113%	137%	155%	*	<i>148%</i>	132%	<i>102%</i>	114%	<i>142%</i>	*	<i>133%</i>	113%
70-79.....	*	65	100	103%	101	99	*	66	88	95%	91	90
80 and over..	*	*	*	<i>110</i>	<i>107</i>	<i>106</i>	*	*	*	<i>101</i>	<i>105</i>	<i>102</i>
All.....	118%	121%	108%	105%	106%	111%	111%	102%	98%	95%	97%	100%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 9A  
LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A  
REFUND PROVISION—FEMALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON 1971 INDIVIDUAL ANNUITY MORTALITY TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
	Nonpayee Elections Arising from Death Claims											
Under 50.....	*	*	<i>288%</i>	<i>324%</i>	<i>314%</i>	<i>292%</i>	*	*	<i>256%</i>	<i>478%</i>	<i>400%</i>	<i>366%</i>
50-59.....	<i>159%</i>	<i>173%</i>	137	225	191	184	<i>171%</i>	<i>185%</i>	164	219	197	191
60-69.....	145	99	137	141	139	134	192	122	159	138	145	146
70-79.....	119	116	121	124	123	122	105	106	120	130	127	123
80 and over..	87	115	109	102	103	104	74	111	104	103	103	103
All.....	<i>117%</i>	<i>116%</i>	<i>121%</i>	<i>115%</i>	<i>116%</i>	<i>116%</i>	<i>113%</i>	<i>115%</i>	<i>120%</i>	<i>116%</i>	<i>117%</i>	<i>117%</i>

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 9A—Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
Payee Elections Arising from Maturities and Surrenders (Excluding Pension Trust Issues) and Death Claims												
Under 50....	*	*	*	<i>496%</i>	<i>487%</i>	<i>467%</i>	*	*	*	<i>1,006%</i>	<i>774%</i>	<i>563%</i>
50-59.....	<i>230%</i>	<i>109%</i>	<i>98%</i>	166	140	145	<i>186%</i>	<i>130%</i>	<i>154%</i>	238	203	176
60-69.....	90	106	113	131	123	115	95	106	111	144	129	119
70-79.....	74	98	104	114	112	110	70	106	105	124	120	117
80 and over..	78	99	99	113	112	112	78	101	96	115	113	113
All.....	<i>95%</i>	<i>103%</i>	<i>105%</i>	<i>114%</i>	<i>113%</i>	<i>112%</i>	<i>89%</i>	<i>106%</i>	<i>105%</i>	<i>120%</i>	<i>118%</i>	<i>116%</i>
Payee Elections Arising from Maturities and Surrenders—Pension Trust Issues												
Under 50....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	<i>124%</i>	<i>163%</i>	<i>184%</i>	*	<i>176%</i>	<i>154%</i>	<i>113%</i>	<i>135%</i>	<i>169%</i>	*	<i>158%</i>	<i>131%</i>
70-79.....	*	82	126	<i>128%</i>	127	124	*	<i>84</i>	111	<i>118%</i>	114	113
80 and over..	*	*	*	<i>130</i>	<i>127</i>	<i>126</i>	*	*	*	<i>120</i>	<i>125</i>	<i>121</i>
All.....	<i>131%</i>	<i>145%</i>	<i>134%</i>	<i>128%</i>	<i>132%</i>	<i>134%</i>	<i>125%</i>	<i>123%</i>	<i>122%</i>	<i>116%</i>	<i>120%</i>	<i>121%</i>

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 9B

LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A  
REFUND PROVISION—EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
COMPARISON OF MORTALITY RATIOS ON

(A) *a*-1949 ULTIMATE TABLE(B) *a*-1949 ULTIMATE TABLE WITH PROJECTION B

(C) 1971 INDIVIDUAL ANNUITY MORTALITY TABLE

	BY NUMBER OF CONTRACTS			BY AMOUNT OF ANNUAL INCOME		
	Mortality Table			Mortality Table		
	A	B	C	A	B	C
<b>Males:</b>						
Nonpayee elections arising from death claims	127%	147%	165%	135%	156%	177%
Payee elections arising from maturities and surrenders (excluding pension trust issues) and death claims	89	100	118	89	101	118
Payee elections arising from maturities and surrenders on pension trust issues	113	130	152	105	121	141
<b>Females:</b>						
Nonpayee elections arising from death claims	88	97	116	89	97	117
Payee elections arising from maturities and surrenders (excluding pension trust issues) and death claims	85	93	112	88	96	116
Payee elections arising from maturities and surrenders on pension trust issues	95	111	134	86	100	121

TABLE 10

MATURED DEFERRED ANNUITIES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE

(All Ages and Durations Combined)

	BY NUMBER OF CONTRACTS		BY AMOUNT OF ANNUAL INCOME	
	Males	Females	Males	Females
<b>With a guaranteed period or refund provision:</b>				
Other than pension trust	88% (7,336)	80% (11,475)	90%	80%
Pension trust	123 (5,060)	109 (443)	118	101
<b>Without a guaranteed period or refund provision:</b>				
Other than pension trust	76 (1,247)	74 (4,713)	77	73
Pension trust	107 (167)	117 (92)	93	94

NOTE.—Number of contracts terminated by death shown in parentheses.

TABLE 11

MATURED DEFERRED ANNUITIES - MALE LIVES  
 EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
 MORTALITY RATIOS ON  $\alpha$ -1949 ULTIMATE TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
OTHER THAN PENSION TRUST ISSUES												
With a Guaranteed Period or Refund Provision												
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	<i>178%</i>	*	*	*	*	<i>85%</i>	<i>104%</i>	*	*	*	*	<i>64%</i>
60-69.....	99	103%	93%	83%	89%	97	92	107%	79%	74%	77%	94
70-79.....	78	68	82	92	88	86	76	71	84	96	91	88
80 and over..	*	*	<i>123</i>	87	87	87	*	*	<i>102</i>	91	91	91
All.....	94%	90%	84%	88%	87%	88%	86%	88%	85%	92%	90%	90%
Without a Guaranteed Period or Refund Provision												
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	<i>74%</i>	<i>58%</i>	<i>126%</i>	<i>102%</i>	<i>116%</i>	<i>76%</i>	<i>86%</i>	<i>54%</i>	<i>119%</i>	<i>127%</i>	<i>122%</i>	<i>76%</i>
70-79.....	*	<i>63</i>	<i>69</i>	<i>72</i>	<i>71</i>	<i>70</i>	*	<i>39</i>	<i>72</i>	<i>77</i>	<i>75</i>	<i>74</i>
80 and over..	*	*	*	80	80	80	*	*	*	82	82	82
All.....	75%	59%	74%	78%	77%	76%	92%	49%	76%	81%	80%	77%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 11 - Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
	PENSION TRUST ISSUES											
	With a Guaranteed Period or Refund Provision											
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	746%	*	*	*	655%	*	358%	*	*	*	326%
60-69.....	134%	130	156%	130%	154%	138	131%	129	137%	64%	133%	130
70-79.....	*	62	126	124	125	123	*	92	120	129	124	121
80 and over..	*	*	60	107	106	106	*	*	77	108	106	105
All.....	125%	128%	128%	117%	122%	123%	112%	120%	119%	118%	118%	118%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.



The mortality on pension trust issues with a guaranteed period or refund provision continued at a rather high level, even though the aggregate ratios by number and by amount showed decreases from the previous study. The mortality at ages 50-59 continued at a very high level and was probably due to ill-health retirements. It should also be noted that the pension trust experience at all ages is affected by lives who were issued deferred annuities because they did not qualify for standard insurance benefits. The ratios showed a pronounced tendency to decrease with age.

There are not enough data on pension trust issues without a guaranteed period or refund provision to permit an analysis by age and duration.

#### *Female Lives*

Table 12 shows that the aggregate mortality ratios by number and by amount for non-pension trust contracts without a guaranteed period or refund provision were about 7 percentage points lower than on contracts with such a provision. This is in contrast to the last study, which showed little difference between the two categories. The difference of 7 percentage points for females was smaller than the corresponding difference of 12 percentage points for males.

The aggregate mortality ratios for pension trust issues, which showed significant improvement over the last study, were again considerably higher than those on non-pension trust issues.

#### TREND OF MORTALITY UNDER MATURED DEFERRED ANNUITIES

Table 13 presents summaries of the mortality ratios in broad age and duration groups for each of the last six study periods. Pension trust issues were excluded from the experience after the 1950 anniversary. It was not possible to exclude the experience prior to 1950 under pension trust issues, but this experience was so small that its effect is negligible.

The conversion of the data for the 1940-45 period from the 1937 Standard Annuity Table to the *a*-1949 Ultimate Table was described in the study covering the period between anniversaries in 1955 and 1960 (*1961 Reports*, p. 62).

The data for both sexes generally showed significant decreases in the mortality ratios for both refund and nonrefund issues. In the 1960-65 study, the ratios had tended to level off. For male contracts with a refund period, nearly all ratios shown in Table 13 for the current study are under 100 per cent; in all previous periods, those ratios had generally exceeded 100 per cent.

TABLE 12

MATURED DEFERRED ANNUITIES - FEMALE LIVES  
 EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
 MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
OTHER THAN PENSION TRUST ISSUES												
With a Guaranteed Period or Refund Provision												
Under 50	*	*	*	*	*	*	*	*	*	*	*	*
50-59	*	<i>101%</i>	*	*	*	<i>113%</i>	*	<i>131%</i>	*	*	*	*
60-69	81%	84	82%	93%	85%	84	93%	76	72%	93%	77%	146%
70-79	65	71	69	69	69	69	93	80	71	72	72	73
80 and over	*	*	62	86	86	86	*	*	81	86	86	85
All	79%	79%	73%	81%	80%	80%	94%	77%	72%	81%	80%	80%
Without a Guaranteed Period or Refund Provision												
Under 50	*	*	*	*	*	*	*	*	*	*	*	*
50-59	*	*	*	*	*	*	*	*	*	*	*	*
60-69	78%	74%	77%	111%	80%	78%	83%	76%	76%	121%	81%	80%
70-79	*	50	58	66	65	64	*	48	48	63	60	58
80 and over	*	*	*	80	80	80	*	*	*	83	82	82
All	61%	67%	67%	75%	75%	74%	58%	65%	58%	76%	73%	73%

06

\* Fewer than 10 contracts terminated by death.

NOTE. Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 12—Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
	PENSION TRUST ISSUES											
	With a Guaranteed Period or Refund Provision											
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	<i>104%</i>	<i>90%</i>	<i>120%</i>	*	<i>100%</i>	<i>96%</i>	<i>102%</i>	<i>105%</i>	<i>129%</i>	*	<i>105%</i>	<i>104%</i>
70-79.....	*	*	104	116%	110	105	*	*	107	106%	106	98
80 and over..	*	*	*	122	128	128	*	*	*	108	109	108
All.....	<i>98%</i>	<i>82%</i>	111%	116%	114%	109%	<i>87%</i>	<i>80%</i>	110%	105%	107%	101%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 13

TREND OF MORTALITY UNDER MATURED DEFERRED ANNUITIES  
OTHER THAN PENSION TRUST ISSUES  
EXPERIENCE BETWEEN ANNIVERSARIES IN INDICATED YEARS  
MORTALITY RATIOS ON A 1949 ULTIMATE TABLE

ATTAINED AGES	DURATIONS 1-5						DURATIONS 6 AND OVER						ALL DURATIONS					
	1940 45	1945 50	1950 55	1955 60	1960 65	1965 70	1940 45	1945 50	1950 55	1955 60	1960 65	1965 70	1940- 45	1945- 50	1950- 55	1955- 60	1960- 65	1965- 70
MALE CONTRACTS WITH A GUARANTEED PERIOD OR REND PROVISION																		
By Number of Contracts																		
92 Under 60 60-69 70 and over	178%	157%	147%	144%	144%	96%	*	211%	79%	97%	71%	*	173%	166%	130%	131%	119%	88%
	134	132	115	117	105	101	77%	168	104	111	118	89%	130	138	112	115	110	97
	105	122	103	87	98	71	134	111	103	105	103	87	117	114	103	103	103	87
All	127%	130%	113%	109%	105%	91%	124%	121%	103%	105%	104%	87%	127%	126%	107%	106%	104%	88%
By Amount of Annual Income																		
Under 60 60-69 70 and over	183%	172%	123%	111%	135%	75%	*	167%	128%	121%	62%	*	185%	171%	124%	113%	111%	87%
	141	133	122	111	91	102	73%	137	107	109	115	77%	136	134	118	111	101	94
	101	100	95	87	111	73	121	115	100	108	103	91	108	109	99	104	103	89
All	130%	123%	112%	101%	101%	87%	113%	119%	101%	108%	103%	90%	127%	121%	106%	106%	103%	90%

\* Fewer than 10 contracts terminated by death.

NOTE: Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 13 *Continued*

ATTAINED AGES	DURATIONS 1-5						DURATIONS 6 AND OVER						ALL DURATIONS					
	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70
FEMALE CONTRACTS WITH A GUARANTEED PERIOD OR REFUND PROVISION																		
By Number of Contracts																		
93 Under 60 60-69 70 and over All	189%	194%	127%	123%	136%	126%	*	201%	110%	110%	111%	*	189%	195%	124%	120%	128%	115%
	125	117	116	97	84	83	129%	115	108	100	89	85%	124	116	112	99	87	84
	110	107	93	73%	73	70	123	113	102	98	90	80	118	112	101	96	90	79
	124%	118%	111%	93%	84%	79%	126%	114%	103%	98%	90%	80%	124%	116%	105%	97%	90%	80%
By Amount of Annual Income																		
Under 60 60-69 70 and over All	153%	149%	128%	131%	176%	170%	*	172%	199%	100%	130%	*	161%	153%	143%	123%	162%	140%
	140	112	113	88	87	81	111%	119	98	108	86	77%	133	114	107	97	86	79
	105	113	125	80	72	79	116	109	97	94	92	89	109	110	101	93	91	80
	131%	114%	117%	87%	86%	82%	116%	112%	98%	96%	91%	80%	125%	113%	104%	94%	91%	80%

\* Fewer than 10 contracts terminated by death.

NOTE: Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 13 - Continued

ATTAINED AGES	DURATIONS 1-5						DURATIONS 6 AND OVER						ALL DURATIONS					
	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70
MALE CONTRACTS WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION																		
By Number of Contracts																		
94 Under 60 60-69 70 and over	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	83%	*	*
	104%	89%	79%	77%	69%	64%	204%	222%	75%	95%	86%	116%	114%	115%	78%	82%	73%	76%
	102	115	62	96	106	58	102	104	104	93	94	76	103	107	99	93	94	75
All	103%	96%	74%	82%	75%	65%	123%	123%	100%	93%	93%	77%	108%	109%	91%	90%	90%	76%
By Amount of Annual Income																		
Under 60 60-69 70 and over	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	173%	*	*
	82%	83%	57%	67%	88%	66%	268%	213%	169%	94%	102%	122%	98%	110%	55%	75%	91%	76%
	63	84	48	90	118	61	108	103	99	92	86	78	85	98	91	92	88	78
All	79%	83%	54%	78%	95%	64%	136%	120%	91%	92%	87%	80%	93%	102%	78%	88%	89%	77%

\* Fewer than 10 contracts terminated by death

NOTE. Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 13 - Continued

ATTAINED AGES	DURATIONS 1-5						DURATIONS 6 AND OVER						ALL DURATIONS					
	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70	1940-45	1945-50	1950-55	1955-60	1960-65	1965-70
FEMALE CONTRACTS WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION																		
By Number of Contracts																		
56 Under 60 60-69 . . . 70 and over . . .  All . . .	*	<i>152%</i>	<i>216%</i>	<i>116%</i>	<i>113%</i>	*	*	*	*	<i>330%</i>	*	*	*	<i>150%</i>	<i>223%</i>	<i>168%</i>	<i>104%</i>	*
	98%	89	75	69	70	75%	169%	98%	95%	79	91%	80%	108%	92	84	74	82	78%
	139	91	98	66	71	40	108	105	100	90	95	74	124	103	100	90	95	74
	108%	91%	85%	70%	71%	65%	124%	103%	99%	89%	95%	75%	113%	99%	96%	87%	93%	74%
By Amount of Annual Income																		
Under 60 60-69 . . . 70 and over . . .  All . . .	*	<i>116%</i>	<i>128%</i>	<i>98%</i>	<i>151%</i>	*	*	*	*	<i>243%</i>	*	*	*	<i>118%</i>	<i>135%</i>	<i>127%</i>	<i>134%</i>	*
	93%	80	70	59	65	78%	183%	101%	90%	77	97%	81%	105%	86	78	68	82	80%
	102	75	112	69	65	36	102	100	94	89	93	73	104	95	96	88	92	72
	97%	80%	82%	62%	67%	63%	123%	100%	94%	87%	94%	73%	105%	92%	91%	83%	91%	73%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

The ratios for nonrefund contracts issued to female lives continued their downward trend, despite the temporary reversal of that trend in the 1960-65 study.

MORTALITY RATIOS FOR MATURED DEFERRED ANNUITIES  
ON *a*-1949 ULTIMATE TABLE WITH PROJECTION B

Tables 14 and 15 show the mortality ratios for males and females, respectively, based on the *a*-1949 Ultimate Table with Projection B. The calculation of the basis for expected deaths is described in the Appendix, page 118.

For non-pension trust issues on male lives the level of mortality decreased significantly from the last study. The pattern on male refund contracts of decreasing ratios with age was similar to that in the past few studies.

For female lives the level of mortality decreased from the last study for all aggregate categories. Also, the lowest level of mortality for female lives was generally experienced in the 70-79 age group on non-pension trust issues.

MORTALITY RATIOS FOR MATURED DEFERRED ANNUITIES ON  
1971 INDIVIDUAL ANNUITY MORTALITY TABLE

Tables 14A and 15A show the mortality ratios, for males and females, respectively, based on the 1971 Individual Annuity Mortality Table.

For male lives under non-pension trust issues without a guaranteed period or refund provision, very low mortality ratios were experienced in the 3-5 duration group.

For female lives under non-pension trust issues without a guaranteed period or refund provision, the 60-69 age group generally experienced the highest mortality ratios.

For pension trust issues the mortality ratios were again well above 100 per cent for both male and female lives.

In order to permit a direct comparison of the aggregate mortality ratios for matured deferred annuities on the three tables used to calculate the expected deaths, these ratios have been summarized in Table 15B.

COMPARISON OF LIFE INCOME SETTLEMENTS  
AND MATURED DEFERRED ANNUITIES

Table 16 presents a comparison of the mortality experience under (A) life income settlements arising from death claims (payee elections only), (B) life income settlements arising from maturities and surrenders, (C)



TABLE 14  
MATURED DEFERRED ANNUITIES—MALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a* 1949 ULTIMATE TABLE WITH PROJECTION B

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
OTHER THAN PENSION TRUST ISSUES												
With a Guaranteed Period or Refund Provision												
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	<i>213%</i>	*	*	*	*	<i>104%</i>	<i>129%</i>	*	*	*	*	<i>79%</i>
60-69.....	119	123%	112%	100%	107%	117	112	129%	95%	89%	92%	113
70-79.....	90	78	94	104	98	98	88	81	97	108	103	100
80 and over..	*	*	133	91	91	91	*	*	110	96	96	96
All.....	112%	106%	97%	96%	96%	97%	102%	103%	97%	100%	99%	100%
Without a Guaranteed Period or Refund Provision												
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	<i>89%</i>	70%	<i>153%</i>	<i>123%</i>	<i>140%</i>	<i>92%</i>	<i>103%</i>	65%	<i>143%</i>	<i>153%</i>	<i>146%</i>	91%
70-79.....	*	74	79	81	80	80	*	45	83	87	85	84
80 and over..	*	*	*	84	84	84	*	*	*	87	87	87
All.....	91%	71%	86%	84%	84%	84%	111%	58%	87%	87%	87%	86%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 14 *Continued*

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
	Durations Below Issues											
	With a Guaranteed Period or Refund Provision											
Under 50 . . . . .	*	*	*	*	*	*	*	*	*	*	*	*
50-59 . . . . .	*	<i>920%</i>	*	*	*	<i>806%</i>	*	<i>+12%</i>	*	*	*	<i>404%</i>
60-69 . . . . .	163%	156	188%	<i>156%</i>	185%	165	158%	155	164%	77%	160%	156
70-79 . . . . .	*	<i>72</i>	146	140	143	141	*	<i>106</i>	139	145	142	138
80 and over . . . . .	*	*	<i>61</i>	114	112	112	*	*	<i>82</i>	114	112	111
All . . . . .	151%	153%	149%	129%	137%	139%	134%	142%	137%	128%	132%	133%

86

\* Fewer than 10 contracts terminated by death.

NOTE: Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 14A  
MATURED DEFERRED ANNUITIES - MALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON 1971 INDIVIDUAL ANNUITY MORTALITY TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
OTHER THAN PENSION TRUST ISSUES												
With a Guaranteed Period or Refund Provision												
Under 50	*	*	*	*	*	*	*	*	*	*	*	*
50-59	217%	*	*	*	*	106%	131%	*	*	*	*	80%
60-69	131	138%	124%	112%	119%	129	123	144%	105%	98%	103%	126
70-79	105	92	110	123	118	116	102	95	113	128	122	118
80 and over	*	*	103	112	112	112	*	*	134	118	118	119
All	125%	120%	113%	116%	115%	116%	115%	118%	114%	121%	119%	119%
Without a Guaranteed Period or Refund Provision												
Under 50	*	*	*	*	*	*	*	*	*	*	*	*
50-59	*	*	*	*	*	*	*	*	*	*	*	*
60-69	98%	78%	169%	136%	155%	102%	114%	73%	159%	170%	163%	102%
70-79	*	86	92	96	95	94	*	52	97	103	101	99
80 and over	*	*	*	104	104	104	*	*	*	107	107	107
All	100%	80%	100%	102%	102%	100%	123%	66%	102%	106%	105%	102%

66

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 14A—Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
PENSION TRUST ISSUES												
With a Guaranteed Period or Refund Provision												
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	<i>943%</i>	*	*	*	<i>826%</i>	*	<i>456%</i>	*	*	*	<i>415%</i>
60-69.....	179%	175	208%	<i>174%</i>	206%	184	174%	173	183%	<i>86%</i>	178%	174
70-79.....	*	<i>84</i>	170	167	168	166	*	<i>121</i>	162	173	167	163
80 and over..	*	*	<i>79</i>	141	139	139	*	*	<i>101</i>	141	139	138
All.....	167%	172%	173%	156%	163%	164%	149%	161%	160%	156%	158%	158%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 15  
MATURED DEFERRED ANNUITIES—FEMALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE WITH PROJECTION B

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
OTHER THAN PENSION TRUST ISSUES												
With a Guaranteed Period or Refund Provision												
Under 50....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	<i>124%</i>	*	*	*	<i>140%</i>	*	<i>227%</i>	*	*	*	<i>181%</i>
60-69.....	98%	101	98%	111%	102%	101	113%	91	86%	111%	93%	95
70-79.....	76	82	79	78	78	78	<i>109</i>	92	81	82	82	83
80 and over..	*	*	<i>66</i>	89	89	89	*	*	<i>86</i>	89	89	89
All.....	95%	94%	85%	86%	86%	87%	112%	91%	83%	87%	87%	87%
Without a Guaranteed Period or Refund Provision												
Under 50....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	95%	89%	92%	<i>133%</i>	96%	94%	<i>101%</i>	92%	91%	<i>144%</i>	97%	96%
70-79.....	*	<i>59</i>	67	75	74	73	*	55	55	71	68	66
80 and over..	*	*	*	83	83	83	*	*	*	86	86	86
All.....	74%	80%	78%	81%	80%	80%	70%	78%	68%	81%	80%	79%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 15 - *Continued*

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
	PENSION TRUST ISSUES											
	With a Guaranteed Period or Refund Provision											
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	125%	108%	144%	*	119%	115%	123%	126%	156%	*	126%	125%
70-79.....	*	*	120	131%	125	120	*	*	124	119%	121	112
80 and over..	*	*	*	130	136	136	*	*	*	115	116	115
All.....	118%	97%	129%	127%	128%	124%	105%	95%	127%	116%	120%	115%

102

\* Fewer than 10 contracts terminated by death.

NOTE: -Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 15A  
MATURED DEFERRED ANNUITIES—FEMALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON 1971 INDIVIDUAL ANNUITY MORTALITY TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
OTHER THAN PENSION TRUST ISSUES												
With a Guaranteed Period or Refund Provision												
Under 50	*	*	*	*	*	*	*	*	*	*	*	*
50-59	*	<i>118%</i>	*	*	*	<i>134%</i>	*	<i>215%</i>	*	*	*	<i>173%</i>
60-69	104%	114	116%	131%	120%	116	121%	103	101%	130%	109%	109
70-79	<i>96</i>	104	99	97	98	98	<i>138</i>	116	102	102	102	103
80 and over	*	*	79	106	106	106	*	*	<i>103</i>	106	106	105
All	106%	110%	104%	104%	104%	104%	127%	107%	102%	105%	105%	105%
Without a Guaranteed Period or Refund Provision												
Under 50	*	*	*	*	*	*	*	*	*	*	*	*
50-59	*	*	*	*	*	*	*	*	*	*	*	*
60-69	97%	97%	109%	<i>159%</i>	115%	107%	<i>106%</i>	102%	109%	<i>172%</i>	116%	110%
70-79	*	<i>74</i>	84	93	92	91	*	<i>70</i>	69	89	85	83
80 and over	*	*	*	98	98	98	*	*	*	102	102	102
All	79%	91%	95%	97%	97%	97%	77%	90%	84%	98%	96%	96%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 15A--Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS						BY AMOUNT OF ANNUAL INCOME					
	Durations						Durations					
	1-2	3-5	6-10	11 and Over	6 and Over	All	1-2	3-5	6-10	11 and Over	6 and Over	All
PENSION TRUST ISSUES												
With a Guaranteed Period or Refund Provision												
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*	*	*	*	*
60-69.....	139%	129%	168%	*	139%	134%	137%	152%	182%	*	148%	147%
70-79.....	*	*	152	162%	157	150	*	*	156	148%	152	140
80 and over..	*	*	*	154	162	161	*	*	*	136	137	136
All.....	133%	116%	160%	155%	157%	151%	119%	116%	159%	140%	147%	141%

104

\* Fewer than 10 contracts terminated by death.

NOTE.--Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.



matured deferred annuities, and (D) individual immediate annuities, all with a guaranteed period or refund provision. Pension trust issues in categories B and C have been excluded from Table 16 and are shown separately in Table 17. It should be noted that individual immediate annuity experience is taken from the study published in the *1969 Reports* and covers the experience between 1963 and 1967 anniversaries.

TABLE 15B  
MATURED DEFERRED ANNUITIES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
COMPARISON OF MORTALITY RATIOS ON  
(A) *a*-1949 ULTIMATE TABLE  
(B) *a*-1949 ULTIMATE TABLE WITH PROJECTION B  
(C) 1971 INDIVIDUAL ANNUITY MORTALITY TABLE

	BY NUMBER OF CONTRACTS			BY AMOUNT OF ANNUAL INCOME		
	Mortality Table			Mortality Table		
	A	B	C	A	B	C
Other than pension trust issues—males:						
With a guaranteed period or refund provision.....	88%	97%	116%	90%	100%	119%
Without a guaranteed period or refund provision.....	76	84	100	77	86	102
Pension trust issues—males:						
With a guaranteed period or refund provision.....	123	139	164	118	133	158
Other than pension trust issues—females:						
With a guaranteed period or refund provision.....	80	87	104	80	87	105
Without a guaranteed period or refund provision.....	74	80	97	73	79	96
Pension trust issues—females:						
With a guaranteed period or refund provision.....	109	124	151	101	115	141

Table 16 shows that in the aggregate the lowest mortality for males was experienced on life income settlements arising from death claims, whereas for females the lowest mortality was experienced on life income settlements arising from maturities and surrenders and on matured deferred annuities. In the last study the lowest mortality for both males and females was on life income settlements arising from maturities and surrenders. The highest aggregate mortality in the current study for both males and females was on immediate annuities, representing mortality during the slightly earlier experience period 1963-67.

TABLE 16  
COMPARISON OF CONTRACTS WITH A  
GUARANTEED PERIOD OR REFUND PROVISION  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
(A) PAYEE ELECTION LIFE INCOME SETTLEMENTS ARISING FROM DEATH CLAIMS  
(B) LIFE INCOME SETTLEMENTS ARISING FROM MATURITIES AND SURRENDERS— OTHER THAN PENSION TRUST ISSUES  
(C) MATURED DEFERRED ANNUITIES—OTHER THAN PENSION TRUST ISSUES  
EXPERIENCE BETWEEN 1963 AND 1967 ANNIVERSARIES†  
(D) INDIVIDUAL IMMEDIATE REFUND ANNUITIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS								BY AMOUNT OF ANNUAL INCOME							
	Males				Females				Males				Females			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
	Durations 1-5															
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	*	88%	96%	166%	130%	124%	127%	104%	*	88%	75%	111%	121%	133%	175%	72%
60-69.....	97%	86	101	104	79	73	83	79	130%	86	102	91	83	72	81	107
70-79.....	*	80	71	86	60	74	70	73	*	84	72	85	65	71	84	73
80 and over.....	*	71	*	74	85	48	*	77	*	109	*	75	84	45	*	71
All.....	103%	84%	91%	91%	74%	75%	79%	77%	126%	89%	87%	84%	75%	72%	82%	78%

\* Fewer than 10 contracts terminated by death.

† TSA, 1969 Reports, pp. 56-57, 61-62.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 16—Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS								BY AMOUNT OF ANNUAL INCOME							
	Males				Females				Males				Females			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Durations 6-10																
Under 50.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
50-59.....	<i>96%</i>	<i>77%</i>	<i>88</i>	<i>137%</i>	<i>78%</i>	<i>89%</i>	<i>79</i>	<i>154%</i>	<i>74%</i>	<i>169%</i>	<i>87</i>	<i>123%</i>	<i>98%</i>	<i>209%</i>	<i>87</i>	<i>77</i>
60-69.....	<i>68</i>	<i>90</i>	<i>82</i>	<i>97</i>	<i>70</i>	<i>68</i>	<i>69</i>	<i>79</i>	<i>54</i>	<i>88</i>	<i>84</i>	<i>91</i>	<i>76</i>	<i>70</i>	<i>71</i>	<i>81</i>
70-79.....	*	<i>81</i>	<i>123</i>	<i>82</i>	<i>81</i>	<i>68</i>	<i>62</i>	<i>99</i>	*	<i>83</i>	<i>102</i>	<i>75</i>	<i>76</i>	<i>80</i>	<i>81</i>	<i>85</i>
80 and over.....																
All.....	<i>82%</i>	<i>89%</i>	<i>84%</i>	<i>92%</i>	<i>81%</i>	<i>72%</i>	<i>73%</i>	<i>92%</i>	<i>62%</i>	<i>88%</i>	<i>85%</i>	<i>83%</i>	<i>78%</i>	<i>75%</i>	<i>72%</i>	<i>86%</i>
Durations 1-10																
Under 50.....	*	*	*	*	*	*	*	<i>299%</i>	*	*	*	*	*	*	*	*
50-59.....	<i>96%</i>	<i>86%</i>	<i>80%</i>	<i>159%</i>	<i>108%</i>	<i>118%</i>	<i>125%</i>	<i>115</i>	<i>105%</i>	<i>96%</i>	<i>60%</i>	<i>113%</i>	<i>112%</i>	<i>147%</i>	<i>164%</i>	<i>63%</i>
60-69.....	<i>72</i>	<i>87</i>	<i>99</i>	<i>105</i>	<i>84</i>	<i>76</i>	<i>82</i>	<i>83</i>	<i>67</i>	<i>86</i>	<i>97</i>	<i>90</i>	<i>85</i>	<i>74</i>	<i>77</i>	<i>105</i>
70-79.....	<i>72</i>	<i>88</i>	<i>79</i>	<i>90</i>	<i>70</i>	<i>69</i>	<i>69</i>	<i>75</i>	<i>67</i>	<i>87</i>	<i>81</i>	<i>87</i>	<i>71</i>	<i>70</i>	<i>74</i>	<i>75</i>
80 and over.....	<i>96</i>	<i>77</i>	<i>129</i>	<i>78</i>	<i>83</i>	<i>60</i>	<i>63</i>	<i>89</i>	<i>105</i>	<i>96</i>	<i>105</i>	<i>75</i>	<i>78</i>	<i>65</i>	<i>52</i>	<i>77</i>
All.....	<i>89%</i>	<i>87%</i>	<i>87%</i>	<i>91%</i>	<i>78%</i>	<i>73%</i>	<i>75%</i>	<i>83%</i>	<i>86%</i>	<i>88%</i>	<i>86%</i>	<i>84%</i>	<i>77%</i>	<i>74%</i>	<i>76%</i>	<i>80%</i>
Durations 11 and Over																
Under 50.....	*	*	*	<i>256%</i>	<i>389%</i>	*	*	*	*	*	*	<i>621%</i>	<i>1,015%</i>	*	*	*
50-59.....	<i>69%</i>	<i>133%</i>	<i>83%</i>	<i>98</i>	<i>165</i>	<i>97%</i>	<i>93%</i>	<i>130%</i>	<i>64%</i>	<i>351%</i>	<i>80</i>	<i>130</i>	<i>228</i>	<i>101</i>	<i>111%</i>	<i>93%</i>
60-69.....	<i>79</i>	<i>92</i>	<i>92</i>	<i>106</i>	<i>84</i>	<i>77</i>	<i>69</i>	<i>98</i>	<i>66</i>	<i>89</i>	<i>96</i>	<i>110</i>	<i>97</i>	<i>75</i>	<i>72</i>	<i>95</i>
70-79.....	<i>80</i>	<i>91</i>	<i>87</i>	<i>107</i>	<i>94</i>	<i>87</i>	<i>86</i>	<i>99</i>	<i>63</i>	<i>94</i>	<i>91</i>	<i>110</i>	<i>94</i>	<i>90</i>	<i>86</i>	<i>99</i>
80 and over.....																
All.....	<i>77%</i>	<i>91%</i>	<i>88%</i>	<i>106%</i>	<i>91%</i>	<i>83%</i>	<i>81%</i>	<i>99%</i>	<i>64%</i>	<i>91%</i>	<i>92%</i>	<i>113%</i>	<i>96%</i>	<i>85%</i>	<i>81%</i>	<i>99%</i>

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 16--Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS								BY AMOUNT OF ANNUAL INCOME							
	Males				Females				Males				Females			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
	Durations 6 and Over															
Under 50.....	*	*	*	218%	309%	*	*	165%	*	*	*	440%	688%	*	*	132%
50-59.....	72%	100%	*	106	134	72%	*	136	58%	235%	*	128	176	147%	*	138
60-69.....	78	86	89%	105	93	87	85%	103	68	85	77%	124	96	91	77%	109
70-79.....	76	91	88	104	83	75	69	96	62	89	91	102	92	74	72	91
80 and over.....	81	90	87	104	93	86	86	99	63	93	91	103	92	90	86	98
All.....	79%	90%	87%	104%	90%	81%	80%	99%	63%	90%	90%	105%	93%	83%	80%	97%
	All Durations															
Under 50.....	*	*	*	229%	291%	*	*	210%	*	*	*	308%	467%	*	*	98%
50-59.....	76%	90%	85%	129	132	108%	113%	122	57%	111%	64%	117	153	138%	146%	96
60-69.....	82	86	97	104	89	81	84	93	87	86	94	98	93	82	79	108
70-79.....	78	90	86	99	81	75	69	92	67	88	88	94	88	74	73	84
80 and over.....	83	89	87	102	93	86	86	98	70	94	91	96	92	98	85	94
All.....	81%	89%	88%	102%	89%	81%	80%	87%	73%	90%	90%	96%	91%	82%	80%	92%

108

\* Fewer than 10 contracts terminated by death.

NOTE: -Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

Table 17 shows that, on pension trust issues, mortality on matured deferred annuities again exceeded that on life income settlements arising from maturities and surrenders for both males and females, but not by as great a percentage as in the last study. This may well arise from situations in which deferred annuities were issued to lives who could not qualify for standard life insurance.

#### SELECT MORTALITY

In order to assemble a substantial volume of data with which to compare mortality ratios by duration as a means of studying the effects of "selection" (herein used to mean the trend in mortality by duration), Tables 18-21 were prepared by combining the experience, by amount of annual income, between 1950 and 1970 anniversaries. Since data for duration group 6-10 were not submitted separately until the 1965-70 study, figures for this duration group are not available for these tables.

On life income settlements with a guaranteed period or refund provision arising from death claims (Table 18), there is distinct evidence of selection under the payee elections for female lives. Under nonpayee elections any effects of selection are negligible for both males and females.

On life income settlements with a guaranteed period or refund provision arising from maturities and surrenders (Table 19), there appears to be some selection at ages 60 and over on female lives under other than pension trust issues and at ages 70 and over on male and female lives on pension trust issues.

On matured deferred annuities with a guaranteed period or refund provision (Table 20), the only effect of selection appears to be on pension trust issues at ages 70 and over.

On matured deferred annuities without a guaranteed period or refund provision (Table 21), there appears to be some selection for both male and female lives at ages 60 and over under non-pension trust contracts.

The data on life income settlements without a guaranteed period or refund provision are not sufficient to study the effects of selection.

The effects of selection, where present within a given plan with a refund provision, are not likely to extend beyond the guaranteed period, and thus their financial impact is somewhat limited on such contracts. On contracts without a guaranteed period or refund provision the effects of selection could have a greater financial effect depending on the extent of the selection.

#### MORTALITY BY SIZE OF ANNUITY

Tables 22-24 were prepared in order to analyze mortality ratios by size of annuity based on amount of annual income, annuities with an

TABLE 17

COMPARISON OF CONTRACTS WITH  
A GUARANTEED PERIOD OR A REFUND PROVISION  
(A) LIFE INCOME SETTLEMENTS ARISING FROM MATURITIES AND  
SURRENDERS—PENSION TRUST ISSUES  
(B) MATURED DEFERRED ANNUITIES—PENSION TRUST ISSUES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE

ATTAINED AGES	BY NUMBER OF CONTRACTS				BY AMOUNT OF ANNUAL INCOME			
	Males		Females		Males		Females	
	A	B	A	B	A	B	A	B
Durations 1-5								
Under 50.....	*	*	*	*	*	*	*	*
50-59.....	<i>411%</i>	<i>718%</i>	*	*	<i>237%</i>	<i>311%</i>	*	*
60-69.....	116	131	106%	94%	108	130	91%	104%
70-79.....	95	58	70	*	73	76	76	*
80 and over.....	*	*	*	*	*	*	*	*
All.....	114%	128%	100%	86%	98%	118%	89%	83%
Durations 6-10								
Under 50.....	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*
60-69.....	188%	156%	129%	120%	185%	137%	119%	129%
70-79.....	106	126	86	104	105	120	76	107
80 and over.....	109	60	*	*	110	77	*	*
All.....	116%	128%	93%	111%	112%	119%	84%	110%
Durations 1-10								
Under 50.....	*	*	*	*	*	*	*	*
50-59.....	<i>479%</i>	<i>663%</i>	*	*	<i>256%</i>	<i>335%</i>	*	*
60-69.....	130	138	111%	101%	117	131	95%	108%
70-79.....	105	122	84	96	98	115	76	91
80 and over.....	103	64	*	*	100	72	*	*
All.....	115%	128%	96%	103%	105%	119%	86%	98%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 17—Continued

ATTAINED AGES	BY NUMBER OF CONTRACTS				BY AMOUNT OF ANNUAL INCOME			
	Males		Females		Males		Females	
	A	B	A	B	A	B	A	B
	Duration 11 and Over							
Under 50.....	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*
60-69.....	235%	130%	*	*	219%	64%	*	*
70-79.....	114	124	91%	116%	106	129	84%	106%
80 and over.....	96	107	103	122	106	108	95	108
All.....	109%	117%	94%	116%	106%	118%	86%	105%
	Durations 6 and Over							
Under 50.....	*	*	*	*	*	*	*	*
50-59.....	*	*	*	*	*	*	*	*
60-69.....	191%	154%	124%	100%	187%	133%	111%	105%
70-79.....	109	125	88	110	105	124	79	106
80 and over.....	97	106	100	128	106	106	99	109
All.....	113%	122%	93%	114%	109%	118%	85%	107%
	All Durations							
Under 50.....	*	*	*	*	*	*	*	*
50-59.....	460%	655%	*	*	254%	326%	*	*
60-69.....	132	138	110%	96%	117	130	94%	104%
70-79.....	108	123	86	105	100	121	78	98
80 and over.....	96	106	100	128	105	105	96	108
All.....	113%	123%	95%	109%	105%	118%	86%	101%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 18  
LIFE INCOME SETTLEMENTS WITH A  
GUARANTEED PERIOD OR A REFUND PROVISION  
ARISING FROM DEATH CLAIMS  
EXPERIENCE BETWEEN 1950 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE  
(By Amount of Annual Income)

ATTAINED AGES	DURATIONS				
	1-2	3-5	1-5	6 and Over	All
Male Lives Payee Elections					
Under 60 . . . . .	<i>79%</i>	<i>142%</i>	<i>119%</i>	118%	118%
60-69 . . . . .	103	91	96	83	88
70 and over . . . . .	62	128	107	98	99
All . . . . .	86%	115%	104%	97%	98%
Female Lives Payee Elections					
Under 60 . . . . .	115%	113%	114%	160%	140%
60-69 . . . . .	74	91	84	102	96
70 and over . . . . .	73	80	78	96	94
All . . . . .	77%	85%	82%	98%	96%
Male Lives Nonpayee Elections					
Under 60 . . . . .	<i>87%</i>	<i>305%</i>	<i>218%</i>	194%	201%
60-69 . . . . .	223	105	154	139	142
70 and over . . . . .	97	86	90	125	118
All . . . . .	123%	159%	145%	144%	144%
Female Lives Nonpayee Elections					
Under 60 . . . . .	147%	144%	145%	155%	151%
60-69 . . . . .	106	103	104	114	110
70 and over . . . . .	86	94	91	99	98
All . . . . .	97%	100%	99%	103%	102%

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.



TABLE 19  
LIFE INCOME SETTLEMENTS WITH A  
GUARANTEED PERIOD OR A REFUND PROVISION  
ARISING FROM MATURITIES AND SURRENDERS  
EXPERIENCE BETWEEN 1950 AND 1970 ANNIVERSARIES  
MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE  
(By Amount of Annual Income)

ATTAINED AGES	DURATIONS				
	1-2	3-5	1-5	6 and Over	All
Male Lives Other than Pension Trust Issues					
Under 60 . . . . .	79%	111%	98%	119%	102%
60-69 . . . . .	81	91	87	90	88
70 and over . . . . .	97	88	91	92	92
All . . . . .	85%	91%	89%	92%	91%
Female Lives Other than Pension Trust Issues					
Under 60 . . . . .	92%	102%	98%	131%	109%
60-69 . . . . .	69	81	76	86	81
70 and over . . . . .	81	78	79	86	85
All . . . . .	74%	82%	79%	86%	85%
Male Lives Pension Trust Issues					
Under 60 . . . . .	191%	211%	199%	334%	209%
60-69 . . . . .	104	104	104	174	108
70 and over . . . . .	67	87	81	102	98
All . . . . .	97%	99%	98%	106%	102%
Female Lives Pension Trust Issues					
Under 60 . . . . .	*	*	191%	*	168%
60-69 . . . . .	90%	100%	95	127%	100
70 and over . . . . .	72	65	67	87	83
All . . . . .	89%	92%	91%	91%	91%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 20  
 MATURED DEFERRED ANNUITIES WITH A  
 GUARANTEED PERIOD OR A REFUND PROVISION  
 EXPERIENCE BETWEEN 1950 AND 1970 ANNIVERSARIES  
 MORTALITY RATIOS ON *a*-1949 ULTIMATE TABLE  
 (By Amount of Annual Income)

ATTAINED AGES	DURATIONS				
	1-2	3-5	1-5	6 and Over	All
Male Lives Other than Pension Trust Issues					
Under 60 .....	126%	111%	117%	106%	114%
60-69 .....	106	108	107	104	106
70 and over .....	99	85	90	99	98
All .....	104%	99%	101%	99%	100%
Female Lives Other than Pension Trust Issues					
Under 60 .....	153%	139%	145%	135%	141%
60-69 .....	95	92	93	91	93
70 and over .....	89	88	88	87	88
All .....	96%	92%	94%	87%	88%
Male Lives Pension Trust Issues					
Under 60 .....	361%	369%	364%	247%	356%
60-69 .....	120	137	130	160	132
70 and over .....	86	100	96	117	114
All .....	114%	125%	121%	118%	119%
Female Lives Pension Trust Issues					
Under 60 .....	251%	*	151%	*	152%
60-69 .....	111	93%	101	74%	96
70 and over .....	100	106	104	122	119
All .....	111%	97%	102%	118%	113%

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

TABLE 21  
 MATURED DEFERRED ANNUITIES WITHOUT A  
 GUARANTEED PERIOD OR A REFUND PROVISION  
 EXPERIENCE BETWEEN 1950 AND 1970 ANNIVERSARIES  
 MORTALITY RATIOS ON a-1949 ULTIMATE TABLE  
 (By Amount of Annual Income)

ATTAINED AGES	DURATIONS				
	1-2	3-5	1-5	6 and Over	All
Male Lives Other than Pension Trust Issues					
Under 60.....	*	<i>166%</i>	<i>113%</i>	<i>39%</i>	<i>93%</i>
60-69.....	<i>72%</i>	69	70	91	75
70 and over.....	60	89	80	85	85
All.....	<i>68%</i>	<i>77%</i>	<i>74%</i>	<i>85%</i>	<i>83%</i>
Female Lives Other than Pension Trust Issues					
Under 60.....	<i>114%</i>	<i>125%</i>	<i>121%</i>	<i>170%</i>	<i>130%</i>
60-69.....	63	70	67	86	77
70 and over.....	46	75	68	84	83
All.....	<i>61%</i>	<i>73%</i>	<i>69%</i>	<i>84%</i>	<i>82%</i>
Male Lives Pension Trust Issues					
Under 60.....	*	*	*	*	*
60-69.....	<i>143%</i>	<i>107%</i>	<i>122%</i>	<i>189%</i>	<i>130%</i>
70 and over.....	*	<i>126</i>	<i>117</i>	<i>104</i>	<i>106</i>
All.....	<i>126%</i>	<i>113%</i>	<i>118%</i>	<i>108%</i>	<i>111%</i>
Female Lives Pension Trust Issues					
Under 60.....	*	*	*	*	*
60-69.....	<i>248%</i>	<i>144%</i>	<i>188%</i>	*	<i>169%</i>
70 and over.....	*	*	*	<i>82%</i>	77
All.....	<i>190%</i>	<i>111%</i>	<i>139%</i>	<i>81%</i>	<i>97%</i>

\* Fewer than 10 contracts terminated by death.

NOTE.—Italics indicate fewer than 50 but not fewer than 10 contracts terminated by death.

**TABLE 22**  
**LIFE INCOME SETTLEMENTS ARISING FROM DEATH CLAIMS**  
**EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES**  
**MORTALITY RATIOS BY AMOUNT OF ANNUAL INCOME**  
**ON *a*-1949 ULTIMATE TABLE**  
**(All Ages and Durations Combined)**

	SIZE OF ANNUITY			
	Annual Income of Less than \$2,400		Annual Income of \$2,400 or More	
	Males	Females	Males	Females
With a guaranteed period or refund provision:				
Payee elections . . . . .	86% (205)	91% (8,327)	30% (4)	95% (196)
Nonpayee elections . . . . .	124 (348)	90 (8,232)	263 (12)	88 (303)
Without a guaranteed period or refund provision:				
Payee elections . . . . .	27 (4)	71 (187)	0 (0)	159 (9)
Nonpayee elections . . . . .	301 (9)	92 (116)	0 (0)	60 (6)

NOTE.—Number of contracts terminated by death shown in parentheses.

**TABLE 23**  
**LIFE INCOME SETTLEMENTS ARISING FROM MATURITIES AND SURRENDERS**  
**EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES**  
**MORTALITY RATIOS BY AMOUNT OF ANNUAL INCOME**  
**ON *a*-1949 ULTIMATE TABLE**  
**(All Ages and Durations Combined)**

	SIZE OF ANNUITY			
	Annual Income of Less than \$2,400		Annual Income of \$2,400 or More	
	Males	Females	Males	Females
With a guaranteed period or refund provision:				
Other than pension trust . . . . .	89% (12,308)	81% (6,847)	83% (298)	80% (48)
Pension trust . . . . .	111 (4,565)	92 (470)	94 (190)	17 (1)
Without a guaranteed period or refund provision:				
Other than pension trust . . . . .	85 (532)	83 (414)	68 (15)	35 (1)
Pension trust . . . . .	113 (300)	77 (84)	97 (12)	0 (0)

NOTE.—Number of contracts terminated by death shown in parentheses.

annual income of less than \$2,400 comprising one class and annuities with an annual income of \$2,400 or more another class. However, as indicated by the number of deaths shown in parentheses, the volume of data for the \$2,400 and over category was in most cases too small to permit drawing any firm conclusions.

Under life income settlements arising from death claims with a guaranteed period or refund provision (Table 22), there does not appear

TABLE 24  
 MATURED DEFERRED ANNUITIES  
 EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
 MORTALITY RATIOS BY AMOUNT OF ANNUAL INCOME  
 ON *a*-1949 ULTIMATE TABLE  
 (All Ages and Durations Combined)

	SIZE OF ANNUITY			
	Annual Income of Less than \$2,400		Annual Income of \$2,400 or More	
	Males	Females	Males	Females
With a guaranteed period or refund provision:				
Other than pension trust . . .	95% (3,734)	89% (5,241)	89% (213)	107% (31)
Pension trust . . . . .	124 (4,723)	114 (407)	120 (84)	0 (0)
Without a guaranteed period or refund provision:				
Other than pension trust . . .	87 (602)	85 (1,698)	89 (26)	109 (6)
Pension trust . . . . .	92 (164)	98 (92)	109 (2)	0 (0)

NOTE.—Number of contracts terminated by death shown in parentheses.

to be any appreciable difference in mortality by size of annuity for females, for either payee or nonpayee elections. The data for males under similar contracts and for both males and females under contracts without a refund provision are too limited to permit any conclusions to be drawn.

Under life income settlements arising from maturities and surrenders (Table 23), the only evidence of a significant difference in mortality by size of annuity occurs under male pension trust issues with a guaranteed period or refund provision.

Under matured deferred annuities with a guaranteed period or refund

provision (Table 24), there does not seem to be any significant difference in mortality by size of annuity for male lives. The data for female lives and for contracts without a refund provision are not sufficient to permit any analysis by size of annuity.

## APPENDIX

### MORTALITY IMPROVEMENT FACTORS ACCORDING TO PROJECTION B

Expected deaths on the *a*-1949 Ultimate Table with Projection B were calculated from those on the *a*-1949 Ultimate Table without projection by multiplying the latter by factors reflecting the improvement in mortality, according to Projection B, through the period covered by the present study. The formula for the reduction in mortality rate is

$$100\% \left\{ 1 - \frac{1}{2} \left[ \left( 1 - \frac{S_x}{100} \right)^{1965-50} + \left( 1 - \frac{S_x}{100} \right)^{1970-50} \right] \right\}.$$

where  $S_x$ , defined as the annual rate of decrease in the mortality rate, expressed as a percentage, was used to represent the average improvement factor for the experience from 1965 to 1970 anniversaries. This is similar to the formula used for the last study of Mortality under Individual Immediate Annuities (*TSA, 1969 Reports*, p. 40).

The accompanying tabulation shows the annual rates of improvement in mortality  $S_x$  according to Projection B and the resulting projection factors which were applied to expected deaths for the 1965-70 experience.

PROJECTION B  
1965-70 ANNIVERSARIES

Attained Age	Rate of Decrease per Year in Mortality Rate	Reduction in Mortality Rate from 1950 through 1965-70
10-50.....	1.250%	19.719%
51.....	1.245	19.648
52.....	1.240	19.577
53.....	1.235	19.506
54.....	1.230	19.435
55.....	1.225	19.364
56.....	1.220	19.293
57.....	1.215	19.222
58.....	1.210	19.150
59.....	1.205	19.079
60.....	1.200	19.008
61.....	1.18	18.721
62.....	1.16	18.434
63.....	1.14	18.146
64.....	1.12	17.857
65.....	1.10	17.567
66.....	1.07	17.130
67.....	1.04	16.691
68.....	1.01	16.249
69.....	0.98	15.806
70.....	0.95	15.360
71.....	0.91	14.762
72.....	0.87	14.159
73.....	0.83	13.553
74.....	0.79	12.943
75.....	0.75	12.328
76.....	0.70	11.554
77.....	0.65	10.773
78.....	0.60	9.986
79.....	0.55	9.192
80.....	0.50	8.391
81.....	0.45	7.583
82.....	0.40	6.769
83.....	0.35	5.948
84.....	0.30	5.119
85.....	0.25	4.284
86.....	0.20	3.442
87.....	0.15	2.592
88.....	0.10	1.735
89.....	0.05	0.871
90 and over...	0.00	0.000

TABLE A  
CONTRIBUTING COMPANIES  
PROPORTIONS OF TOTAL EXPOSURES\*

COMPANY	LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR A REFUND PROVISION ARISING FROM:			LIFE INCOME SETTLEMENTS WITHOUT A GUARANTEED PERIOD OR A REFUND PROVISION ARISING FROM:			MATURED DEFERRED ANNUITIES	
	Death Claims	Maturities and Surrenders		Death Claims	Maturities and Surrenders		Other than Pension Trust Issues	Pension Trust Issues
		Other than Pension Trust Issues	Pension Trust Issues		Other than Pension Trust Issues	Pension Trust Issues		
Equitable (N. Y.)	13.6%	5.2%	5.9%	.....	.....	.....	50.5%	7.5%
Northwestern	.....	.....	.....	.....	.....	.....	.....	.....
Mutual	13.2	10.3	34.5	0.9%	1.9%	1.8%	0.3	24.9
New York Life	11.0	13.0	†	.....	.....	.....	11.6	0.1
Prudential	10.6	4.6	.....	.....	.....	.....	3.7	.....
Metropolitan	8.1	10.1	.....	2.0	8.7	.....	0.9	.....
Mutual Life	7.9	4.4	0.1	.....	.....	.....	4.4	0.1
Penn Mutual	6.0	7.9	5.5	10.0	8.0	2.9	5.2	0.3
Mutual Benefit	5.8	4.8	9.0	.....	0.3	.....	0.1	5.4
Travelers	5.4	15.8	0.1	5.9	4.0	.....	3.5	0.1
Aetna	4.6	7.5	3.5	0.6	†	.....	0.8	.....
New England	.....	.....	.....	.....	.....	.....	.....	.....
Mutual	3.7	5.5	26.4	63.3	64.3	83.3	3.2	4.8
John Hancock	3.0	3.0	6.9	7.0	6.0	8.8	6.0	51.7
Provident Mutual	.....	.....	.....	.....	.....	.....	.....	.....
al	2.6	3.1	0.3	5.2	2.8	0.3	2.0	0.1
Sun Life	2.2	1.2	0.4	2.2	1.2	0.3	6.5	0.9
Connecticut	.....	.....	.....	.....	.....	.....	.....	.....
General	1.6	2.0	4.2	1.7	0.6	0.4	0.6	2.7
Connecticut Mutual	0.7	1.6	3.2	1.2	2.2	2.2	0.7	1.4
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

\* By amounts of annual income.

† Less than 0.1 per cent.



TABLE B

DISTRIBUTION OF COMPANIES' AGGREGATE MORTALITY RATIOS  
BY NUMBER OF CONTRACTS

LINE A: NUMBER OF COMPANIES

LINE B: PROPORTION OF CONTRACTS TERMINATED BY DEATH

	ALL COMPANIES MORTALITY RATIO*	PERCENTAGE POINTS BELOW ALL COMPANIES RATIO				PERCENTAGE POINTS ABOVE ALL COMPANIES RATIO			
		Over 20	11-20	6-10	0-5	0-5	6-10	11-20	Over 20
		LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR REFUND PROVISION ARISING FROM DEATH CLAIMS							
Male Lives									
Payee elections	81% A (220) B	5	2	1	0	0	2	2	4
Nonpayee elections	127% A (373) B	12.3%	15.5%	2.7%	0%	0%	9.5%	19.5%	40.5%
		14.2%	0.2%	16.1%	0%	16.1%	18.5%	18.0%	16.9%
Female Lives									
Payee elections	89% A (9,338) B	0	3	1	2	4	2	3	1
Nonpayee elections	98% A (9,094) B	0%	16.6%	7.0%	17.2%	34.0%	14.2%	8.9%	2.1%
		14.1%	2.0%	0%	5.9%	9.2%	50.7%	14.7%	3.4%
LIFE INCOME SETTLEMENTS WITH A GUARANTEED PERIOD OR REFUND PROVISION ARISING FROM MATURITIES AND SURRENDERS									
Male Lives									
Other than pension trust issues	89% A (14,366) B	1	0	2	4	4	1	4	0
Pension trust issues	113% A (4,820) B	3.5%	0%	17.1%	28.3%	24.7%	11.3%	15.1%	0%
		5.6%	9.4%	0%	0%	9.0%	46.2%	25.8%	4.0%
Female Lives									
Other than pension trust issues	81% A (7,586) B	0	1	3	3	7	2	0	0
Pension trust issues	95% A (477) B	0%	5.3%	3.3%	29.7%	43.1%	18.6%	0%	0%
		7	0	1	1	1	0	0	0
		15.5%	0%	0.2%	35.6%	25.8%	0%	0%	22.9%
MATURED DEFERRED ANNUITIES WITH A GUARANTEED PERIOD OR REFUND PROVISION									
Male Lives									
Other than pension trust issues	88% A (7,336) B	0	0	3	1	2	1	2	7
Pension trust issues	123% A (5,060) B	0%	0%	55.5%	4.3%	15.1%	0.9%	12.5%	11.7%
		7	0	0	0	0	0	0	4.2%
Female Lives									
Other than pension trust issues	80% A (11,475) B	1	0	1	1	2	3	2	6
Pension trust issues	109% A (443) B	0.1%	0%	53.3%	2.2%	17.7%	11.2%	11.4%	4.1%
		7	1	1	0	1	1	0	3
		9.5%	7.9%	0%	0%	22.3%	51.7%	0%	8.6%
MATURED DEFERRED ANNUITIES WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION									
Male Lives									
Other than pension trust issues	76% A (1,247) B	2	1	0	0	1	2	2	5
Pension trust issues	107% A (167) B	1.5%	49.4%	0%	0%	3.8%	4.8%	23.7%	16.8%
		4	0	1	1	0	0	1	2
		4.8%	0%	16.2%	0%	0%	0%	75.4%	3.6%
Female Lives									
Other than pension trust issues	74% A (4,713) B	3	1	0	1	0	2	4	3
Pension trust issues	117% A (92) B	0.5%	1.4%	0%	63.7%	0%	6.2%	24.4%	3.8%
		4	0	0	0	0	0	2	1
		4.3%	0%	0%	0%	0%	0%	93.5%	2.2%

\* Mortality ratios on a-1949 Ultimate Table. Number of contracts terminated by death shown in parentheses.

TABLE C

LIFE INCOME SETTLEMENTS WITH A GUARANTEED  
PERIOD OR REFUND PROVISION ARISING  
FROM DEATH CLAIMS—MALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES—PAYEE ELECTIONS  
(Expected Deaths on *a*-1949 Ultimate Table)

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	27	\$ 23,902	0	\$ 0	0.08	\$ 71	0%	0%
50-59	52	39,042	1	198	0.49	365	204	54
60-69	143	132,796	5	4,897	3.24	3,154	154	155
70-79	28	23,365	1	1,189	1.38	1,136	72	105
80 and over	2	759	0	0	0.43	198	0	0
All ages	252	\$ 219,864	7	\$ 6,284	5.62	\$ 4,924	125%	128%
Duration 2:								
Under 50	28	\$ 19,576	0	\$ 0	0.06	\$ 69	0%	0%
50-59	65	53,356	1	696	0.63	537	159	130
60-69	122	105,395	1	760	2.93	2,682	34	28
70-79	34	26,092	2	325	1.65	1,283	121	25
80 and over	6	3,661	0	0	0.82	482	0	0
All ages	255	\$ 208,080	4	\$ 1,781	6.09	\$ 5,053	66%	35%
Duration 3:								
Under 50	36	\$ 18,566	0	\$ 0	0.07	\$ 62	0%	0%
50-59	66	54,701	0	0	0.67	559	0	0
60-69	102	78,585	2	2,895	2.55	1,999	78	145
70-79	38	30,390	2	4,705	1.85	1,521	108	309
80 and over	7	3,870	2	2,449	1.09	464	183	528
All ages	249	\$ 186,112	6	\$ 10,049	6.23	\$ 4,605	96%	218%
Duration 4:								
Under 50	37	\$ 16,700	3	\$ 1,891	0.13	\$ 59	2,308%	3,205%
50-59	67	51,949	0	0	0.70	569	0	0
60-69	88	55,249	1	889	2.14	1,288	47	69
70-79	47	34,623	2	1,150	2.18	1,663	92	69
80 and over	7	3,945	1	143	1.15	449	87	32
All ages	246	\$ 162,466	7	\$ 4,073	6.30	\$ 4,028	111%	101%
Duration 5:								
Under 50	31	\$ 12,372	0	\$ 0	0.06	\$ 37	0%	0%
50-59	69	50,972	1	486	0.72	586	139	83
60-69	105	63,089	4	4,504	2.58	1,576	155	286
70-79	54	40,840	1	951	2.55	2,005	39	47
80 and over	5	1,766	2	1,022	0.96	266	208	384
All ages	264	\$ 169,039	8	\$ 6,963	6.87	\$ 4,470	116%	156%
Duration 6:								
Under 50	28	\$ 14,637	0	\$ 0	0.04	\$ 36	0%	0%
50-59	68	41,719	1	98	0.67	455	149	22
60-69	144	76,299	3	473	3.29	1,695	91	28
70-79	121	77,917	5	3,647	5.10	3,184	98	115
80 and over	10	4,059	3	1,166	1.48	480	203	243
All ages	371	\$ 214,631	12	\$ 5,384	10.58	\$ 5,850	113%	92%
Duration 7:								
Under 50	32	\$ 18,267	0	\$ 0	0.08	\$ 59	0%	0%
50-59	67	37,044	1	153	0.66	410	152	37
60-69	132	74,494	6	2,671	3.10	1,700	194	157
70-79	132	105,944	5	5,214	5.86	4,660	85	112
80 and over	9	3,202	2	1,029	1.44	420	139	245
All ages	372	\$ 238,951	14	\$ 9,067	11.14	\$ 7,249	126%	125%
Duration 8:								
Under 50	30	\$ 19,333	0	\$ 0	0.08	\$ 65	0%	0%
50-59	69	37,230	0	0	0.75	422	0	0
60-69	122	70,513	1	749	2.95	1,674	34	45
70-79	130	115,610	5	2,772	5.98	5,172	84	54
80 and over	13	9,903	1	256	1.53	968	65	26
All ages	364	\$ 252,589	7	\$ 3,777	11.29	\$ 8,301	62%	46%

TABLE C—Continued  
 MALE LIVES—PAYEE ELECTIONS—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	33	\$ 24,505	1	\$ 1,360	0 09	\$ 93	1,111%	1,462%
50-59	66	34,629	2	829	0 71	402	282	206
60-69	129	69,660	4	2,292	3 34	1,753	120	131
70-79	127	116,609	0	0	6 10	5,518	0	0
80 and over	12	9,446	1	204	1 62	1,002	62	20
All ages	367	\$ 254,849	8	\$ 4,685	11 86	\$ 8,768	67%	53%
Duration 10:								
Under 50	32	\$ 24,481	0	\$ 0	0 09	\$ 88	0%	0%
50-59	66	34,653	0	0	0 72	398	0	0
60-69	116	65,623	1	125	3 02	1,694	33	7
70-79	129	115,403	5	1,536	6 47	5,822	77	26
80 and over	15	11,036	0	0	2 02	1,240	0	0
All ages	358	\$ 251,196	6	\$ 1,661	12 32	\$ 9,242	49%	18%
Durations 1-5:								
Under 50	159	\$ 91,116	3	\$ 1,891	0 40	\$ 298	750%	635%
50-59	319	250,020	3	1,380	3 21	2,616	93	53
60-69	560	435,114	13	13,945	13 44	10,699	97	130
70-79	201	155,310	8	8,320	9 61	7,608	83	109
80 and over	27	14,001	5	3,614	4 45	1,860	112	194
All ages	1,266	\$ 945,561	32	\$ 29,150	31 11	\$ 23,081	103%	126%
Durations 6-10:								
Under 50	155	\$ 101,223	1	\$ 1,360	0 38	\$ 341	263%	399%
50-59	336	185,275	4	1,080	3 51	2,807	114	52
60-69	643	356,589	15	6,310	15 70	8,516	96	74
70-79	639	531,483	20	13,169	29 51	24,356	68	54
80 and over	59	37,646	7	2,655	8 09	4,110	87	65
All ages	1,832	\$ 1,212,216	47	\$ 24,574	57 19	\$ 39,410	82%	62%
Durations 1-10:								
Under 50	314	\$ 192,339	4	\$ 3,251	0 78	\$ 639	513%	509%
50-59	655	435,295	7	2,460	6 72	4,703	104	52
60-69	1,203	791,703	28	20,255	29 14	19,215	96	105
70-79	840	686,793	28	21,489	39 12	31,964	72	67
80 and over	86	51,647	12	6,269	12 54	5,969	96	105
All ages	3,098	\$ 2,157,777	79	\$ 53,724	88 30	\$ 62,490	89%	86%
Durations 11 and over:								
Under 50	448	\$ 276,226	2	\$ 315	1 34	\$ 1,072	149%	29%
50-59	958	506,219	6	3,346	10 29	5,495	58	61
60-69	1,308	690,243	21	9,858	30 32	15,429	69	64
70-79	1,294	714,217	54	25,239	67 96	37,994	79	66
80 and over	548	237,245	58	19,393	72 05	30,931	80	63
All ages	4,556	\$ 2,424,150	141	\$ 58,151	181 96	\$ 90,921	77%	64%
Durations 6 and over:								
Under 50	603	\$ 377,449	3	\$ 1,675	1 72	\$ 1,413	174%	119%
50-59	1,288	691,494	10	4,426	13 80	7,582	72	58
60-69	1,951	1,046,832	36	16,168	46 02	23,945	78	68
70-79	1,933	1,245,700	74	38,408	97 47	62,350	76	62
80 and over	607	274,891	65	22,048	80 14	35,041	81	63
All ages	6,382	\$ 3,636,366	188	\$ 82,725	239 15	\$ 130,331	79%	63%
All durations:								
Under 50	762	\$ 468,565	6	\$ 3,566	2 12	\$ 1,711	283%	208%
50-59	1,613	941,514	13	5,806	17 01	10,198	76	57
60-69	2,511	1,481,946	49	30,113	59 46	34,644	82	87
70-79	2,134	1,401,010	82	46,728	107 08	69,958	77	67
80 and over	634	288,892	70	25,662	84 59	36,900	83	70
All ages	7,654	\$ 4,581,927	220	\$ 111,875	270 26	\$ 153,411	81%	73%

TABLE C—Continued  
FEMALE LIVES—PAYEE ELECTIONS

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	319	\$ 209,420	1	\$ 700	0 48	\$ 413	208%	169%
50-59	1,353	968,220	15	7,957	6 82	4,879	220	163
60-69	2,664	1,907,255	28	20,340	32 36	23,462	87	87
70-79	1,559	1,432,606	25	28,729	50 53	47,373	49	61
80 and over	162	162,602	9	13,083	13 34	12,987	67	101
All ages	6,057	\$ 4,680,103	78	\$ 70,811	103 53	\$ 89,114	73%	79%
Duration 2:								
Under 50	340	\$ 211,489	3	\$ 1,017	0 54	\$ 416	556%	244%
50-59	1,421	1,006,600	13	7,495	7 22	5,138	180	146
60-69	3,118	2,178,305	43	29,155	38 91	27,075	85	108
70-79	2,020	1,800,471	32	25,053	66 18	59,450	48	12
80 and over	245	245,946	11	9,049	19 79	19,381	56	47
All ages	7,144	\$ 5,442,811	92	\$ 71,769	132 34	\$ 111,460	70%	64%
Duration 3:								
Under 50	405	\$ 188,502	7	\$ 270	9 49	\$ 387	204%	77%
50-59	1,186	976,782	8	8,949	6 69	5,038	104	178
60-69	3,112	2,369,679	31	18,179	43 98	30,220	72	60
70-79	2,396	2,054,114	43	35,163	79 13	69,035	54	51
80 and over	374	328,009	22	20,139	31 58	27,017	70	73
All ages	7,973	\$ 5,917,086	105	\$ 82,709	161 77	\$ 131,695	65%	63%
Duration 4:								
Under 50	287	\$ 164,913	0	\$ 0	0 47	\$ 336	0%	0%
50-59	1,386	861,591	4	2,453	7 11	4,443	56	55
60-69	3,584	2,437,282	46	36,521	45 74	31,315	101	117
70-79	2,633	2,140,298	58	38,170	86 70	72,020	67	53
80 and over	431	384,716	36	29,873	36 71	31,947	98	94
All ages	8,321	\$ 5,988,800	144	\$ 107,019	176 73	\$ 140,061	81%	76%
Duration 5:								
Under 50	248	\$ 150,214	1	\$ 248	0 38	\$ 301	263%	82%
50-59	1,279	780,424	6	1,658	6 66	4,126	90	40
60-69	3,643	2,376,033	25	13,976	47 43	30,846	53	45
70-79	2,956	2,401,005	70	87,191	98 35	87,462	71	107
80 and over	548	457,251	47	36,448	45 97	37,546	104	97
All ages	8,674	\$ 6,164,927	149	\$ 139,521	197 89	\$ 154,281	75%	90%
Duration 6:								
Under 50	222	\$ 141,065	0	\$ 0	0 30	\$ 270	0%	0%
50-59	1,115	611,038	5	3,851	5 76	3,173	87	121
60-69	3,448	2,234,389	31	22,542	44 70	29,135	69	78
70-79	3,072	2,279,340	67	49,939	100 48	75,917	67	54
80 and over	657	593,014	42	40,594	54 34	49,095	77	83
All ages	8,514	\$ 5,858,846	145	\$ 108,126	205 58	\$ 157,620	71%	69%
Duration 7:								
Under 50	219	\$ 129,444	2	\$ 2,299	0 32	\$ 248	625%	927%
50-59	1,005	561,646	2	1,039	5 14	2,924	39	36
60-69	3,378	2,081,283	40	29,477	44 27	27,489	90	74
70-79	3,188	2,373,440	98	73,786	103 90	79,070	94	93
80 and over	746	677,800	51	46,045	64 65	58,806	79	78
All ages	8,536	\$ 5,823,613	193	\$ 143,646	218 28	\$ 168,537	88%	85%
Duration 8:								
Under 50	221	\$ 126,232	0	\$ 0	0 33	\$ 253	0%	0%
50-59	939	509,006	4	1,196	4 94	2,683	81	45
60-69	3,225	1,961,344	51	29,028	42 74	26,090	119	111
70-79	3,415	2,463,862	88	55,189	111 91	82,401	79	67
80 and over	799	713,641	65	53,328	70 90	62,765	92	85
All ages	8,599	\$ 5,774,085	208	\$ 138,741	230 82	\$ 174,192	90%	80%

TABLE C—Continued  
 FEMALE LIVES—PAYEE ELECTIONS—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50.....	213	\$ 113,427	0	\$ 0	0 29	\$ 216	0%	0%
50-59.....	848	450,673	4	1,746	4 49	2,378	89	73
60-69.....	3,108	1,875,386	42	27,666	41 39	25,259	101	110
70-79.....	3,715	2,005,268	91	56,994	123 40	88,488	74	64
80 and over.....	872	761,134	63	52,854	79 36	68,914	79	77
All ages.....	8,756	\$ 5,805,888	200	\$ 139,260	248 93	\$ 185,255	80%	75%
Duration 10:								
Under 50.....	199	\$ 93,699	0	\$ 0	0 28	\$ 174	0%	0%
50-59.....	784	412,559	4	5,216	4 14	2,202	97	237
60-69.....	3,119	1,814,573	29	14,630	41 45	24,436	70	60
70-79.....	3,873	2,657,038	98	90,341	131 22	91,915	75	98
80 and over.....	973	834,978	72	47,799	90 84	78,082	79	61
All ages.....	8,948	\$ 5,812,847	203	\$ 157,986	267 93	\$ 196,809	76%	80%
Durations 1-5:								
Under 50.....	1,499	\$ 924,538	6	\$ 2,235	2 36	\$ 1,847	254%	121%
50-59.....	6,925	4,593,617	46	28,514	35 50	23,624	130	121
60-69.....	16,421	11,268,554	163	118,171	207 22	142,918	79	83
70-79.....	11,564	9,828,494	228	214,306	380 89	329,344	60	65
80 and over.....	1,760	1,578,524	125	108,594	146 29	128,878	85	84
All ages.....	38,169	\$ 28,193,727	568	\$ 471,820	772 26	\$ 626,611	74%	75%
Durations 6-10:								
Under 50.....	1,074	\$ 603,867	2	\$ 2,299	1 52	\$ 1,161	132%	198%
50-59.....	4,691	2,544,922	19	13,048	24 47	13,360	78	98
60-69.....	16,278	9,966,975	193	114,543	214 55	132,409	90	87
70-79.....	17,263	12,378,948	442	317,249	570 91	417,821	77	76
80 and over.....	4,047	3,580,567	293	240,620	360 09	317,662	81	76
All ages.....	43,353	\$ 29,075,279	949	\$ 687,759	1,171 54	\$ 882,413	81%	78%
Durations 11-10:								
Under 50.....	2,573	\$ 1,528,405	8	\$ 4,534	3 88	\$ 3,008	206%	151%
50-59.....	11,616	7,138,539	65	41,562	59 97	36,984	108	112
60-69.....	32,699	21,355,529	356	232,714	421 77	275,327	84	85
70-79.....	28,827	22,207,442	670	531,555	951 80	747,165	70	71
80 and over.....	5,807	5,159,091	418	349,214	506 38	446,540	83	78
All ages.....	81,522	\$ 57,269,006	1,517	\$ 1,159,579	1,943 80	\$ 1,509,024	78%	77%
Durations 11 and over:								
Under 50.....	1,789	\$ 848,096	13	\$ 17,660	3 34	\$ 1,740	389%	1,015%
50-59.....	8,354	3,840,999	72	45,757	43 64	20,059	165	228
60-69.....	36,741	18,439,355	464	254,248	494 75	250,956	94	101
70-79.....	78,206	43,036,431	2,392	1,516,573	2,836 17	1,568,564	84	97
80 and over.....	50,122	27,955,512	4,880	2,695,871	5,201 90	2,878,245	94	94
All ages.....	175,212	\$ 94,120,393	7,821	\$ 4,530,109	8,579 80	\$ 4,719,564	91%	96%
Durations 6 and over:								
Under 50.....	2,863	\$ 1,451,963	15	\$ 19,959	4 86	\$ 2,901	309%	688%
50-59.....	13,045	6,385,921	91	58,805	68 11	33,419	134	176
60-69.....	53,019	28,406,330	657	368,791	709 30	383,365	93	96
70-79.....	95,469	55,415,379	2,834	1,833,822	3,407 08	1,986,385	83	92
80 and over.....	54,169	31,536,079	5,173	2,936,491	5,561 99	3,196,087	93	92
All ages.....	218,565	\$123,195,672	8,770	\$5,217,868	9,751 34	\$5,602,157	90%	93
All durations:								
Under 50.....	4,362	\$ 2,376,501	21	\$ 22,194	7 22	\$ 4,748	291%	467%
50-59.....	19,970	10,979,538	137	87,319	103 61	57,043	132	153
60-69.....	69,440	39,674,884	820	486,962	916 52	526,283	89	93
70-79.....	107,033	65,243,873	3,062	2,048,128	3,787 97	2,315,729	81	88
80 and over.....	55,929	33,114,603	5,298	3,045,085	5,708 28	3,324,785	93	92
All ages.....	256,734	\$151,389,399	9,338	\$5,689,688	10,523 60	\$6,228,588	89%	91%

TABLE C—Continued  
MALE LIVES—NONPAYEE ELECTIONS

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	212	\$ 114,028	1	\$ 305	0 40	\$ 344	250%	89%
50-59	194	111,224	2	773	1 85	1,069	108	72
60-69	83	60,592	3	2,245	1 85	1,398	162	161
70-79	21	26,621	1	246	1 08	1,452	93	17
80 and over	7	5,420	0	0	0 74	546	0	0
All ages	517	\$ 317,885	7	\$ 3,569	5 92	\$ 4,809	118%	74%
Duration 2:								
Under 50	228	\$ 114,622	3	\$ 1,350	0 46	\$ 312	652%	433%
50-59	200	114,234	6	1,590	1 88	1,094	319	154
60-69	94	53,146	2	658	2 06	1,116	97	59
70-79	22	26,788	2	2,596	1 10	1,508	182	170
80 and over	8	5,042	1	310	0 89	558	112	56
All ages	552	\$ 313,832	14	\$ 6,574	6 39	\$ 4,588	219%	143%
Duration 3:								
Under 50	239	\$ 118,644	2	\$ 2,273	0 48	\$ 329	417%	691%
50-59	167	89,716	1	307	1 66	880	60	35
60-69	109	61,948	2	599	2 17	1,360	81	44
70-79	19	24,323	2	2,121	0 95	1,349	221	157
80 and over	10	21,087	1	243	1 12	2,134	89	11
All ages	544	\$ 315,748	8	\$ 5,543	6 68	\$ 6,052	120%	92%
Duration 4:								
Under 50	277	\$ 134,317	1	\$ 304	0 65	\$ 403	154%	75%
50-59	178	92,092	3	1,415	1 73	905	173	156
60-69	98	57,788	1	812	2 31	1,344	43	60
70-79	18	21,809	0	0	0 92	1,274	0	0
80 and over	10	22,284	2	1,326	1 11	2,399	180	55
All ages	581	\$ 328,290	7	\$ 3,857	6 72	\$ 6,325	104%	61%
Duration 5:								
Under 50	295	\$ 139,538	1	\$ 1,475	0 71	\$ 442	141%	334%
50-59	202	110,955	1	604	2 01	1,127	50	54
60-69	96	55,228	1	638	2 27	1,267	44	50
70-79	30	26,644	0	0	1 37	1,501	0	0
80 and over	8	19,587	0	0	1 03	2,243	0	0
All ages	631	\$ 351,952	3	\$ 2,717	7 39	\$ 6,580	41%	41%
Duration 6:								
Under 50	304	\$ 137,809	1	\$ 495	0 63	\$ 426	159%	116%
50-59	207	105,944	0	0	2 06	1,074	0	0
60-69	99	52,294	3	1,301	2 17	1,089	138	119
70-79	38	22,740	1	76	1 77	1,064	56	7
80 and over	7	18,412	1	12,000	1 03	2,334	97	514
All ages	655	\$ 337,199	6	\$ 13,872	7 66	\$ 5,987	78%	232%
Duration 7:								
Under 50	294	\$ 130,073	1	\$ 413	0 65	\$ 428	154%	96%
50-59	233	117,072	7	1,544	2 30	1,183	304	131
60-69	103	55,599	5	2,111	2 25	1,209	222	175
70-79	39	22,930	1	816	1 88	1,125	53	73
80 and over	11	9,718	3	1,988	1 52	1,276	197	156
All ages	680	\$ 335,392	17	\$ 6,872	8 60	\$ 5,221	198%	132%
Duration 8:								
Under 50	284	\$ 132,900	4	\$ 1,246	0 69	\$ 441	580%	283%
50-59	242	125,912	5	3,160	2 40	1,310	208	241
60-69	103	61,013	2	676	2 22	1,365	90	50
70-79	42	25,031	1	258	2 07	1,275	48	20
80 and over	10	8,017	1	480	1 25	921	80	52
All ages	681	\$ 352,871	13	\$ 5,820	8 63	\$ 5,312	151%	110%

TABLE C—Continued  
MALE LIVES—NONPAYEE ELECTIONS—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	247	\$ 116,904	1	\$ 90	0 53	\$ 373	189%	24%
50-59	224	107,085	5	3,290	2 25	1,096	222	300
60-69	100	66,765	4	1,957	2 11	1,348	190	145
70-79	60	31,291	3	653	2 88	1,492	104	44
80 and over	6	4,370	1	1,389	0 89	543	112	256
All ages	637	\$ 326,415	14	\$ 7,379	8 66	\$ 4,852	162%	152%
Duration 10:								
Under 50	241	\$ 119,704	3	\$ 2,903	0 60	\$ 381	500%	762%
50-59	225	103,013	1	136	2 36	1,062	42	13
60-69	107	66,127	6	6,467	2 33	1,395	258	464
70-79	56	32,910	3	3,298	2 81	1,680	107	196
80 and over	7	6,671	2	1,228	0 96	899	208	137
All ages	636	\$ 328,425	15	\$ 14,032	9 06	\$ 5,417	166%	259%
Durations 1-5:								
Under 50	1,251	\$ 621,149	8	\$ 5,707	2 70	\$ 1,830	296%	312%
50-59	941	518,251	13	4,789	9 13	5,075	142	94
60-69	480	288,702	9	4,952	10 96	6,485	82	76
70-79	110	126,185	5	4,933	5 42	7,084	92	70
80 and over	43	73,420	4	1,879	4 89	7,880	82	24
All ages	2,825	\$ 1,627,707	39	\$ 22,260	33 10	\$ 28,354	118%	79%
Durations 6-10:								
Under 50	1,370	\$ 637,390	10	\$ 5,147	3 10	\$ 2,049	323%	251%
50-59	1,131	559,026	18	8,130	11 37	5,725	158	142
60-69	512	301,796	20	12,512	11 08	6,406	181	195
70-79	235	134,902	9	5,101	11 41	6,636	79	77
80 and over	41	47,188	8	17,085	5 65	5,973	142	286
All ages	3,289	\$ 1,680,302	65	\$ 47,975	42 61	\$ 26,789	153%	179%
Durations 1-10:								
Under 50	2,621	\$ 1,258,539	18	\$ 10,854	5 80	\$ 3,879	310%	280%
50-59	2,072	1,077,277	31	12,919	20 50	10,800	151	120
60-69	992	590,498	29	17,464	22 04	12,891	132	135
70-79	345	261,087	14	10,034	16 83	13,720	83	73
80 and over	84	120,608	12	18,964	10 54	13,853	114	137
All ages	6,114	\$ 3,308,009	104	\$ 70,235	75 71	\$ 55,143	137%	127%
Durations 11 and over:								
Under 50	2,875	\$ 1,228,517	12	\$ 3,422	8 60	\$ 4,212	140%	81%
50-59	3,432	1,615,718	48	30,637	35 81	16,974	134	180
60-69	2,638	1,377,101	84	51,903	58 10	30,613	145	170
70-79	1,217	684,302	76	51,030	61 96	35,536	123	144
80 and over	444	243,126	49	26,599	54 25	30,183	90	88
All ages	10,606	\$ 5,148,764	269	\$ 163,591	218 72	\$ 117,518	123%	139%
Durations 6 and over:								
Under 50	4,245	\$ 1,865,907	22	\$ 8,569	11 70	\$ 6,261	188%	137%
50-59	4,563	2,174,744	66	38,767	47 18	22,699	140	171
60-69	3,150	1,678,897	104	64,415	69 18	37,019	150	174
70-79	1,452	819,204	85	56,131	73 37	42,172	116	133
80 and over	485	290,314	57	43,684	59 90	36,156	95	121
All ages	13,895	\$ 6,829,066	334	\$ 211,566	261 33	\$ 144,307	128%	147%
All durations:								
Under 50	5,496	\$ 2,487,056	30	\$ 14,276	14 40	\$ 8,091	208%	176%
50-59	5,504	2,692,995	79	43,556	56 31	27,774	140	157
60-69	3,630	1,967,599	113	69,367	80 14	43,504	141	159
70-79	1,562	945,389	90	61,064	78 79	49,256	114	124
80 and over	528	363,734	61	45,563	64 79	44,036	94	103
All ages	16,720	\$ 8,456,773	373	\$ 233,826	294 43	\$ 172,661	127%	135%

TABLE C—Continued  
FEMALE LIVES—NONPAYEE ELECTIONS

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	985	\$ 486,105	3	\$ 1,557	1 76	\$ 963	170%	162%
50-59	2,889	1,663,361	24	13,130	14 08	8,149	170	161
60-69	4,127	2,908,165	61	60,050	50 05	35,730	122	168
70-79	2,961	2,502,776	71	52,958	99 05	85,318	72	62
80 and over	726	668,843	56	34,660	65 78	61,091	85	57
All ages	11,688	\$ 8,229,250	215	\$ 162,355	230 72	\$ 191,251	93%	85%
Duration 2:								
Under 50	968	\$ 529,107	1	\$ 467	1 62	\$ 1,035	62%	45%
50-59	3,094	1,752,636	14	10,600	15 32	8,224	91	122
60-69	4,509	3,071,590	54	46,598	55 39	38,399	97	121
70-79	3,231	2,672,316	102	77,793	108 34	91,216	94	85
80 and over	869	787,658	46	46,225	79 56	74,404	58	62
All ages	12,662	\$ 8,813,307	217	\$ 181,683	260 23	\$ 213,778	83%	85%
Duration 3:								
Under 50	968	\$ 528,285	4	\$ 1,465	1 57	\$ 1,005	255%	146%
50-59	3,068	1,688,023	19	7,528	15 25	8,456	125	89
60-69	4,831	3,180,655	41	36,357	59 73	40,374	69	90
70-79	3,452	2,757,859	99	69,681	115 85	93,705	85	74
80 and over	1,910	913,706	86	81,311	95 19	86,720	90	94
All ages	13,329	\$ 9,068,528	249	\$ 196,342	287 59	\$ 230,260	87%	85%
Duration 4:								
Under 50	954	\$ 507,303	2	\$ 4,534	1 59	\$ 966	126%	469%
50-59	3,130	1,716,917	28	20,053	15 76	8,697	178	231
60-69	5,126	3,305,347	44	34,449	63 47	41,731	69	83
70-79	3,759	2,914,256	94	77,064	125 16	98,348	75	78
80 and over	1,149	1,063,127	106	86,582	112 97	102,591	94	84
All ages	14,118	\$ 9,506,950	274	\$ 222,682	318 95	\$ 252,353	86%	88%
Duration 5:								
Under 50	957	\$ 500,588	2	\$ 1,698	1 52	\$ 945	132%	180%
50-59	3,025	1,629,853	19	11,094	15 36	8,243	124	135
60-69	5,206	3,324,268	55	42,105	65 10	42,692	84	99
70-79	3,883	3,003,451	109	71,930	128 76	101,029	85	71
80 and over	1,214	1,113,704	108	92,289	117 12	104,417	92	88
All ages	14,285	\$ 9,571,864	293	\$ 219,116	327 86	\$ 257,326	89%	85%
Duration 6:								
Under 50	977	\$ 509,900	1	\$ 384	1 61	\$ 969	62%	40%
50-59	2,865	1,547,875	16	10,618	14 62	7,886	109	135
60-69	5,199	3,273,944	83	74,521	64 70	41,735	128	179
70-79	4,138	3,203,314	113	86,238	137 50	108,710	82	79
80 and over	1,220	1,103,390	128	103,920	118 79	108,391	108	96
All ages	14,399	\$ 9,638,423	341	\$ 275,681	337 22	\$ 267,691	101%	103%
Duration 7:								
Under 50	889	\$ 448,465	3	\$ 1,353	1 45	\$ 859	207%	158%
50-59	2,685	1,419,459	19	14,379	13 77	7,309	138	197
60-69	5,113	3,134,173	76	57,088	64 23	40,300	118	142
70-79	4,271	3,309,809	129	88,303	142 23	112,741	91	78
80 and over	1,223	1,082,834	106	69,779	121 01	107,353	88	65
All ages	14,181	\$ 9,394,740	333	\$ 230,902	342 69	\$ 268,562	97%	86%
Duration 8:								
Under 50	773	\$ 399,329	3	\$ 3,422	1 26	\$ 803	238%	426%
50-59	2,503	1,311,894	12	5,832	12 90	6,835	93	85
60-69	5,020	3,059,969	73	46,722	63 07	39,255	116	119
70-79	4,401	3,469,098	145	135,010	146 31	117,724	99	115
80 and over	1,266	1,139,371	91	90,225	124 63	113,286	73	80
All ages	13,963	\$ 9,379,661	324	\$ 281,211	348 17	\$ 277,903	93%	101%



TABLE C—Continued

## FEMALE LIVES—NONPAYEE ELECTIONS—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	732	\$ 368,161	4	\$ 1,032	1.20	\$ 757	333%	136%
50-59	2,169	1,136,508	17	9,569	11.18	5,941	152	161
60-69	4,827	2,918,356	49	30,619	61.01	37,928	80	81
70-79	4,540	3,476,512	129	103,334	152.06	118,741	85	87
80 and over	1,279	1,117,055	99	100,323	122.01	106,891	81	94
All ages	13,547	\$ 9,016,589	298	\$ 244,877	347.46	\$ 270,258	86%	91%
Duration 10:								
Under 50	674	\$ 325,139	1	\$ 929	1.10	\$ 651	91%	143%
50-59	1,962	982,218	7	4,778	10.10	5,139	69	93
60-69	4,796	2,897,132	41	23,127	61.58	38,203	67	61
70-79	4,470	3,419,771	104	72,049	151.81	117,897	69	61
80 and over	1,318	1,155,415	114	90,521	127.35	110,067	90	82
All ages	13,220	\$ 8,779,675	267	\$ 191,404	351.92	\$ 271,957	76%	70%
Durations 1-5:								
Under 50	4,832	\$ 2,551,388	12	\$ 9,721	8.06	\$ 4,914	149%	198%
50-59	15,206	8,450,790	104	62,405	75.77	42,269	137	148
60-69	23,799	15,790,025	255	219,559	293.74	198,946	87	110
70-79	17,286	13,850,658	475	349,426	577.16	469,616	82	74
80 and over	4,959	4,547,038	402	341,067	470.62	429,223	85	79
All ages	66,082	\$ 45,189,899	1,248	\$ 982,178	1,425.35	\$ 1,144,968	88%	86%
Durations 6-10:								
Under 50	4,045	\$ 2,050,994	12	\$ 7,120	6.62	\$ 4,039	181%	176%
50-59	12,184	6,397,951	71	45,176	62.57	33,110	113	136
60-69	24,955	15,283,574	322	232,077	314.59	197,421	102	118
70-79	21,820	16,878,504	620	484,934	729.91	575,813	85	84
80 and over	6,306	5,598,065	538	454,768	613.77	545,988	88	83
All ages	69,310	\$ 46,209,088	1,563	\$ 1,224,075	1,727.46	\$ 1,356,371	90%	90%
Durations 1-10:								
Under 50	8,877	\$ 4,602,382	24	\$ 16,841	14.68	\$ 8,953	163%	188%
50-59	27,390	14,848,741	175	107,581	138.34	75,379	126	143
60-69	48,754	31,073,599	577	451,636	608.33	396,367	95	114
70-79	39,106	30,729,162	1,095	834,360	1,307.07	1,045,429	84	80
80 and over	11,265	10,145,103	940	795,835	1,084.39	975,211	87	82
All ages	135,392	\$ 91,398,987	2,811	\$ 2,206,253	3,152.81	\$ 2,501,339	89%	88%
Durations 11 and over:								
Under 50	8,696	\$ 3,882,804	36	\$ 24,632	16.00	\$ 7,439	225%	331%
50-59	19,637	9,742,447	185	90,714	99.67	49,928	186	182
60-69	51,585	28,142,637	697	376,727	672.03	370,736	104	102
70-79	70,977	45,699,337	2,167	1,477,236	2,483.77	1,612,998	87	92
80 and over	36,519	25,166,466	3,198	2,215,081	3,877.70	2,645,614	82	84
All ages	187,414	\$ 112,633,691	6,283	\$ 4,184,390	7,149.17	\$ 4,686,715	88%	89%
Durations 6 and over:								
Under 50	12,741	\$ 5,933,798	48	\$ 31,752	22.62	\$ 11,478	212%	277%
50-59	31,821	16,140,398	256	135,890	162.24	83,038	158	164
60-69	76,540	43,426,211	1,019	608,804	986.62	568,157	103	107
70-79	92,797	62,577,841	2,787	1,962,170	3,213.68	2,188,811	87	90
80 and over	42,825	30,764,531	3,736	2,669,849	4,491.47	3,191,602	83	84
All ages	256,724	\$ 158,842,779	7,846	\$ 5,408,465	8,876.63	\$ 6,043,086	88%	89%
All durations:								
Under 50	17,573	\$ 8,485,186	60	\$ 41,473	30.68	\$ 16,392	196%	253%
50-59	47,027	24,591,188	360	198,295	238.01	125,307	151	158
60-69	100,339	59,216,236	1,274	828,363	1,280.36	767,103	100	108
70-79	110,083	76,428,499	3,262	2,311,596	3,790.84	2,658,427	86	87
80 and over	47,784	35,311,569	4,138	3,010,916	4,962.09	3,620,825	83	83
All ages	322,806	\$ 204,032,678	9,094	\$ 6,390,643	10,301.98	\$ 7,188,054	88%	89%

TABLE D

LIFE INCOME SETTLEMENTS WITH A GUARANTEED  
PERIOD OR REFUND PROVISION ARISING  
FROM MATURITIES AND SURRENDERS—MALE LIVES  
EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES  
OTHER THAN PENSION TRUST ISSUES  
(Expected Deaths on *a*-1949 Ultimate Table)

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	51	\$ 50,488	0	\$ 0	0 16	\$ 224	0%	0%
50-59	1,958	983,290	9	4,068	21 47	10,797	42	38
60-69	19,811	11,545,669	328	192,054	429 25	252,446	76	76
70-79	1,644	1,545,414	53	32,861	76 42	70,596	69	47
80 and over	223	391,748	7	8,229	28 26	58,187	25	14
All ages	23,687	\$ 14,516,609	397	\$ 237,212	555 56	\$ 392,250	71%	60%
Duration 2:								
Under 50	50	\$ 47,183	0	\$ 0	0 19	\$ 218	0%	0%
50-59	2,045	1,116,959	19	9,125	23 64	12,929	80	77
60-69	20,177	11,476,349	459	209,596	167 53	267,452	81	78
70-79	2,064	1,677,247	77	68,748	97 07	79,590	73	86
80 and over	291	460,414	33	195,508	38 04	76,562	85	274
All ages	24,627	\$ 14,778,152	502	\$ 480,947	627 07	\$ 430,751	89%	112%
Duration 3:								
Under 50	50	\$ 33,094	0	\$ 0	0 19	\$ 148	0%	0%
50-59	2,155	1,208,499	24	12,603	26 63	14,849	90	85
60-69	20,216	11,456,556	417	252,967	501 97	285,690	89	89
70-79	2,419	1,813,151	99	87,141	113 42	88,213	86	99
80 and over	356	356,531	38	29,336	49 25	45,948	77	64
All ages	25,196	\$ 14,867,831	608	\$ 382,047	693 46	\$ 434,848	88%	88%
Duration 4:								
Under 50	59	\$ 31,324	0	\$ 0	0 19	\$ 116	0%	0%
50-59	2,244	1,221,258	38	14,946	29 66	16,082	128	93
60-69	19,797	11,203,990	489	286,459	526 93	299,383	93	96
70-79	2,760	1,945,935	110	70,913	132 67	94,773	83	75
80 and over	466	360,798	39	29,580	61 09	50,859	64	58
All ages	25,266	\$ 14,763,305	676	\$ 401,898	750 54	\$ 461,213	90%	87%
Duration 5:								
Under 50	74	\$ 32,814	0	\$ 0	0 22	\$ 112	0%	0%
50-59	2,044	1,123,383	24	20,984	28 52	15,783	84	133
60-69	17,975	10,191,387	456	257,588	502 87	286,470	91	90
70-79	3,416	2,815,490	163	127,586	196 70	128,576	83	99
80 and over	479	404,462	61	47,335	71 96	56,788	85	83
All ages	24,988	\$ 14,567,536	704	\$ 453,493	800 27	\$ 487,729	88%	93%
Duration 6:								
Under 50	81	\$ 33,276	0	\$ 0	0 20	\$ 92	0%	0%
50-59	379	1,68,893	3	407	4 47	2,029	67	20
60-69	8,930	4,970,461	185	92,718	201 85	112,847	92	82
70-79	13,011	7,695,180	461	292,892	502 14	300,296	92	98
80 and over	477	425,827	52	45,726	70 02	58,648	74	78
All ages	22,878	\$ 13,293,637	701	\$ 431,743	778 68	\$ 473,912	90%	91%
Duration 7:								
Under 50	75	\$ 33,966	0	\$ 0	0 16	\$ 87	0%	0%
50-59	330	137,393	7	5,115	3 71	1,576	189	325
60-69	7,881	4,494,230	163	107,063	184 00	105,035	89	102
70-79	12,789	7,768,713	446	262,805	526 85	321,954	85	82
80 and over	504	430,940	54	50,135	70 45	57,269	77	88
All ages	21,579	\$ 12,865,242	670	\$ 425,118	785 17	\$ 485,921	85%	87%
Duration 8:								
Under 50	84	\$ 44,784	0	\$ 0	0 19	\$ 125	0%	0%
50-59	361	134,977	2	1,082	4 26	1,623	47	67
60-69	7,012	4,140,916	120	69,708	173 76	102,919	69	68
70-79	11,848	7,204,113	460	247,070	525 94	321,337	87	77
80 and over	528	428,515	50	37,513	69 54	54,805	72	68
All ages	19,833	\$ 11,953,305	632	\$ 355,373	773 69	\$ 480,809	82%	74%

TABLE D—Continued

## MALE LIVES—OTHER THAN PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	86	\$ 43,252	1	\$ 368	0 21	\$ 137	476%	269%
50-59	315	131,492	1	282	3 80	1,625	26	17
60-69	6,336	3,842,378	158	97,680	166 51	101,410	95	96
70-79	11,026	6,749,367	472	286,240	528 04	323,640	89	88
80 and over	585	458,722	66	57,275	72 26	56,965	81	101
All ages	18,348	\$ 11,225,211	698	\$ 441,845	770.82	\$ 483,777	91%	91%
Duration 10:								
Under 50	82	\$ 38,397	0	\$ 0	0 21	\$ 117	0%	0%
50-59	257	114,867	2	7,136	3 20	1,450	63	492
60-69	5,253	3,252,303	141	78,124	144 95	90,523	97	86
70-79	9,847	6,014,163	493	303,145	503 16	308,833	98	98
80 and over	607	451,837	64	44,625	72 01	55,180	89	81
All ages	16,046	\$ 9,871,567	700	\$ 433,030	723.53	\$ 456,103	97%	95%
Durations 1-5:								
Under 50	284	\$ 194,903	0	\$ 0	0 95	\$ 818	0%	0%
50-59	10,446	5,653,389	114	61,726	129 92	70,440	88	88
60-69	97,976	55,873,951	2,099	1,198,634	2,428 55	1,391,441	86	86
70-79	13,303	9,797,237	496	387,249	618 28	461,748	80	84
80 and over	1,755	1,973,953	178	307,988	249 20	282,344	71	109
All ages	123,764	\$ 73,493,433	2,887	\$ 1,955,597	3,426.90	\$ 2,206,791	84%	89%
Durations 6-10:								
Under 50	408	\$ 193,675	1	\$ 368	0 97	\$ 558	103%	66%
50-59	1,642	687,622	15	14,022	19 44	8,303	77	169
60-69	35,412	20,700,288	767	445,293	871 07	512,734	88	87
70-79	58,521	35,431,536	2,332	1,392,152	2,586.13	1,576,060	90	88
80 and over	2,701	2,195,841	286	235,274	354 28	282,867	81	83
All ages	98,684	\$ 59,208,962	3,401	\$ 2,087,109	3,831.89	\$ 2,380,522	89%	88%
Durations 1-10:								
Under 50	692	\$ 388,578	1	\$ 368	1 92	\$ 1,376	52%	27%
50-59	12,088	6,341,011	129	75,748	149 36	78,743	86	96
60-69	133,388	76,574,239	2,866	1,643,927	3,299 62	1,904,175	87	86
70-79	71,824	45,228,773	2,828	1,779,401	3,204 41	2,037,808	88	87
80 and over	4,456	4,169,794	464	543,262	603 48	565,211	77	96
All ages	222,448	\$ 132,702,395	6,288	\$ 4,042,706	7,258.79	\$ 4,587,313	87%	88%
Durations 11 and over:								
Under 50	517	\$ 254,431	3	\$ 1,816	1 55	\$ 865	194%	210%
50-59	1,221	435,496	18	16,685	13 51	4,747	133	351
60-69	17,404	9,963,101	376	210,862	451 59	262,717	83	80
70-79	75,798	46,305,977	3,898	2,297,168	4,256 32	2,587,278	92	89
80 and over	34,224	20,038,210	3,783	2,249,185	4,143 97	2,391,643	91	94
All ages	129,164	\$ 76,997,215	8,078	\$ 4,775,716	8,866.94	\$ 5,247,250	91%	91%
Durations 6 and over:								
Under 50	925	\$ 418,106	4	\$ 2,184	2 52	\$ 1,423	159%	153%
50-59	2,863	1,123,118	33	30,707	32 95	13,050	100	235
60-69	52,816	30,663,389	1,143	656,155	1,322.66	775,451	86	85
70-79	134,319	81,737,513	6,230	3,689,320	6,842 45	4,163,338	91	89
80 and over	36,925	22,234,051	4,069	2,484,459	4,498 25	2,674,510	90	93
All ages	227,848	\$ 136,206,177	11,479	\$ 6,862,825	12,698.83	\$ 7,627,772	90%	90%
All durations:								
Under 50	1,209	\$ 643,009	4	\$ 2,184	3 47	\$ 2,241	115%	97%
50-59	13,309	6,776,507	147	92,433	162 87	83,490	90	111
60-69	150,792	86,537,340	3,242	1,854,789	3,751 21	2,166,892	86	86
70-79	147,622	91,534,750	6,726	4,076,569	7,460 73	4,625,086	90	88
80 and over	38,680	24,208,004	4,247	2,792,447	4,747 45	2,956,854	89	94
All ages	351,612	\$ 209,699,610	14,366	\$ 8,818,422	16,125.73	\$ 9,834,563	89%	90%

TABLE D—Continued  
 FEMALE LIVES—OTHER THAN PENSION TRUST ISSUES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	146	\$ 80,429	0	\$ 0	0.13	\$ 118	0%	0%
50-59	1,887	771,242	16	6,291	9.26	3,813	173	165
60-69	9,176	3,931,264	62	23,449	98.51	43,033	63	54
70-79	596	404,167	13	5,033	16.88	11,963	77	42
80 and over	70	42,166	7	3,425	9.36	5,934	75	58
All ages	11,875	\$ 5,229,268	98	\$ 38,198	134.14	\$ 64,861	73	59
Duration 2:								
Under 50	132	\$ 71,463	0	\$ 0	0.15	\$ 121	0%	0%
50-59	1,890	757,267	18	5,500	9.67	3,891	186	141
60-69	9,706	4,005,400	71	28,417	112.65	47,208	63	60
70-79	720	430,863	10	5,896	21.13	13,091	47	45
80 and over	84	59,519	6	2,256	11.38	7,898	53	29
All ages	12,532	\$ 5,324,512	105	\$ 42,069	154.98	\$ 72,209	68%	58%
Duration 3:								
Under 50	127	\$ 64,234	0	\$ 0	0.12	\$ 109	0%	0%
50-59	2,099	839,369	9	8,308	11.56	4,638	78	179
60-69	9,782	3,930,064	88	37,152	123.05	50,075	72	74
70-79	917	506,175	24	13,556	27.32	15,570	88	87
80 and over	105	74,391	7	7,105	13.27	9,647	53	74
All ages	13,030	\$ 5,414,233	128	\$ 66,121	175.32	\$ 80,048	73%	83%
Duration 4:								
Under 50	136	\$ 65,130	0	\$ 0	0.12	\$ 112	0%	0%
50-59	2,255	878,437	13	4,807	13.52	5,214	96	92
60-69	10,039	3,949,775	112	43,583	136.50	54,131	82	81
70-79	1,130	584,112	22	12,429	33.48	17,658	66	70
80 and over	135	98,568	6	4,357	17.31	12,013	35	36
All ages	13,695	\$ 5,576,022	153	\$ 65,176	200.93	\$ 89,128	76%	73%
Duration 5:								
Under 50	122	\$ 58,085	0	\$ 0	0.10	\$ 104	0%	0%
50-59	2,181	860,419	16	5,743	14.04	5,490	114	105
60-69	9,908	3,810,168	117	47,038	143.47	55,462	82	85
70-79	1,620	774,957	38	20,893	46.47	22,824	82	92
80 and over	137	78,297	8	4,013	19.25	11,259	42	36
All ages	13,968	\$ 5,581,926	179	\$ 77,687	223.33	\$ 95,139	80%	82%
Duration 6:								
Under 50	109	\$ 57,479	1	\$ 1,423	0.05	\$ 83	2,000%	1,714%
50-59	487	205,583	2	893	2.59	1,067	77	81
60-69	7,577	2,868,292	66	22,907	87.95	33,416	75	69
70-79	5,006	2,024,398	80	29,611	118.67	49,227	67	60
80 and over	167	100,890	12	5,128	19.53	11,100	61	46
All ages	13,346	\$ 5,256,642	161	\$ 59,962	228.79	\$ 94,893	70%	63%
Duration 7:								
Under 50	120	\$ 66,854	0	\$ 0	0.06	\$ 101	0%	0%
50-59	429	176,510	3	4,618	2.20	917	136	504
60-69	7,459	2,844,811	79	27,096	92.82	35,381	85	77
70-79	5,216	2,109,268	94	40,853	134.11	55,038	70	74
80 and over	185	109,416	13	7,775	21.08	11,516	62	68
All ages	13,409	\$ 5,306,859	189	\$ 80,342	250.27	\$ 102,953	76%	78%
Duration 8:								
Under 50	126	\$ 78,431	0	\$ 0	0.07	\$ 123	0%	0%
50-59	440	188,081	4	2,817	2.38	1,018	168	277
60-69	7,086	2,724,730	76	26,999	95.49	36,648	80	74
70-79	5,354	2,161,825	92	38,982	149.58	61,425	62	63
80 and over	196	106,128	12	9,064	21.64	10,873	55	83
All ages	13,202	\$ 5,259,815	184	\$ 77,862	269.16	\$ 110,087	68%	71%

TABLE D—Continued

## FEMALE LIVES—OTHER THAN PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50.....	129	\$ 79,571	0	\$ 0	0 13	\$ 132	0%	0%
50-59.....	460	190,023	1	470	2 63	1,078	38	44
60-69.....	6,696	2,590,647	76	37,324	97.74	37,719	78	99
70-79.....	5,396	2,177,613	114	54,869	162.45	66,472	70	83
80 and over.....	228	125,198	12	7,472	22.10	11,557	54	65
All ages.....	12,909	\$ 5,163,052	203	\$ 100,135	285.05	\$ 116,958	71%	86%
Duration 10:								
Under 50.....	146	\$ 89,770	1	\$ 581	0 13	\$ 157	769%	370%
50-59.....	446	176,689	1	1,848	2 53	1,018	40	182
60-69.....	6,109	2,346,751	75	24,428	96.10	36,658	78	67
70-79.....	5,526	2,220,452	123	47,117	176.97	71,745	70	66
80 and over.....	265	149,747	25	17,716	23.86	13,585	105	130
All ages.....	12,492	\$ 4,983,409	225	\$ 91,690	299.59	\$ 123,163	75%	74%
Durations 1-5:								
Under 50.....	663	\$ 339,341	0	\$ 0	0 62	\$ 564	0%	0%
50-59.....	10,312	4,106,734	72	30,649	58.05	23,046	124	133
60-69.....	48,611	19,626,671	450	179,639	614.18	249,909	73	72
70-79.....	4,983	2,700,274	107	57,807	145.28	81,115	74	71
80 and over.....	531	352,941	34	21,156	70.57	46,751	48	45
All ages.....	65,100	\$ 27,125,961	663	\$ 289,251	888.70	\$ 401,385	75%	72%
Durations 6-10:								
Under 50.....	630	\$ 372,105	2	\$ 2,004	0 44	\$ 596	455%	336%
50-59.....	2,262	937,486	11	10,646	12.33	5,098	89	209
60-69.....	34,927	13,375,251	372	138,754	470.10	179,822	79	77
70-79.....	26,498	10,693,556	503	211,432	741.78	303,907	68	70
80 and over.....	1,041	591,379	74	47,155	108.21	58,631	68	80
All ages.....	65,358	\$ 25,969,777	962	\$ 409,991	1,332.86	\$ 548,054	72%	75%
Durations 1-10:								
Under 50.....	1,293	\$ 711,446	2	\$ 2,004	1 06	\$ 1,160	189%	173%
50-59.....	12,574	5,044,220	83	41,295	70.38	28,144	118	147
60-69.....	83,538	33,001,922	822	318,393	1,084.28	429,731	76	74
70-79.....	31,481	13,393,830	610	269,239	887.06	385,022	69	70
80 and over.....	1,572	944,320	108	68,311	178.78	105,382	60	65
All ages.....	130,458	\$ 53,095,738	1,625	\$ 699,242	2,221.56	\$ 949,439	73%	74%
Durations 11 and over:								
Under 50.....	1,413	\$ 731,268	6	\$ 3,960	2 31	\$ 1,383	260%	286%
50-59.....	2,695	1,139,463	8	5,436	14.08	5,824	57	93
60-69.....	24,000	8,796,007	328	136,749	338.36	123,168	97	111
70-79.....	84,151	31,349,898	2,329	854,535	3,032.86	1,132,573	77	75
80 and over.....	38,695	14,169,760	3,290	1,261,856	3,782.56	1,403,550	87	90
All ages.....	150,954	\$ 56,186,396	5,961	\$ 2,262,536	7,170.17	\$ 2,666,498	83%	85%
Durations 6 and over:								
Under 50.....	2,043	\$ 1,103,373	8	\$ 5,964	2 75	\$ 1,979	291%	301%
50-59.....	4,957	2,076,949	19	16,082	26.41	10,922	72	147
60-69.....	58,927	22,171,258	700	275,503	808.46	302,990	87	91
70-79.....	110,649	42,043,454	2,832	1,065,967	3,774.64	1,436,480	75	74
80 and over.....	39,736	14,761,139	3,364	1,309,011	3,890.77	1,462,181	86	90
All ages.....	216,312	\$ 82,156,173	6,923	\$ 2,672,527	8,503.03	\$ 3,214,552	81%	83%
All durations:								
Under 50.....	2,706	\$ 1,442,714	8	\$ 5,964	3 37	\$ 2,543	237%	235%
50-59.....	15,269	6,183,683	91	46,731	84.46	33,968	108	138
60-69.....	107,538	41,797,929	1,150	455,142	1,422.64	552,899	81	82
70-79.....	115,632	44,743,728	2,939	1,123,774	3,919.92	1,517,595	75	74
80 and over.....	40,267	15,114,080	3,398	1,330,167	3,961.34	1,508,932	86	88
All ages.....	281,412	\$109,282,134	7,586	\$2,961,778	9,391.73	\$3,615,937	81%	82%

TABLE D—Continued  
MALE LIVES—PENSION TRUST ISSUES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	5	\$ 1,723	0	\$ 0	0 01	\$ 7	0%	0%
50-59	179	116,093	12	4,666	2 11	1,418	569	329
60-69	5,598	5,481,539	136	116,733	129 49	128,668	105	91
70-79	424	801,049	11	14,698	17 57	34,352	63	43
80 and over	13	23,289	1	2,061	1 24	2,069	81	100
All ages	6,219	\$ 6,423,693	160	\$ 138,158	150 42	\$ 166,514	106%	83%
Duration 2:								
Under 50	7	\$ 4,380	0	\$ 0	0 04	\$ 23	0%	0%
50-59	118	80,258	5	2,235	1 66	977	301	229
60-69	5,868	5,202,886	173	161,406	145 53	130,051	119	124
70-79	610	1,023,820	29	27,586	25 64	44,416	113	62
80 and over	12	40,433	7	3,333	1 12	3,593	89	93
All ages	6,635	\$ 6,351,777	208	\$ 194,560	173 99	\$ 179,060	120%	109%
Duration 3:								
Under 50	2	\$ 814	0	\$ 0	0 00	\$ 3	0%	0%
50-59	100	50,818	6	1,919	1 22	604	492%	318
60-69	5,964	4,774,145	204	143,728	158 37	127,602	129	113
70-79	849	1,213,142	30	44,177	36 15	54,035	83	82
80 and over	15	35,014	0	0	1 44	3,322	0	0
All ages	6,930	\$ 6,073,933	240	\$ 189,824	197 18	\$ 185,566	122%	102%
Duration 4:								
Under 50	1	\$ 226	0	\$ 0	0 00	\$ 1	0%	0%
50-59	83	42,468	3	400	1 07	559	280%	72
60-69	6,317	4,652,556	222	131,025	179 02	132,660	124	99
70-79	1,188	1,392,355	38	35,617	50 31	61,840	76	58
80 and over	13	47,145	0	0	1 26	4,542	0	0
All ages	7,602	\$ 6,134,750	263	\$ 167,042	231 66	\$ 199,602	114%	84%
Duration 5:								
Under 50	1	\$ 226	0	\$ 0	0 00	\$ 1	0%	0%
50-59	60	31,520	2	216	0 76	425	263%	51
60-69	6,583	4,287,588	208	149,023	198 24	130,758	105	114
70-79	1,878	1,813,164	91	78,914	79 68	81,062	114	97
89 and over	19	58,609	3	9,714	1 88	5,902	160	165
All ages	8,541	\$ 6,191,107	304	\$ 237,867	280 56	\$ 218,148	108%	109%
Duration 6:								
Under 50	1	\$ 226	0	\$ 0	0 00	\$ 1	0%	0%
50-59	25	6,693	8	1,144	0 30	77	2,667%	1,486
60-69	2,208	1,047,393	77	49,424	59 26	28,076	130	176
70-79	6,558	4,679,242	242	167,805	250 49	184,475	97	91
80 and over	23	61,954	2	1,745	2 13	5,992	94	29
All ages	8,815	\$ 5,795,508	329	\$ 220,118	312 18	\$ 218,621	105%	101%
Duration 7:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0	0%	0%
50-59	6	1,679	0	0	0 06	23	0%	0%
60-69	1,886	787,260	112	38,320	52 14	21,901	215	175
70-79	6,922	4,645,916	301	199,961	282 78	194,087	106	103
80 and over	54	99,251	10	20,379	5 01	9,790	200	208
All ages	8,868	\$ 5,534,106	423	\$ 258,660	339 99	\$ 225,801	124%	115%
Duration 8:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0	0%	0%
50-59	15	4,625	0	0	0 16	65	0%	0%
60-69	1,561	570,908	107	33,654	44 53	16,131	240	209
70-79	7,516	4,712,552	391	259,089	328 06	210,407	119	123
80 and over	69	82,790	3	3,454	6 37	7,850	47	44
All ages	9,161	\$ 5,370,875	501	\$ 296,197	379 12	\$ 234,453	132%	126%

TABLE D—Continued  
MALE LIVES—PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	20	5,834	0	0	0.23	78	0%	0%
60-69	958	334,279	58	21,831	28.20	9,785	206	223
70-79	7,205	4,130,805	356	192,396	338.02	198,706	105	97
80 and over	91	96,529	7	3,621	8.63	9,475	81	38
All ages	8,274	\$ 4,567,447	421	\$ 217,848	375.08	\$ 218,044	112%	100%
Duration 10:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	14	2,833	1	347	0.16	37	625%	938%
60-69	458	185,635	18	7,388	13.59	5,494	132	134
70-79	6,422	3,545,155	331	203,665	324.33	183,597	102	111
80-89	138	121,587	17	20,589	13.48	12,306	126	167
All ages	7,032	\$ 3,855,210	367	\$ 231,989	351.56	\$ 201,434	104%	115%
Durations 1-5:								
Under 50	16	\$ 7,369	0	\$ 0	0.05	\$ 35	0%	0%
50-59	560	321,157	28	9,436	6.82	3,983	411	237
60-69	30,330	24,398,714	943	701,915	810.65	649,739	116	108
70-79	4,949	6,243,530	199	200,992	209.35	275,705	95	73
80 and over	72	204,490	5	15,108	6.94	19,428	72	78
All ages	35,927	\$ 31,175,260	1,175	\$ 927,451	1,033.81	\$ 948,890	114	98
Durations 6-10:								
Under 50	1	\$ 226	0	\$ 0	0.00	\$ 1		0%
50-59	80	21,664	9	1,491	0.91	280	989%	533
60-69	7,071	2,925,475	372	150,617	197.72	81,387	188	185
70-79	34,623	21,713,670	1,621	1,022,916	1,523.68	971,272	106	105
80 and over	375	462,111	39	49,788	35.62	45,413	109	110
All ages	42,150	\$ 25,123,146	2,041	\$ 1,224,812	1,757.93	\$ 1,098,353	116%	112%
Durations 1-10:								
Under 50	17	\$ 7,595	0	\$ 0	0.05	\$ 36	0%	0%
50-59	640	342,821	37	10,927	7.73	4,263	479	256
60-69	37,401	27,324,189	1,315	852,532	1,008.37	731,126	130	117
70-79	39,572	27,957,200	1,820	1,223,908	1,733.03	1,246,977	105	98
80 and over	447	666,601	44	64,896	42.56	64,841	103	100
All ages	78,077	\$ 56,298,406	3,216	\$ 2,152,263	2,791.74	\$ 2,047,243	115%	105%
Durations 11 and over:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	29	3,546	0	0	0.32	44	0%	0%
60-69	417	148,695	26	8,803	11.06	4,012	235	219
70-79	16,664	9,038,015	1,145	586,458	1,005.08	555,410	114	106
80 and over	4,396	2,797,082	433	306,731	452.26	289,781	96	102
All ages	21,506	\$ 11,987,338	1,604	\$ 901,992	1,468.72	\$ 849,247	109%	106%
Durations 6 and over:								
Under 50	1	\$ 226	0	\$ 0	0.00	\$ 1		0%
50-59	109	25,210	9	1,491	1.23	324	732%	460
60-69	7,488	3,074,170	398	159,420	208.78	85,399	191	187
70-79	51,287	30,751,685	2,766	1,609,374	2,528.76	1,526,682	109	105
80 and over	4,771	3,259,193	472	356,519	487.88	335,194	97	106
All ages	63,656	\$ 37,110,484	3,645	\$ 2,126,804	3,226.65	\$ 1,947,600	113%	109%
All durations:								
Under 50	17	\$ 7,595	0	\$ 0	0.05	\$ 36	0%	0%
50-59	669	346,367	37	10,927	8.05	4,307	460	254
60-69	37,818	27,472,884	1,341	861,335	1,019.43	735,138	132	117
70-79	56,236	36,995,215	2,965	1,810,366	2,738.11	1,802,387	108	100
80 and over	4,843	3,463,683	477	371,627	494.82	354,622	96	105
All ages	99,583	\$ 68,285,744	4,820	\$ 3,054,255	4,260.46	\$ 2,896,490	113%	105%

TABLE D—Continued  
FEMALE LIVES—PENSION TRUST ISSUES

ATTAINED AGE <sup>S</sup>	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50.....	13	\$ 7,185	0	\$ 0	0.02	\$ 11	0%	0%
50-59.....	123	61,798	1	1,126	0.68	356	147	316
60-69.....	2,015	1,150,780	22	8,297	24.20	14,034	91	59
70-79.....	81	64,928	0	0	2.00	1,562	0	0
80 and over.....	2	1,134	1	288	0.14	78	714	369
All ages.....	2,234	\$ 1,285,825	24	\$ 9,711	27.04	\$ 16,041	89%	61%
Duration 2:								
Under 50.....	12	\$ 6,368	0	\$ 0	0.02	\$ 11	0%	0%
50-59.....	89	37,908	0	0	0.53	219	0	0
60-69.....	1,948	1,026,577	24	14,754	25.28	13,351	95	111
70-79.....	137	118,602	7	5,651	3.45	2,917	203	194
80 and over.....	2	1,057	0	0	0.15	78	0	0
All ages.....	2,188	\$ 1,190,512	31	\$ 20,405	29.13	\$ 16,576	105%	123%
Duration 3:								
Under 50.....	9	\$ 4,843	0	\$ 0	0.01	\$ 7	0%	0%
50-59.....	67	27,414	1	649	0.40	166	250	391
60-69.....	1,861	907,668	35	13,424	26.29	12,844	133	105
70-79.....	190	137,870	5	1,378	4.84	3,480	103	40
80 and over.....	4	1,577	0	0	0.31	131	0	0
All ages.....	2,131	\$ 1,079,372	41	\$ 15,449	31.85	\$ 16,627	129%	93%
Duration 4:								
Under 50.....	9	\$ 4,843	0	\$ 0	0.01	\$ 8	0%	0%
50-59.....	49	13,642	1	317	0.32	80	313	396
60-69.....	1,745	793,645	29	11,122	26.86	12,159	108	91
70-79.....	273	135,162	3	3,075	7.22	3,641	42	84
80 and over.....	4	2,980	0	0	0.33	232	0	0
All ages.....	2,080	\$ 950,272	33	\$ 14,514	34.74	\$ 16,120	95%	90%
Duration 5:								
Under 50.....	3	\$ 1,957	0	\$ 0	0.00	\$ 3	0%	0%
50-59.....	32	10,885	0	0	0.20	63	0%	0
60-69.....	1,640	687,369	28	10,097	27.17	11,352	103	89
70-79.....	411	183,330	5	2,512	11.09	5,056	45	50
80 and over.....	5	3,898	0	0	0.41	288	0	0
All ages.....	2,091	\$ 887,439	33	\$ 12,609	38.87	\$ 16,762	85%	75%
Duration 6:								
Under 50.....	1	\$ 192	0	\$ 0	0.00	\$ 0		
50-59.....	19	7,073	0	0	0.11	43	0%	0%
60-69.....	658	255,674	6	2,484	9.59	3,753	63	66
70-79.....	1,272	501,393	28	10,921	29.98	11,956	93	91
80 and over.....	7	4,289	0	0	0.58	344	0	0
All ages.....	1,957	\$ 768,621	34	\$ 13,405	40.26	\$ 16,096	84%	83%
Duration 7:								
Under 50.....	1	\$ 192	0	\$ 0	0.00	\$ 1		0%
50-59.....	14	5,739	0	0	0.10	37	0%	0
60-69.....	542	193,991	18	6,058	8.18	2,950	220	205
70-79.....	1,294	484,894	23	7,528	32.88	12,401	70	61
80 and over.....	8	4,616	2	1,993	0.72	405	278	492
All ages.....	1,859	\$ 689,432	43	\$ 15,579	41.88	\$ 15,794	103%	99%
Duration 8:								
Under 50.....	1	\$ 192	0	\$ 0	0.00	\$ 1		0%
50-59.....	5	630	0	0	0.04	3	0%	0
60-69.....	405	139,024	5	425	6.47	2,190	77	19
70-79.....	1,235	446,978	23	5,827	33.83	12,260	68	48
80 and over.....	9	3,172	1	120	0.80	299	125	40
All ages.....	1,655	\$ 589,996	29	\$ 6,372	41.14	\$ 14,753	70%	43%



TABLE D—Continued  
FEMALE LIVES—PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0	0%	0%
50-59	6	1,204	0	0	0.05	7	0%	0%
60-69	283	103,114	5	1,891	4.59	1,658	109	114
70-79	1,176	414,341	35	12,664	34.80	12,420	101	102
80 and over	13	3,805	0	0	1.06	301	0	0
All ages	1,478	\$ 522,464	40	\$ 14,555	40.50	\$ 14,386	99%	101%
Duration 10:								
Under 50	1	\$ 152	0	\$ 0	0.00	\$ 0		
50-59	5	1,251	0	0	0.03	5	0%	0%
60-69	173	62,100	7	2,904	2.86	1,048	245	277
70-79	957	328,000	31	8,521	30.90	10,713	100	80
80 and over	9	1,942	0	0	0.82	188	0	0
All ages	1,145	\$ 393,445	38	\$ 11,425	34.61	\$ 11,954	110%	96%
Durations 1-5:								
Under 50	46	\$ 25,196	0	\$ 0	0.06	\$ 40	0%	0%
50-59	360	151,647	3	2,092	2.13	884	141	237
60-69	9,209	4,566,039	138	57,692	129.80	63,739	106	91
70-79	1,092	639,892	20	12,616	28.60	16,656	70	76
80 and over	17	10,646	1	288	1.34	807	75	36
All ages	10,724	\$ 5,393,420	162	\$ 72,688	161.93	\$ 82,126	100%	89%
Durations 6-10:								
Under 50	4	\$ 728	0	\$ 0	0.00	\$ 2	0%	0%
50-59	49	15,897	0	0	0.33	95	0%	0
60-69	2,061	753,903	41	13,762	31.69	11,599	129	119
70-79	5,934	2,175,606	140	45,461	162.39	59,750	86	76
80 and over	46	17,824	3	2,113	3.98	1,537	75	137
All ages	8,094	\$ 2,963,958	184	\$ 61,336	198.39	\$ 72,983	93%	84%
Durations 1-10:								
Under 50	50	\$ 25,924	0	\$ 0	0.06	\$ 42	0%	0%
50-59	409	167,544	3	2,092	2.46	979	122	214
60-69	11,270	5,319,942	179	71,454	161.49	75,338	111	95
70-79	7,026	2,815,498	160	58,077	190.99	76,406	84	76
80 and over	63	28,470	4	2,401	5.32	2,344	75	102
All ages	18,818	\$ 8,357,378	346	\$ 134,024	360.32	\$ 155,109	96%	86%
Durations 11 and over:								
Under 50	4	\$ 608	0	\$ 0	0.00	\$ 0		
50-59	12	5,589	0	0	0.06	31	0%	0%
60-69	209	64,438	2	149	3.00	938	67	16
70-79	2,548	886,652	90	29,169	98.52	34,783	91	84
80 and over	486	179,318	39	13,108	37.89	13,869	103	95
All ages	3,259	\$ 1,136,605	131	\$ 42,426	139.47	\$ 49,621	94%	86%
Durations 6 and over:								
Under 50	8	\$ 1,336	0	\$ 0	0.00	\$ 2	0%	0%
50-59	61	21,486	0	0	0.39	126	0%	0
60-69	2,270	818,341	43	13,911	34.69	12,537	124	111
70-79	8,482	3,062,258	230	74,630	260.91	94,533	88	79
80 and over	532	197,142	42	15,221	41.87	15,406	100	99
All ages	11,353	\$ 4,100,563	315	\$ 103,762	337.86	\$ 122,604	93%	85%
All durations:								
Under 50	54	\$ 26,532	0	\$ 0	0.06	\$ 42	0%	0%
50-59	421	173,133	3	2,092	2.52	1,010	119	207
60-69	11,479	5,384,380	181	71,603	164.49	76,276	110	94
70-79	9,574	3,702,150	250	87,246	289.51	111,189	86	78
80 and over	549	207,788	43	15,509	43.21	16,213	100	96
All ages	22,077	\$ 9,493,983	477	\$ 176,450	499.79	\$ 204,730	95%	86%

**TABLE E**  
**MATURED DEFERRED ANNUITIES WITH A GUARANTEED PERIOD**  
**OR REFUND PROVISION—MALE LIVES**  
**EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES**  
**OTHER THAN PENSION TRUST ISSUES**  
**(Expected Deaths on *a*-1949 Ultimate Table)**

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
<b>Duration 1:</b>								
Under 50	10	\$ 11,627	0	\$ 0	0 03	\$ 35	0%	0%
50-59	231	196,319	4	957	2 44	2,028	164	47
60-69	4,105	3,117,071	96	53,344	91 80	71,163	105	75
70-79	1,095	1,475,681	36	44,173	41 59	58,139	87	76
80 and over	4	3,925	0	0	0 35	339	0	0
All ages	5,445	\$ 4,804,823	136	\$ 98,474	136 21	\$ 131,704	100%	75%
<b>Duration 2:</b>								
Under 50	5	6,490	0	0	0 00	\$ 13		0%
50-59	287	193,816	6	3,379	3 19	2,144	188%	158
60-69	4,639	3,501,237	104	91,249	111 19	85,433	94	107
70-79	1,344	1,883,404	39	60,413	55 17	79,827	71	76
80 and over	7	25,597	3	5,928	0 64	2,233	469	265
All ages	6,282	\$ 5,610,544	152	\$ 160,969	170 19	\$ 169,650	89%	95%
<b>Duration 3:</b>								
Under 50	7	7,033	0	0	0 01	\$ 17	0%	0%
50-59	353	252,680	3	1,281	4 20	2,790	71	46
60-69	5,005	3,685,615	120	88,789	128 25	95,532	94	93
70-79	1,515	2,077,053	53	88,833	66 93	93,483	79	95
80 and over	4	10,083	1	517	0 41	932	244	55
All ages	6,884	\$ 6,032,464	177	\$ 179,417	199 80	\$ 192,754	89%	93%
<b>Duration 4:</b>								
Under 50	9	10,714	0	0	0 03	\$ 27	0%	0%
50-59	379	234,754	2	1,131	4 87	2,948	41	38
60-69	5,132	3,697,344	154	126,531	141 71	103,157	109	123
70-79	1,707	2,207,775	50	43,229	79 79	106,648	63	41
80 and over	1	1,310	0	0	0 12	161	0	0
All ages	7,228	\$ 6,151,897	206	\$ 170,891	226 52	\$ 212,941	91%	80%
<b>Duration 5:</b>								
Under 50	10	9,532	0	0	0 02	\$ 23	0%	0%
50-59	371	228,176	4	2,964	5 07	2,989	79	99
60-69	5,281	3,704,285	164	116,894	155 96	110,499	105	106
70-79	2,019	2,407,156	63	93,397	97 37	119,494	65	78
80 and over	4	8,332	0	0	0 39	776	0	0
All ages	7,685	\$ 6,357,481	231	\$ 213,255	258 81	\$ 233,781	89%	91%
<b>Duration 6:</b>								
Under 50	7	8,189	0	0	0 01	\$ 19	0%	0%
50-59	92	88,866	0	0	1 05	1,071	0	0
60-69	1,696	1,060,984	37	24,355	39 19	25,240	94	96
70-79	5,583	4,708,209	181	161,457	224 27	198,785	81	81
80 and over	63	119,846	2	7,747	5 48	10,384	36	75
All ages	7,441	\$ 5,986,094	220	\$ 193,559	270 00	\$ 235,499	81%	82%
<b>Duration 7:</b>								
Under 50	6	7,988	0	0	0 01	\$ 23	0%	0%
50-59	95	60,311	1	171	1 07	743	93	23
60-69	1,627	1,068,132	20	9,621	38 74	26,287	52	37
70-79	5,561	4,622,436	206	201,497	239 24	208,348	86	97
80 and over	58	90,431	10	9,792	5 41	8,429	185	116
All ages	7,347	\$ 5,849,298	237	\$ 221,081	284 47	\$ 243,830	83%	91%
<b>Duration 8:</b>								
Under 50	6	8,250	1	4,698	0 01	\$ 26	10,000%	18,069%
50-59	88	46,540	0	0	1 06	590	0	0
60-69	1,628	1,018,401	44	16,205	49 99	25,928	107	63
70-79	5,805	4,781,952	223	208,391	268 36	231,273	83	90
80 and over	45	61,475	7	7,251	4 25	5,944	165	122
All ages	7,572	\$ 5,916,618	275	\$ 236,545	314 67	\$ 263,761	87%	90%

TABLE E—Continued

WITH A GUARANTEED PERIOD OR REFUND PROVISION—MALE LIVES  
OTHER THAN PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
<b>Duration 9:</b>								
Under 50	5	\$ 3,107	0	\$ 0	0.02	\$ 10	0%	0%
50-59	116	55,233	0	0	1.54	744	0	0
60-69	1,624	990,125	31	20,841	43.04	26,782	72	78
70-79	5,514	4,616,512	235	200,575	274.31	239,229	86	84
80 and over	46	59,162	6	5,546	4.58	5,806	131	96
All ages	7,305	\$ 5,724,139	272	\$ 226,962	323.49	\$ 272,571	84%	83%
<b>Duration 10:</b>								
Under 50	4	\$ 3,020	0	\$ 0	0.01	\$ 7	0%	0%
50-59	134	81,789	1	480	1.90	1,164	53	41
60-69	1,581	935,565	59	32,236	43.63	26,390	135	122
70-79	5,548	4,492,482	220	180,024	297.88	251,063	74	72
80 and over	81	148,195	9	14,995	7.87	14,093	114	106
All ages	7,348	\$ 5,661,051	289	\$ 227,735	351.29	\$ 292,717	82%	78%
<b>Durations 1-5:</b>								
Under 50	41	\$ 45,396	0	\$ 0	0.09	\$ 115	0%	0%
50-59	1,621	1,105,945	19	9,712	19.77	12,899	96	75
60-69	24,162	17,705,552	638	476,804	628.91	465,784	101	102
70-79	7,680	10,051,069	241	330,045	340.85	457,591	71	72
80 and over	20	49,247	4	6,445	1.91	4,441	209	145
All ages	33,524	\$ 28,957,209	902	\$ 823,006	991.53	\$ 940,830	91%	87%
<b>Durations 6-10:</b>								
Under 50	28	\$ 30,554	1	\$ 4,698	0.06	\$ 85	1,667%	5,527%
50-59	525	332,739	2	651	6.62	4,312	30	15
60-69	8,156	5,073,207	191	103,258	205.59	130,627	93	79
70-79	28,011	23,221,591	1,065	951,944	1,304.06	1,128,698	82	84
80 and over	293	479,109	34	45,331	27.59	44,656	123	102
All ages	37,013	\$ 29,137,200	1,293	\$ 1,105,882	1,543.92	\$ 1,308,378	84%	85%
<b>Durations 1-10:</b>								
Under 50	69	\$ 75,950	1	\$ 4,698	0.15	\$ 200	667%	2,349%
50-59	2,146	1,438,684	21	10,363	26.39	17,211	80	60
60-69	32,318	22,778,759	829	580,062	834.50	596,411	99	97
70-79	35,691	33,272,660	1,306	1,281,989	1,644.91	1,586,289	79	81
80 and over	313	528,356	38	51,776	29.50	49,097	129	105
All ages	70,537	\$ 58,094,409	2,195	\$ 1,928,888	2,535.45	\$ 2,249,208	87%	86%
<b>Durations 11 and over:</b>								
Under 50	75	\$ 59,617	0	\$ 0	0.13	\$ 177	0%	0%
50-59	272	126,977	4	1,462	2.98	1,411	134	104
60-69	5,985	3,290,825	131	63,450	156.91	86,101	83	74
70-79	37,397	24,759,552	1,985	1,377,189	2,165.30	1,441,878	92	96
80 and over	27,716	19,827,991	3,021	2,206,059	3,491.01	2,424,112	87	91
All ages	71,445	\$ 48,064,962	5,141	\$ 3,648,160	5,816.33	\$ 3,953,679	88%	92%
<b>Durations 6 and over:</b>								
Under 50	103	\$ 90,171	1	\$ 4,698	0.19	\$ 262	526%	1,793%
50-59	797	459,716	6	2,113	9.60	5,723	63	37
60-69	14,141	8,364,032	322	166,708	362.50	216,728	89	77
70-79	65,408	47,981,143	3,050	2,329,133	3,469.36	2,570,576	88	91
80 and over	28,009	20,307,100	3,055	2,251,390	3,518.60	2,468,768	87	91
All ages	108,458	\$ 77,202,162	6,434	\$ 4,754,042	7,360.25	\$ 5,262,057	87%	90%
<b>All durations:</b>								
Under 50	144	\$ 135,567	1	\$ 4,698	0.28	\$ 377	357%	1,246%
50-59	2,418	1,565,661	25	11,825	29.37	18,622	85	64
60-69	38,303	26,069,584	960	643,512	991.41	682,512	97	94
70-79	73,088	58,032,212	3,291	2,659,178	3,810.21	3,028,167	86	88
80 and over	28,029	20,356,347	3,059	2,257,835	3,520.51	2,473,209	87	91
All ages	141,982	\$ 106,159,391	7,336	\$ 5,577,048	8,351.78	\$ 6,202,887	88%	90%

TABLE E—Continued

WITH A GUARANTEED PERIOD OR REFUND PROVISION—FEMALE LIVES  
OTHER THAN PENSION TRUST ISSUES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	21	\$ 21,529	0	\$ 0	0 02	\$ 42	0%	0%
50-59	367	194,581	6	2,747	1 83	1,014	328	271
60-69	5,804	2,653,971	50	33,791	61 84	28,803	81	117
70-79	1,113	760,073	18	10,406	25 93	17,526	69	59
80 and over	15	6,138	4	972	1 57	635	255	153
All ages	7,320	\$ 3,636,292	78	\$ 47,916	91 19	\$ 48,020	86%	100%
Duration 2:								
Under 50	21	\$ 24,305	0	\$ 0	0 01	\$ 48	0%	0%
50-59	434	221,093	2	682	2 23	1,153	90	59
60-69	6,794	3,028,039	63	25,599	78 06	35,037	81	73
70-79	1,466	930,084	23	27,994	37 24	23,571	62	119
80 and over	9	12,922	0	0	0 71	1,394	0	0
All ages	8,724	\$ 4,216,443	88	\$ 54,275	118 25	\$ 61,203	4%	89%
Duration 3:								
Under 50	15	\$ 22,424	0	\$ 0	0 00	\$ 48	0%	0%
50-59	533	215,075	2	600	2 95	1,157	68%	52
60-69	7,436	3,299,196	82	35,771	91 87	40,802	89	88
70-79	1,708	1,046,385	41	29,421	46 88	28,741	87	102
80 and over	13	21,244	0	0	0 99	2,037	0	0
All ages	9,705	\$ 4,604,324	125	\$ 65,792	142 69	\$ 72,785	88%	90%
Duration 4:								
Under 50	12	\$ 13,669	0	\$ 0	0 00	\$ 25	0%	0%
50-59	630	275,052	4	1,124	3 69	1,544	108%	73
60-69	7,961	3,399,909	89	27,173	106 55	45,848	84	59
70-79	1,919	1,108,045	39	29,434	55 40	32,195	70	91
80 and over	16	22,972	0	0	1 41	3,021	0	0
All ages	10,538	\$ 4,819,647	132	\$ 57,731	167 05	\$ 82,633	79%	70%
Duration 5:								
Under 50	13	\$ 13,321	0	\$ 0	0 01	\$ 24	0%	0%
50-59	676	274,815	5	6,285	4 29	1,662	117	378
60-69	7,994	3,396,091	90	39,354	113 71	48,692	79	81
70-79	2,457	1,397,701	44	23,289	71 81	42,068	61	55
80 and over	13	15,664	0	0	1 18	2,012	0	0
All ages	11,153	\$ 5,097,592	139	\$ 68,928	191 00	\$ 94,458	73%	73%
Duration 6:								
Under 50	9	\$ 4,450	0	\$ 0	0 00	\$ 6	0%	0%
50-59	186	115,163	1	1,200	0 93	577	108%	208
60-69	6,094	2,368,022	67	23,932	76 59	30,148	87	79
70-79	5,097	2,487,498	90	45,400	131 55	66,931	68	68
80 and over	43	34,980	0	0	3 03	3,257	0	0
All ages	11,429	\$ 5,010,113	158	\$ 70,532	212 10	\$ 100,919	74%	70%
Duration 7:								
Under 50	12	\$ 5,718	0	\$ 0	0 00	\$ 9	0%	0%
50-59	173	85,268	1	301	0 92	438	109%	69
60-69	6,086	2,288,854	58	20,217	81 97	31,080	71	65
70-79	5,416	2,562,709	88	42,825	152 17	74,780	58	57
80 and over	33	21,458	3	1,555	2 38	1,518	126	102
All ages	11,720	\$ 4,964,007	150	\$ 64,898	237 44	\$ 107,825	63%	60%
Duration 8:								
Under 50	26	\$ 16,066	0	\$ 0	0 02	\$ 24	0%	0%
50-59	198	98,286	3	1,544	1 12	540	268	286
60-69	6,483	2,396,387	75	24,417	94 94	35,306	79	69
70-79	5,800	2,637,237	120	70,268	177 35	84,144	68	84
80 and over	37	19,935	1	1,642	2 81	1,538	36	107
All ages	12,544	\$ 5,167,911	199	\$ 97,871	276 24	\$ 121,552	72%	81%

TABLE E—Continued

WITH A GUARANTEED PERIOD OR REFUND PROVISION—FEMALE LIVES  
OTHER THAN PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	25	\$ 15,940	0	\$ 0	0.02	\$ 27	0%	0%
50-59	220	91,345	2	599	1.34	547	149	110
60-69	6,506	2,332,073	88	27,020	103.36	37,162	85	73
70-79	6,025	2,659,621	161	77,464	200.72	91,826	80	84
80 and over	61	33,066	1	108	4.58	2,558	22	4
All ages	12,837	\$ 5,132,045	252	\$ 105,191	310.02	\$ 132,120	81%	80%
Duration 10:								
Under 50	23	\$ 13,730	0	\$ 0	0.02	\$ 19	0%	0%
50-59	224	86,226	0	0	1.44	546	0	0
60-69	6,611	2,357,807	99	29,589	115.07	41,130	86	72
70-79	6,470	2,751,651	154	61,955	230.99	101,260	67	61
80 and over	113	62,363	8	7,506	8.22	4,552	97	165
All ages	13,441	\$ 5,271,777	261	\$ 99,050	355.74	\$ 147,507	73%	67%
Durations 1-5:								
Under 50	82	\$ 95,248	0	\$ 0	0.04	\$ 187	0%	0%
50-59	2,640	1,180,616	19	11,438	14.99	6,530	127	175
60-69	35,989	15,777,206	374	161,688	452.03	199,182	83	81
70-79	8,663	5,242,288	165	120,544	237.26	144,101	70	84
80 and over	66	78,940	4	972	5.86	9,099	68	11
All ages	47,440	\$ 22,374,298	562	\$ 294,642	710.18	\$ 359,099	79%	82%
Durations 6-10:								
Under 50	95	\$ 55,904	0	\$ 0	0.06	\$ 85	0%	0%
50-59	1,001	476,288	7	3,644	5.75	2,648	122	138
60-69	31,780	11,743,143	387	125,175	471.93	174,826	82	72
70-79	28,808	13,098,716	613	297,912	892.78	418,941	69	71
80 and over	287	171,802	13	10,811	21.02	13,423	62	81
All ages	61,971	\$ 25,545,853	1,020	\$ 437,542	1,391.54	\$ 609,923	73%	72%
Durations 1-10:								
Under 50	177	\$ 151,152	0	\$ 0	0.10	\$ 272	0%	0%
50-59	3,641	1,656,904	26	15,082	20.74	9,178	125	164
60-69	67,769	27,520,349	761	286,863	923.96	374,008	82	77
70-79	37,471	18,341,004	778	418,456	1,130.04	563,042	69	74
80 and over	353	250,742	17	11,783	26.88	2,222	63	52
All ages	109,411	\$ 47,920,151	1,582	\$ 732,184	2,101.72	\$ 969,022	75%	76%
Durations 11 and over:								
Under 50	319	\$ 157,713	1	\$ 111	0.30	\$ 265	333%	42%
50-59	443	225,378	0	0	2.30	1,169	0	0
60-69	12,494	4,518,082	171	61,619	184.44	66,471	93	93
70-79	105,688	34,860,279	2,702	922,754	3,910.61	1,277,297	69	72
80 and over	79,285	22,647,993	7,019	1,923,852	8,172.30	2,248,190	86	86
All ages	198,229	\$ 62,409,445	9,893	\$ 2,908,336	12,269.95	\$ 3,593,392	81%	81%
Durations 6 and over:								
Under 50	414	\$ 213,617	1	\$ 111	0.36	\$ 350	278%	32%
50-59	1,444	701,666	7	3,644	8.05	3,817	87	95
60-69	44,274	16,261,225	558	186,794	656.37	241,297	85	77
70-79	134,496	47,958,995	3,315	1,220,666	4,803.39	1,696,238	69	72
80 and over	79,572	22,819,795	7,032	1,934,663	8,193.32	2,261,613	86	86
All ages	260,200	\$ 87,955,298	10,913	\$ 3,345,878	13,661.49	\$ 4,203,315	80%	80%
All durations:								
Under 50	496	\$ 308,865	1	\$ 111	0.40	\$ 537	250%	21%
50-59	4,084	1,882,282	26	15,082	23.04	10,347	113	146
60-69	80,263	32,038,431	932	348,482	1,108.40	440,479	84	79
70-79	143,159	53,201,283	3,480	1,341,210	5,040.65	1,840,339	69	73
80 and over	79,638	22,898,735	7,036	1,935,635	8,199.18	2,270,712	86	85
All ages	307,640	\$ 110,329,596	11,475	\$ 3,640,520	14,371.67	\$ 4,562,414	80%	80%

TABLE E—Continued

WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION—MALE LIVES  
OTHER THAN PENSION TRUST ISSUES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50								
50-59	52	\$ 31,824	2	\$ 811	0 58	\$ 361	345%	225%
60-69	1,114	722,582	24	12,299	25 63	16,925	94	73
70-79	123	187,246	1	478	4 52	6,740	22	7
80 and over	2	2,158	0	0	0 19	189	0	0
All ages	1,291	\$ 943,810	27	\$ 13,588	30 92	\$ 24,215	87%	56%
Duration 2:								
Under 50								
50-59	55	\$ 32,007	3	\$ 288	0 65	\$ 389	462%	74%
60-69	1,385	882,650	20	21,228	34 22	22,203	58	96
70-79	118	187,247	3	14,870	4 59	7,242	65	205
80 and over	1	286	0	0	0 11	32	0	0
All ages	1,559	\$ 1,102,190	26	\$ 26,386	39 57	\$ 29,866	66%	122%
Duration 3:								
Under 50								
50-59	39	\$ 24,430	1	\$ 96	0 47	\$ 308	213%	31%
60-69	1,269	758,653	22	8,424	33 25	20,047	66	42
70-79	194	234,623	5	4,798	7 74	9,460	65	53
80 and over								
All ages	1,502	\$ 1,017,706	28	\$ 13,318	41 46	\$ 29,815	68%	45%
Duration 4:								
Under 50	1	\$ 102	0	\$ 0	0 00	\$ 0		
50-59	35	23,310	0	0	0 42	292	0%	0%
60-69	1,302	816,344	23	14,576	36 45	23,114	63	63
70-79	195	218,973	4	2,772	8 21	9,517	49	29
80 and over								
All ages	1,533	\$ 1,058,729	27	\$ 17,348	45 08	\$ 32,923	60%	53%
Duration 5:								
Under 50	1	\$ 102	0	\$ 0	0 01	\$ 1	0%	0%
50-59	36	16,779	0	0	0 45	221	0	0
60-69	1,210	773,886	17	13,128	36 65	23,592	46	56
70-79	246	258,980	8	4,375	10 94	11,766	73	37
80 and over								
All ages	1,493	\$ 1,049,747	25	\$ 17,503	48 05	\$ 35,580	52%	49%
Duration 6:								
Under 50	1	\$ 102	0	\$ 0	0 01	\$ 1	0%	0%
50-59	31	8,211	0	0	0 35	107	0	0
60-69	293	158,447	4	2,443	7 11	3,930	56	62
70-79	1,144	820,481	30	21,959	42 73	31,865	70	69
80 and over								
All ages	1,469	\$ 987,241	34	\$ 24,402	50 20	\$ 35,903	68%	68%
Duration 7:								
Under 50								
50-59	26	\$ 5,594	0	\$ 0	0 29	\$ 69	0%	0%
60-69	230	129,762	15	5,566	5 62	3,197	267	174
70-79	1,188	847,391	33	18,772	48 09	35,552	69	53
80 and over								
All ages	1,444	\$ 982,747	48	\$ 24,338	54 00	\$ 38,818	89%	63%
Duration 8:								
Under 50	1	\$ 1,128	0	\$ 0	0 00	\$ 5		0%
50-59	47	6,914	0	0	0 59	89	0%	0
60-69	221	130,644	3	931	5 70	3,524	53	26
70-79	1,124	798,113	41	40,650	49 93	36,940	82	110
80 and over								
All ages	1,393	\$ 936,799	44	\$ 41,581	56 22	\$ 40,558	78%	103%

TABLE E—Continued

WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION—MALE LIVES  
OTHER THAN PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	1	\$ 1,128	0	\$ 0	0 00	\$ 5	0%	0%
50-59	27	5,687	0	0	0 36	80	0%	0
60-69	190	109,364	5	7,641	5 16	3,033	97	252
70-79	1,145	807,497	39	35,800	55 11	40,508	71	88
80 and over	1	756	0	0	0 09	65	0	0
All ages	1,364	\$ 924,432	44	\$ 43,441	60 72	\$ 43,691	72%	99%
Duration 10:								
Under 50	1	\$ 1,128	0	\$ 0	0 01	\$ 6	0%	0%
50-59	12	3,947	0	0	0 16	57	0	0
60-69	209	91,352	10	2,875	5 74	2,617	174	110
70-79	1,151	807,828	32	18,374	59 57	43,230	54	43
80 and over	1	2,896	0	0	0 09	248	0	0
All ages	1,374	\$ 907,151	42	\$ 21,249	65 57	\$ 46,158	64%	46%
Durations 1-5:								
Under 50	2	\$ 204	0	\$ 0	0 01	\$ 1	0%	0%
50-59	217	128,350	6	1,195	2 57	1,571	233	76
60-69	6,280	3,954,115	106	69,655	166 20	105,881	64	66
70-79	876	1,087,069	21	27,293	36 00	44,725	58	61
80 and over	3	2,444	0	0	0 30	221	0	0
All ages	7,378	\$ 5,172,182	133	\$ 98,143	205 08	\$ 152,399	65%	64%
Durations 6-10:								
Under 50	4	\$ 3,486	0	\$ 0	0 02	\$ 17	0%	0%
50-59	143	30,353	0	0	1 75	402	0	0
60-69	1,143	619,569	37	19,456	29 33	16,301	126	119
70-79	5,752	4,081,310	175	135,555	255 43	188,095	69	72
80 and over	2	3,652	0	0	0 18	313	0	0
All ages	7,044	\$ 4,738,370	212	\$ 155,011	286 71	\$ 205,128	74%	76%
Durations 1-10:								
Under 50	6	\$ 3,690	0	\$ 0	0 03	\$ 18	0%	0%
50-59	360	158,703	6	1,195	4 32	1,973	139	61
60-69	7,423	4,573,684	143	89,111	195 53	122,182	73	73
70-79	6,628	5,168,379	196	162,848	291 43	232,820	67	70
80 and over	5	6,096	0	0	0 48	534	0	0
All ages	14,422	\$ 9,910,552	345	\$ 253,154	491 79	\$ 357,527	70%	71%
Durations 11 and over:								
Under 50	54	\$ 5,838	2	\$ 165	0 05	\$ 12	4,000%	1,375%
50-59	17	5,555	0	0	0 21	64	0	0
60-69	818	279,408	22	9,604	21 59	7,541	102	127
70-79	6,687	4,034,693	291	189,924	404 13	246,228	72	77
80 and over	5,937	3,281,354	587	324,507	731 37	393,805	80	82
All ages	13,513	\$ 7,606,848	902	\$ 524,200	1,157 35	\$ 647,650	78%	81%
Durations 6 and over:								
Under 50	58	\$ 9,324	2	\$ 165	0 07	\$ 29	2,857%	569%
50-59	160	35,908	0	0	1 96	466	0	0
60-69	1,961	898,977	59	29,060	50 92	23,842	116	122
70-79	12,439	8,116,003	466	325,479	659 56	434,323	71	75
80 and over	5,939	3,285,006	587	324,507	721 55	394,118	80	82
All ages	20,557	\$ 12,345,218	1,114	\$ 679,211	1,444 06	\$ 852,778	77%	80%
All durations:								
Under 50	60	\$ 9,528	2	\$ 165	0 08	\$ 30	2,500%	550%
50-59	377	164,258	6	1,195	4 53	2,037	132	59
60-69	8,241	4,853,092	165	98,715	217 12	129,723	76	76
70-79	13,315	9,203,072	487	352,772	695 56	479,048	70	74
80 and over	5,942	3,287,450	587	324,507	731 85	394,339	80	82
All ages	27,935	\$ 17,517,400	1,247	\$ 777,354	1,649 14	\$ 1,005,177	76%	77%

TABLE E—Continued

WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION—FEMALE LIVES  
OTHER THAN PENSION TRUST ISSUES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	89	38,217	0	0	0.51	215	0%	0%
60-69	2,557	1,156,923	25	14,548	25.06	11,915	100	122
70-79	289	214,894	1	225	6.27	4,797	16	5
80 and over	1	240	0	0	0.08	20	0	0
All ages	2,936	\$ 1,410,274	26	\$ 14,773	31.92	\$ 16,947	81%	87%
Duration 2:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	87	33,629	0	0	0.46	188	0%	0%
60-69	3,116	1,345,061	20	7,820	32.78	14,923	61	52
70-79	414	289,682	0	0	9.86	6,974	0	0
80 and over	1	240	0	0	0.09	23	0	0
All ages	3,618	\$ 1,668,612	20	\$ 7,820	43.19	\$ 22,108	46%	35%
Duration 3:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	85	29,222	0	0	0.48	167	0%	0%
60-69	3,244	1,405,361	29	9,193	36.81	16,631	79	55
70-79	536	340,281	4	1,948	13.81	8,874	29	22
80 and over	0	0	0	0	0.00	0	0	0
All ages	3,865	\$ 1,774,864	33	\$ 11,141	51.10	\$ 25,672	65%	43%
Duration 4:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	91	27,782	2	552	0.53	170	377%	325%
60-69	3,620	1,453,649	34	21,728	44.33	18,531	77	117
70-79	633	398,485	16	5,475	17.22	10,904	93	50
80 and over	0	0	0	0	0.00	0	0	0
All ages	4,344	\$ 1,879,916	52	\$ 27,755	62.08	\$ 29,605	84%	94%
Duration 5:								
Under 50	2	\$ 206	0	\$ 0	0.00	\$ 0		
50-59	81	26,362	0	0	0.51	165	0%	0%
60-69	3,668	1,460,162	32	10,736	47.81	19,653	67	55
70-79	887	517,730	8	8,966	24.46	14,694	33	61
80 and over	1	500	0	0	0.06	31	0	0
All ages	4,639	\$ 2,004,960	40	\$ 19,702	72.84	\$ 34,543	55%	57%
Duration 6:								
Under 50	2	\$ 206	0	\$ 0	0.00	\$ 0		
50-59	34	8,391	0	0	0.19	49	0%	0%
60-69	3,240	1,182,820	39	11,874	41.53	15,305	94	78
70-79	1,586	837,394	21	12,354	41.07	22,120	51	56
80 and over	5	8,782	0	0	0.31	542	0	0
All ages	4,867	\$ 2,037,593	60	\$ 24,228	83.10	\$ 38,016	72%	64%
Duration 7:								
Under 50	2	\$ 206	0	\$ 0	0.00	\$ 0		
50-59	31	6,905	0	0	0.20	40	0%	0%
60-69	3,213	1,175,091	21	12,185	44.76	16,489	47	74
70-79	1,804	896,760	20	7,286	50.90	25,783	39	28
80 and over	7	9,382	0	0	0.49	641	0	0
All ages	5,057	\$ 2,088,344	41	\$ 19,471	96.35	\$ 42,953	43%	45%
Duration 8:								
Under 50	2	\$ 206	0	\$ 0	0.00	\$ 0		
50-59	27	7,072	1	241	0.18	41	556%	588%
60-69	3,303	1,187,370	29	13,123	50.21	18,086	58	73
70-79	1,948	962,479	17	7,552	59.36	30,005	29	25
80 and over	3	7,726	0	0	0.24	592	0	0
All ages	5,283	\$ 2,164,853	47	\$ 20,916	109.99	\$ 48,724	43%	43%



TABLE E—Continued

WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION—FEMALE LIVES  
OTHER THAN PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	2	\$ 206	0	\$ 0	0 00	\$ 0	0%	0%
50-59	38	10,872	0	0	0 23	67	0%	0%
60-69	3,293	1,154,602	50	14,535	54 61	19,145	92	76
70-79	2,175	1,061,941	44	19,177	71 33	35,547	62	54
80 and over	6	9,208	0	0	0 40	733	0	0
All ages	5,514	\$ 2,236,829	94	\$ 33,712	126 57	\$ 55,492	74%	61%
Duration 10:								
Under 50	1	\$ 152	0	\$ 0	0 00	\$ 0	0%	0%
50-59	35	9,408	0	0	0 22	60	0%	0%
60-69	3,201	1,081,927	52	15,833	58 34	19,674	89	80
70-79	2,392	1,120,229	76	26,842	82 38	39,494	92	68
80 and over	20	8,523	2	2,101	1 30	557	134	377
All ages	5,649	\$ 2,220,239	130	\$ 44,776	142 24	\$ 59,785	91%	75%
Durations 1-5:								
Under 50	2	\$ 206	0	\$ 0	0 00	\$ 0	0%	0%
50-59	433	155,212	2	552	2 49	905	80%	61%
60-69	16,205	6,821,156	140	64,025	186 79	81,653	75	78
70-79	2,759	1,761,072	29	16,614	71 62	46,243	40	36
80 and over	3	980	0	0	0 23	74	0	0
All ages	19,402	\$ 8,738,626	171	\$ 81,191	261 13	\$ 128,875	65%	63%
Durations 6-10:								
Under 50	9	\$ 976	0	\$ 0	0 00	\$ 0	0%	0%
50-59	165	42,648	1	241	1 02	257	98%	94%
60-69	16,250	5,781,810	191	67,550	249 45	88,699	77	76
70-79	9,905	4,878,803	178	73,211	305 04	152,949	58	48
80 and over	41	43,621	2	2,101	2 74	3,065	73	69
All ages	26,370	\$ 10,747,858	372	\$ 143,103	558 25	\$ 244,970	67%	58%
Durations 1-10:								
Under 50	11	\$ 1,182	0	\$ 0	0 00	\$ 0	0%	0%
50-59	598	197,860	3	793	3 51	1,162	85%	68%
60-69	32,455	12,602,966	331	131,575	436 24	170,352	76	77
70-79	12,604	6,639,875	207	89,825	376 66	199,192	55	45
80 and over	44	44,601	2	2,101	2 97	3,139	67	67
All ages	45,772	\$ 19,486,484	543	\$ 224,294	819 38	\$ 373,845	66%	60%
Durations 11 and over:								
Under 50	58	\$ 23,740	3	\$ 539	0 00	\$ 26	0%	2,073%
50-59	38	10,943	0	0	0 19	61	0%	0
60-69	1,970	697,273	34	13,037	30 60	10,812	111	121
70-79	48,732	15,700,964	1,186	364,551	1,799 69	577,608	66	63
80 and over	35,606	9,623,464	2,947	794,115	3,697 72	962,402	80	83
All ages	86,404	\$ 26,056,384	4,170	\$ 1,172,242	5,528 20	\$ 1,550,909	75%	76%
Durations 6 and over:								
Under 50	67	\$ 24,716	3	\$ 539	0 00	\$ 26	0%	2,073%
50-59	203	53,591	1	241	1 21	318	83%	76
60-69	18,220	6,479,083	225	80,587	280 05	99,511	80	81
70-79	58,637	20,579,767	1,364	437,762	2,104 73	730,557	65	60
80 and over	35,647	9,667,085	2,949	796,216	3,700 46	965,467	80	82
All ages	112,774	\$ 36,804,242	4,542	\$ 1,315,345	6,086 45	\$ 1,795,879	75%	73%
All durations:								
Under 50	69	\$ 24,922	3	\$ 539	0 00	\$ 26	0%	2,073%
50-59	636	208,803	3	793	3 70	1,223	81%	65
60-69	34,425	13,300,239	365	144,612	466 84	181,164	78	80
70-79	61,396	22,340,839	1,393	454,376	2,176 35	776,800	64	58
80 and over	35,650	9,668,065	2,949	796,216	3,700 69	965,541	80	82
All ages	132,176	\$ 45,542,868	4,713	\$ 1,396,536	6,347 58	\$ 1,924,754	74%	73%

TABLE E—Continued  
WITH A GUARANTEED PERIOD OR REFUND PROVISION—MALE LIVES  
PENSION TRUST ISSUES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	2	\$ 596	0	\$ 0	0 00	\$ 3		
50-59	47	28,044	4	1,420	0 56	367	714%	387%
60-69	1,802	1,197,918	38	25,855	41 32	27,483	92	94
70-79	186	172,206	1	635	7 40	7,194	14	9
80 and over	2	518	0	0	0 23	61	0	0
All ages	2,039	\$ 1,399,282	43	\$ 27,910	49 51	\$ 35,108	87%	79%
Duration 2:								
Under 50	1	\$ 210	0	\$ 0	0 00	\$ 1		0%
50-59	65	26,775	4	176	0 76	325	526%	54
60-69	2,080	1,284,091	86	51,233	50 92	31,394	169	163
70-79	251	229,902	7	5,814	10 63	9,988	66	59
80 and over	8	3,165	1	1,306	0 79	295	127	443
All ages	2,405	\$ 1,545,043	98	\$ 58,559	63 10	\$ 42,007	155%	149%
Duration 3:								
Under 50	1	\$ 210	0	\$ 0	0 00	\$ 1		
50-59	122	35,421	13	1,101	1 50	451	867%	244%
60-69	2,955	1,523,648	91	47,682	6 51	39,879	119	120
70-79	338	273,360	7	5,996	14 82	11,642	47	77
80 and over	8	19,376	1	249	0 91	1,962	110	13
All ages	3,424	\$ 1,852,018	112	\$ 58,028	93 74	\$ 51,935	119%	108%
Duration 4:								
Under 50	1	\$ 210	0	\$ 0	0 01	\$ 1		
50-59	173	31,945	18	2,760	2 27	432	793%	639%
60-69	4,578	1,805,468	200	63,199	125 98	50,951	159	124
70-79	429	303,616	12	14,730	19 55	13,727	61	107
80 and over	9	21,685	1	269	1 02	2,339	98	12
All ages	5,190	\$ 2,162,924	231	\$ 80,958	148 83	\$ 67,450	155%	120%
Duration 5:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	121	20,418	9	298	1 59	278	566%	107%
60-69	6,039	2,044,884	207	87,478	179 59	62,673	115	140
70-79	583	351,795	19	14,782	26 73	16,551	71	89
80 and over	12	16,570	1	1,668	1 43	2,292	70	73
All ages	6,755	\$ 2,433,667	236	\$ 104,226	209 34	\$ 81,794	113%	127%
Duration 6:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	71	7,431	1	729	0 95	102	105%	715%
60-69	2,249	507,550	80	18,102	58 30	13,745	137	132
70-79	5,481	1,981,543	238	74,548	199 99	73,704	119	101
80 and over	26	36,197	1	1,583	2 68	3,761	37	42
All ages	7,827	\$ 2,532,721	320	\$ 94,962	261 92	\$ 91,312	122%	104%
Duration 7:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0	0%	0%
50-59	32	2,488	1	272	0 43	35	233	777
60-69	1,835	324,842	101	14,734	47 84	8,853	211	166
70-79	6,646	2,309,222	368	124,249	260 78	92,382	141	134
80 and over	35	40,445	1	2,220	3 69	4,646	27	48
All ages	8,548	\$ 2,676,997	471	\$ 141,475	312 74	\$ 105,916	151%	134%
Duration 8:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	6	1,508	4	99	0 07	19	5,714%	521%
60-69	1,263	178,327	47	7,024	32 86	4,867	143	144
70-79	7,077	2,317,886	432	116,323	300 36	100,442	144	116
80 and over	51	45,590	2	8,012	5 21	4,750	38	169
All ages	8,397	\$ 2,543,311	485	\$ 131,458	338 50	\$ 110,078	143%	119%

TABLE E—Continued

WITH A GUARANTEED PERIOD OR REFUND PROVISION—MALE LIVES  
PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0	0%	0%
50-59	1	1,266	0	0	0.01	17	0	0
60-69	748	101,542	31	3,376	20.11	2,826	154	119
70-79	6,707	2,223,515	374	117,744	310.59	105,363	120	112
80 and over	62	48,948	3	905	6.49	5,067	46	18
All ages	7,518	\$ 2,375,271	408	\$ 122,025	337.20	\$ 113,273	121%	108%
Duration 10:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0	0%	0%
50-59	1	1,266	0	0	0.01	18	0	0
60-69	412	56,399	7	468	11.42	1,626	61	29
70-79	5,917	2,003,676	315	139,283	298.86	104,256	105	134
80 and over	127	91,903	12	9,387	13.57	10,499	88	89
All ages	6,457	\$ 2,153,244	334	\$ 149,138	323.86	\$ 116,399	103%	128%
Durations 1-5:								
Under 50	5	\$ 1,226	0	\$ 0	0.01	\$ 6	0%	0%
50-59	528	142,606	48	5,755	6.68	1,853	719	311
60-69	17,454	7,856,909	622	275,447	474.32	212,380	131	130
70-79	1,787	1,330,879	46	44,987	79.13	59,102	58	76
80 and over	39	61,314	4	3,492	4.38	6,949	91	50
All ages	19,813	\$ 9,392,934	720	\$ 329,681	564.52	\$ 280,290	128%	118%
Durations 6-10:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	111	13,959	6	1,100	1.47	191	408%	576%
60-69	6,507	1,168,660	266	43,704	170.53	31,917	156	137
70-79	31,828	10,835,842	1,727	572,147	1,370.58	476,147	126	120
80 and over	301	263,083	19	22,107	31.64	28,723	60	77
All ages	38,747	\$ 12,281,544	2,018	\$ 639,058	1,574.22	\$ 536,978	128%	119%
Durations 1-10:								
Under 50	5	\$ 1,226	0	\$ 0	0.01	\$ 6	0%	0%
50-59	639	156,565	54	6,855	8.15	2,044	663	335
60-69	23,961	9,025,569	888	319,151	644.85	244,297	138	131
70-79	33,615	12,166,721	1,773	617,134	1,449.71	535,249	122	115
80 and over	340	324,397	23	25,599	36.02	35,672	64	72
All ages	58,560	\$ 21,674,478	2,738	\$ 968,739	2,138.74	\$ 817,268	128%	119%
Durations 11 and over:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	8	4,129	0	0	0.10	59	0%	0%
60-69	520	62,516	19	1,091	14.66	1,696	130	64
70-79	18,007	5,951,611	1,390	486,732	1,117.32	376,359	124	129
80 and over	7,799	3,760,718	913	458,924	849.60	425,082	107	108
All ages	26,334	\$ 9,778,974	2,322	\$ 946,747	1,981.68	\$ 803,196	117%	118%
Durations 6 and over:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	119	18,088	6	1,100	1.57	250	382%	440%
60-69	7,027	1,231,176	285	44,795	185.19	33,613	154	133
70-79	49,835	16,787,453	3,117	1,058,879	2,487.90	852,506	125	124
80 and over	8,100	4,023,801	932	481,031	881.24	453,805	106	106
All ages	65,081	\$ 22,060,518	4,340	\$ 1,585,805	3,555.90	\$ 1,340,174	122%	118%
All durations:								
Under 50	5	\$ 1,226	0	\$ 0	0.01	\$ 6	0%	0%
50-59	647	160,694	54	6,855	8.25	2,103	655	326
60-69	24,481	9,088,085	907	320,242	659.51	245,993	138	130
70-79	51,622	18,118,332	3,163	1,103,866	2,567.03	911,608	123	121
80 and over	8,139	4,085,115	936	484,523	885.62	460,754	106	105
All ages	84,894	\$ 31,453,452	5,060	\$ 1,915,486	4,120.42	\$ 1,620,464	123%	118%

TABLE E—Continued

WITH A GUARANTEED PERIOD OR REFUND PROVISION—FEMALE LIVES  
PENSION TRUST ISSUES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	18	7,159	1	205	0 10	40	1,000%	513%
60-69	622	273,584	14	4,861	7 55	3,371	185	144
70-79	46	24,170	1	202	1 09	559	92	36
80 and over	1	485	0	0	0 07	33	0	0
All ages	687	\$ 305,398	16	\$ 5,268	8 81	\$ 4,003	182%	132%
Duration 2:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	19	7,725	0	0	0 12	44	0%	0%
60-69	666	250,473	3	1,973	8 82	3,353	34	59
70-79	60	34,564	0	0	1 53	877	0	0
80 and over	1	485	0	0	0 08	45	0	0
All ages	746	\$ 293,247	3	\$ 1,973	10 55	\$ 4,313	28%	46%
Duration 3:								
Under 50	5	208	0	0	0 01	0	0%	0%
50-59	11	4,038	0	0	0 07	24	0	0%
60-69	725	254,525	12	5,611	10 39	3,713	115	151
70-79	81	39,621	0	0	2 23	1,047	0	0
80 and over	1	485	0	0	0 08	41	0	0
All ages	823	\$ 298,877	12	\$ 5,611	12 78	\$ 4,823	94%	116%
Duration 4:								
Under 50	5	208	0	0	0 01	0	0%	0%
50-59	28	4,079	0	0	0 17	25	0	0%
60-69	884	243,349	13	3,679	13 49	3,847	96	96
70-79	95	43,265	0	0	2 57	1,189	0	0
80 and over	1	485	0	0	0 09	46	0	0
All ages	1,013	\$ 291,386	13	\$ 3,679	16 33	\$ 5,107	80%	72%
Duration 5:								
Under 50	5	208	0	0	0 01	0	0%	0%
50-59	18	4,668	4	46	0 12	11	3,333	418%
60-69	1,030	256,005	12	3,338	17 03	4,413	70	76
70-79	146	52,926	0	0	3 92	1,432	0	0
80 and over	0	0	0	0	0 00	0		
All ages	1,199	\$ 310,807	16	\$ 3,384	21 08	\$ 5,856	76%	58%
Duration 6:								
Under 50	5	208	0	0	0 01	0	0%	0%
50-59	3	984	0	0	0 02	6	0	0%
60-69	428	72,690	8	1,227	5 82	1,019	137	120
70-79	849	222,183	28	7,529	19 21	5,112	146	147
80 and over	2	405	1	288	0 15	30	667	960
All ages	1,287	\$ 296,470	37	\$ 9,044	25 21	\$ 6,367	147%	147%
Duration 7:								
Under 50	5	208	0	0	0 01	0	0%	0%
50-59	3	984	0	0	0 02	7	0	0%
60-69	378	56,504	1	241	5 37	823	19	29
70-79	874	223,671	25	6,616	22 01	5,825	114	114
80 and over	2	1,051	0	0	0 14	66	0	0
All ages	1,262	\$ 282,418	26	\$ 6,857	27 55	\$ 6,721	94%	102%
Duration 8:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	0	0	0	0	0 00	0		
60-69	325	42,839	11	1,439	4 77	627	231%	230%
70-79	915	207,838	17	4,124	25 15	5,920	68	70
80 and over	3	1,308	0	0	0 21	90	0	0
All ages	1,243	\$ 251,985	28	\$ 5,563	30 13	\$ 6,637	93%	84%

TABLE E—Continued

WITH A GUARANTEED PERIOD OR REFUND PROVISION—FEMALE LIVES  
PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	0	0	0	0	0.00	0		
60-69	209	30,015	0	0	3.17	467	0%	0%
70-79	850	192,973	22	5,421	25.59	5,904	86%	92%
80 and over	16	9,306	3	690	1.05	585	286	118
All ages	1,075	\$ 232,294	25	\$ 6,111	29.81	\$ 6,956	84%	88%
Duration 10:								
Under 50	2	\$ 88	0	\$ 0	0.00	\$ 0		
50-59	0	0	0	0	0.00	0		
60-69	158	21,677	6	1,339	2.49	344	241%	389%
70-79	728	164,920	29	6,626	24.35	5,571	119	119
80 and over	18	9,517	5	783	1.39	672	360	117
All ages	906	\$ 196,202	40	\$ 8,748	28.23	\$ 6,587	142%	133%
Durations 1-5:								
Under 50	15	\$ 624	0	\$ 0	0.03	\$ 0	0%	
50-59	94	24,669	5	251	0.58	144	862	174%
60-69	3,927	1,277,936	54	19,462	57.28	18,697	94	104
70-79	428	194,546	1	202	11.34	5,104	9	4
80 and over	4	1,940	0	0	0.32	157	0	0
All ages	4,468	\$ 1,499,715	60	\$ 19,915	69.55	\$ 24,102	86%	83%
Durations 6-10:								
Under 50	12	\$ 504	0	\$ 0	0.02	\$ 0	0%	
50-59	6	1,968	0	0	0.04	13	0	0%
60-69	1,498	223,725	26	4,246	21.62	3,280	120	129
70-79	4,216	1,011,585	121	30,316	116.31	28,332	104	107
80 and over	41	21,587	9	1,761	2.94	1,443	306	122
All ages	5,773	\$ 1,259,369	156	\$ 36,323	140.93	\$ 33,068	111%	110%
Durations 1-10:								
Under 50	27	\$ 1,128	0	\$ 0	0.05	\$ 0	0%	
50-59	100	26,637	5	251	0.62	157	806	160%
60-69	5,425	1,501,663	80	23,708	78.90	21,977	101	108
70-79	4,644	1,206,131	122	30,518	127.65	33,436	96	91
80 and over	45	23,527	9	1,761	3.26	1,600	276	110
All ages	10,241	\$ 2,759,084	216	\$ 56,238	210.48	\$ 57,170	103%	98%
Durations 11 and over:								
Under 50	8	\$ 352	0	\$ 0	0.02	\$ 0	0%	
50-59	5	620	0	0	0.01	3	0	0%
60-69	308	52,355	0	0	4.48	763	0	0
70-79	2,786	695,563	129	29,456	111.38	27,869	116	106
80 and over	997	246,368	98	22,139	80.49	20,475	122	108
All ages	4,104	\$ 995,258	227	\$ 51,595	196.38	\$ 49,110	116%	105%
Durations 6 and over:								
Under 50	20	\$ 856	0	\$ 0	0.04	\$ 0	0%	
50-59	11	2,588	0	0	0.05	16	0	0%
60-69	1,806	276,080	26	4,246	26.10	4,043	100	105
70-79	7,002	1,707,148	250	59,772	227.69	56,201	110	106
80 and over	1,038	267,955	107	23,900	33.43	21,918	128	109
All ages	9,877	\$ 2,254,627	383	\$ 87,918	337.31	\$ 82,178	114%	107%
All durations:								
Under 50	35	\$ 1,480	0	\$ 0	0.07	\$ 0	0%	
50-59	105	27,257	5	251	0.63	160	794	157%
60-69	5,733	1,554,016	80	23,708	83.38	22,740	96	104
70-79	7,430	1,901,694	251	59,974	239.03	61,305	105	98
80 and over	1,042	269,895	107	23,900	83.75	22,073	128	108
All ages	14,345	\$ 3,754,342	443	\$ 107,833	406.86	\$ 106,280	109%	101%

**TABLE E—Continued**  
**WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION—MALE LIVES**  
**PENSION TRUST ISSUES**

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	3	1,531	0	0	0 03	20	0%	0%
60-69	96	43,457	0	0	2 21	1,016	0	0
70-79	17	11,836	1	478	0 83	483	120	99
80 and over	3	909	0	0	0 28	83	0	0
All ages	119	\$ 57,733	1	\$ 478	3 35	\$ 1,602	30%	30%
Duration 2:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	2	779	0	0	0 02	11	0%	0%
60-69	98	43,426	1	237	2 42	1,074	41	22
70-79	16	12,391	3	264	0 76	508	395	52
80 and over	4	1,190	1	302	0 38	115	263	263
All ages	120	\$ 57,786	5	\$ 803	3 58	\$ 1,708	140%	47%
Duration 3:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	2	779	0	0	0 02	11	0%	0%
60-69	118	45,637	3	476	3 04	1,156	99	41
70-79	18	15,582	1	320	0 85	664	118	48
80 and over	4	1,165	0	0	0 39	115	0	0
All ages	142	\$ 63,163	4	\$ 796	4 30	\$ 1,946	93%	41%
Duration 4:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	8	3,172	0	0	0 10	43	0%	0%
60-69	157	50,948	0	0	4 09	1,365	0	0
70-79	19	19,523	0	0	0 88	910	0	0
80 and over	0	0	0	0	0 00	0		
All ages	184	\$ 73,643	0	\$ 0	5 07	\$ 2,318	0%	0%
Duration 5:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	8	3,092	0	0	0 12	45	0%	0%
60-69	234	62,785	10	1,859	6 65	1,809	150	103
70-79	30	23,405	2	310	1 36	1,127	147	28
80 and over	0	0	0	0	0 00	0		
All ages	272	\$ 89,282	12	\$ 2,169	8 13	\$ 2,981	148%	73%
Duration 6:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	2	262	0	0	0 02	3	0%	0%
60-69	114	27,636	1	46	2 93	685	34	7
70-79	174	63,454	8	2,147	6 46	2,566	124	84
80 and over	0	0	0	0	0 00	0		
All ages	290	\$ 91,352	9	\$ 2,193	9 41	\$ 3,254	96%	67%
Duration 7:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	2	262	0	0	0 02	3	0%	0%
60-69	122	27,650	0	0	3 16	720	0	0
70-79	177	60,891	1	55	7 13	2,613	14	2
80 and over	1	1,682	0	0	0 09	144	0	0
All ages	302	\$ 90,485	1	\$ 55	10 40	\$ 3,480	10%	2%
Duration 8:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	2	262	0	0	0 03	4	0%	0%
60-69	103	17,593	14	3,560	2 82	482	496	739
70-79	208	70,309	1	48	8 87	3,196	11	2
80 and over	2	1,879	0	0	0 19	177	0	0
All ages	315	\$ 90,043	15	\$ 3,608	11 91	\$ 3,859	126%	93%

TABLE E—Continued

WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION—MALE LIVES  
PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	3	\$ 153	0	\$ 0	0 01	\$ 1	0%	0%
50-59	2	262	2	262	0 03	4	6,667	6,550
60-69	32	4,203	0	0	0 78	114	0	0
70-79	233	76,362	8	1,427	10 49	3,859	76	37
80 and over	2	1,175	0	0	0 20	106	0	0
All ages	272	\$ 82,155	10	\$ 1,689	11 51	\$ 4,084	87%	41%
Duration 10:								
Under 50	3	\$ 153	0	\$ 0	0 02	\$ 1	0%	0%
50-59	0	0	0	0	0 00	0		
60-69	22	1,675	2	360	0 55	41	364	878
70-79	183	57,562	18	7,125	9 18	3,046	196	234
80 and over	2	1,175	0	0	0 21	116	0	0
All ages	210	\$ 60,565	20	\$ 7,485	9 96	\$ 3,204	201%	234%
Durations 1-5:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	23	9,353	0	0	0 29	130	0%	0%
60-69	703	246,253	14	2,572	18 41	6,420	76	40
70-79	100	82,737	7	1,372	4 68	3,692	150	37
80 and over	11	3,264	1	302	1 05	313	95	96
All ages	837	\$ 341,607	22	\$ 4,246	24 43	\$ 10,555	90%	40%
Durations 6-10:								
Under 50	6	\$ 306	0	\$ 0	0 03	\$ 2	0%	0%
50-59	8	1,048	2	262	0 10	14	2,000	1,871
60-69	393	78,757	17	3,966	10 24	2,042	166	194
70-79	975	328,578	36	10,802	42 13	15,280	85	71
80 and over	7	5,911	0	0	0 69	543	0	0
All ages	1,389	\$ 411,600	55	\$ 15,030	53 19	\$ 17,881	103%	84%
Durations 1-10:								
Under 50	6	\$ 306	0	\$ 0	0 03	\$ 2	0%	0%
50-59	31	10,401	2	262	0 39	144	513	182
60-69	1,096	325,010	31	6,538	28 65	8,462	108	77
70-79	1,075	411,315	43	12,174	46 81	18,972	92	64
80 and over	18	9,175	1	302	1 74	856	57	35
All ages	2,226	\$ 756,207	77	\$ 19,276	77 62	\$ 28,436	99%	68%
Durations 11 and over:								
Under 50	3	\$ 153	0	\$ 0	0 02	\$ 1	0%	0%
50-59	36	9,221	0	0	0 31	85	0	0
60-69	46	3,327	0	0	1 36	98	0	0
70-79	622	179,471	59	18,392	38 57	11,571	153	159
80 and over	338	151,297	31	15,532	38 33	16,824	81	92
All ages	1,045	\$ 343,469	90	\$ 33,924	78 59	\$ 28,579	115%	119%
Durations 6 and over:								
Under 50	9	\$ 459	0	\$ 0	0 05	\$ 3	0%	0%
50-59	44	10,269	2	262	0 41	99	488	265
60-69	439	82,084	17	3,966	11 60	2,140	147	185
70-79	1,597	508,049	95	29,194	80 70	26,851	118	109
80 and over	345	157,208	31	15,532	39 02	17,367	79	89
All ages	2,434	\$ 758,069	145	\$ 48,954	131 78	\$ 46,460	110%	105%
All durations:								
Under 50	9	\$ 459	0	\$ 0	0 05	\$ 3	0%	0%
50-59	67	19,622	2	262	0 70	229	286	114
60-69	1,142	328,337	31	6,538	30 01	8,560	103	76
70-79	1,697	590,786	102	30,566	85 38	30,543	119	100
80 and over	356	160,472	32	15,834	40 07	17,680	80	90
All ages	3,271	\$ 1,099,676	167	\$ 53,200	156 21	\$ 57,015	107%	93%

TABLE E—Continued

WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION—FEMALE LIVES  
PENSION TRUST ISSUES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 1:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	2	212	0	0	0 01	1	0%	0%
60-69	107	34,875	6	1,057	1 37	477	438	222
70-79	11	4,945	0	0	0 23	106	0	0
80 and over	1	288	0	0	0 12	34	0	0
All ages	121	\$ 40,320	6	\$ 1,057	1 73	\$ 618	347%	171%
Duration 2:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	3	630	0	0	0 03	3	0%	0%
60-69	126	35,218	1	101	1 68	486	60	21
70-79	14	8,766	0	0	0 32	199	0	0
80 and over	1	288	0	0	0 13	37	0	0
All ages	144	\$ 44,902	1	\$ 101	2 16	\$ 725	46%	14%
Duration 3:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	2	544	0	0	0 02	4	0%	0%
60-69	133	36,825	0	0	1 94	548	0	0
70-79	17	11,531	1	681	0 43	295	233	231
80 and over	1	288	1	288	0 14	41	714	702
All ages	153	\$ 49,188	2	\$ 969	2 53	\$ 888	79%	109%
Duration 4:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	3	800	0	0	0 03	5	0%	0%
60-69	148	38,511	5	1,555	2 36	616	212	252
70-79	20	9,465	0	0	0 53	271	0	0
80 and over	0	0	0	0	0 00	0		
All ages	171	\$ 48,776	5	\$ 1,555	2 92	\$ 892	171%	174%
Duration 5:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	6	864	0	0	0 05	5	0%	0%
60-69	155	40,816	9	2,567	2 66	701	338	366
70-79	29	13,008	0	0	0 84	392	0	0
80 and over	0	0	0	0	0 00	0		
All ages	190	\$ 54,688	9	\$ 2,567	3 55	\$ 1,098	254%	234%
Duration 6:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	2	740	0	0	0 02	5	0%	0%
60-69	64	15,728	3	435	0 97	242	309	180
70-79	140	40,946	2	1,853	3 16	967	63	192
80 and over	1	998	0	0	0 06	61	0	0
All ages	207	\$ 58,412	5	\$ 2,288	4 21	\$ 1,275	119%	179%
Duration 7:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	1	256	0	0	0 01	2	0%	0%
60-69	47	11,613	0	0	0 74	184	0	0
70-79	151	43,309	1	130	3 80	1,113	26	12
80 and over	1	998	0	0	0 07	68	0	0
All ages	200	\$ 56,676	1	\$ 130	4 62	\$ 1,367	22%	10%
Duration 8:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	0	0	0	0	0 00	0		
60-69	45	9,766	0	0	0 71	161	0%	0%
70-79	136	42,535	9	1,524	3 82	1,222	236	125
80 and over	1	169	0	0	0 07	12	0	0
All ages	182	\$ 52,470	9	\$ 1,524	4 60	\$ 1,395	196%	109%



TABLE E—Continued  
 WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION—FEMALE LIVES  
 PENSION TRUST ISSUES—Continued

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Duration 9:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	0	0	0	0	0.00	0		
60-69	31	3,857	0	0	0.47	57	0%	0%
70-79	137	45,071	7	1,728	4.31	1,416	162	122
80 and over	7	2,212	0	0	0.45	139	0	0
All ages	175	\$ 51,140	7	\$ 1,728	5.23	\$ 1,612	134%	107%
Duration 10:								
Under 50	0	\$ 0	0	\$ 0	0.00	0		
50-59	0	0	0	0	0.00	0		
60-69	19	1,749	0	0	0.27	28	0%	0%
70-79	141	35,420	8	1,276	5.05	1,240	158	103
80 and over	6	1,399	5	1,230	0.42	98	1,190	1,255
All ages	166	\$ 38,568	13	\$ 2,506	5.74	\$ 1,366	226%	183%
Durations 1-5:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	16	3,050	0	0	0.14	18	0%	0%
60-69	669	186,245	21	5,280	10.01	2,828	210	187
70-79	91	47,715	1	681	2.35	1,263	43	54
80 and over	3	864	1	288	0.39	112	256	257
All ages	779	\$ 237,874	23	\$ 6,249	12.89	\$ 4,221	178%	148%
Durations 6-10:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	3	996	0	0	0.03	7	0%	0%
60-69	206	42,713	3	435	3.16	672	95	65
70-79	705	207,781	27	6,511	20.14	5,958	134	109
80 and over	16	5,776	5	1,230	1.07	378	467	325
All ages	930	\$ 257,266	35	\$ 8,176	24.40	\$ 7,015	143%	117%
Durations 1-10:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	19	4,046	0	0	0.17	25	0%	0%
60-69	875	228,958	24	5,715	13.17	3,500	182	163
70-79	796	255,496	28	7,192	22.49	7,221	124	100
80 and over	19	6,640	6	1,518	1.46	490	411	310
All ages	1,709	\$ 495,140	58	\$ 14,425	37.29	\$ 11,236	156%	128%
Durations 11 and over:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	10	2,520	0	0	0.05	14	0%	0%
60-69	48	2,844	0	0	0.82	45	0	0
70-79	503	77,758	14	1,013	20.44	3,295	68	31
80 and over	234	70,620	20	4,493	19.96	6,592	100	68
All ages	795	\$ 153,742	34	\$ 5,506	41.21	\$ 9,946	82%	55%
Durations 6 and over:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	13	3,516	0	0	0.08	21	0%	0%
60-69	254	45,557	3	435	3.98	717	75	61
70-79	1,258	285,539	41	7,524	40.58	9,253	101	81
80 and over	250	76,396	25	5,723	21.03	6,970	119	82
All ages	1,725	\$ 411,008	69	\$ 13,682	65.67	\$ 16,961	105%	81%
All durations:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	29	6,566	0	0	0.22	39	0%	0%
60-69	923	231,802	24	5,715	13.99	3,545	172	161
70-79	1,299	333,254	42	8,205	42.93	10,516	98	78
80 and over	253	77,200	26	6,011	21.42	7,082	121	85
All ages	2,504	\$ 648,882	92	\$ 19,931	78.56	\$ 21,182	117%	94%

**TABLE F**  
**LIFE INCOME SETTLEMENTS WITHOUT A GUARANTEED**  
**PERIOD OR REFUND PROVISION ARISING**  
**FROM DEATH CLAIMS**  
**EXPERIENCE BETWEEN 1965 AND 1970 ANNIVERSARIES—PAYEE ELECTIONS**  
**(Expected Deaths on *a*-1949 Ultimate Table)**  
**MALE LIVES**

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Durations 1-5:								
Under 50	4	\$ 623	0	\$ 0	0 00	\$ 0		
50-59	0	0	0	0	0 00	0		
60-69	14	9,325	0	0	0 37	218	0%	0%
70-79	7	5,194	1	290	0 33	232	303	325
80 and over	0	0	0	0	0 00	0		
All ages	25	\$ 5,142	1	\$ 290	0 70	\$ 480	143%	64%
Durations 5-10:								
Under 50	14	\$ 4,889	0	\$ 0	0 00	\$ 13		0%
50-59	0	0	0	0	0 00	0		
60-69	6	3,689	0	0	0 15	102	0%	0
70-79	20	25,378	0	0	0 93	1,176	0	0
80 and over	3	816	0	0	0 33	91	0	0
All ages	43	\$ 34,772	0	\$ 0	1 41	\$ 1,382	0%	0%
Durations 1-10:								
Under 50	18	\$ 5,512	0	\$ 0	0 00	\$ 13		0%
50-59	0	0	0	0	0 00	0		
60-69	20	13,014	0	0	0 52	320	0%	0
70-79	27	30,572	1	290	1 26	1,408	79	21
80 and over	3	816	0	0	0 33	91	0	0
All ages	68	\$ 49,914	1	\$ 290	2 11	\$ 1,832	47%	16%
Durations 11 and over:								
Under 50	4	\$ 2,318	0	\$ 0	0 02	\$ 13	0%	0%
50-59	16	1,376	1	43	0 18	17	556	253
60-69	31	10,630	0	0	0 67	215	0	0
70-79	55	55,356	0	0	3 30	3,530	0	0
80 and over	56	76,947	3	940	7 79	8,527	39	11
All ages	162	\$ 146,627	4	\$ 983	11 96	\$ 12,302	33%	8%
Durations 6 and over:								
Under 50	18	\$ 7,207	0	\$ 0	0 02	\$ 26	0%	0%
50-59	16	1,376	1	43	0 18	17	556	253
60-69	37	14,319	0	0	0 82	317	0	0
70-79	75	80,734	0	0	4 23	4,706	0	0
80 and over	59	77,763	3	940	8 12	8,618	37	11
All ages	205	\$ 181,399	4	\$ 983	13 37	\$ 13,684	30%	7%
All durations:								
Under 50	22	\$ 7,830	0	\$ 0	0 02	\$ 26	0%	0%
50-59	16	1,376	1	43	0 18	17	556	253
60-69	51	23,644	0	0	1 19	535	0	0
70-79	82	85,928	1	290	4 56	4,938	22	6
80 and over	59	77,763	3	940	8 12	8,618	37	11
All ages	230	\$ 196,541	5	\$ 1,273	14 07	\$ 14,154	36%	9%

TABLE F—Continued  
WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION  
ARISING FROM DEATH CLAIMS  
PAYEE ELECTIONS—Continued

FEMALE LIVES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Durations 1-5:								
Under 50.....	2	\$ 934	0	\$ 0	0.00	\$ 2		0%
50-59.....	58	27,753	2	0	0.34	152	0%	0
60-69.....	257	203,615	2	663	3.50	2,769	57	24
70-79.....	246	167,599	7	3,730	8.25	5,492	85	68
80 and over.....	55	49,539	2	924	4.19	3,967	48	25
All ages.....	618	\$ 449,440	11	\$ 5,317	16.28	\$ 12,382	68%	43%
Durations 6-10:								
Under 50.....	0	\$ 0	0	\$ 0	0.00	\$ 0		0%
50-59.....	32	22,467	0	0	0.19	119	0%	0%
60-69.....	246	166,351	3	1,661	3.25	2,235	92	74
70-79.....	274	183,384	1	5,039	9.30	6,551	11	77
80 and over.....	88	76,185	8	6,629	7.79	7,364	103	90
All ages.....	640	\$ 448,387	12	\$ 13,329	20.53	\$ 16,269	58%	82%
Durations 11-10:								
Under 50.....	2	\$ 934	0	\$ 0	0.00	\$ 2		0%
50-59.....	90	50,220	0	0	0.53	271	0%	0
60-69.....	503	369,966	5	2,324	6.75	5,004	74	46
70-79.....	520	350,983	8	8,769	17.55	12,043	46	73
80 and over.....	143	125,724	10	7,513	11.98	11,331	83	66
All ages.....	1,258	\$ 897,827	23	\$ 18,606	36.81	\$ 28,651	62%	65%
Durations 11 and over:								
Under 50.....	4	\$ 1,608	0	\$ 0	0.00	\$ 4		0%
50-59.....	93	54,016	1	698	0.53	300	189%	233
60-69.....	609	302,833	10	6,333	8.46	4,162	118	152
70-79.....	1,846	1,110,598	53	44,307	68.69	41,915	77	106
80 and over.....	1,456	888,372	116	69,579	156.03	93,767	74	74
All ages.....	4,008	\$2,357,427	180	\$120,917	233.71	\$140,148	77%	86%
Durations 6 and over:								
Under 50.....	4	\$ 1,608	0	\$ 0	0.00	\$ 4		0%
50-59.....	125	76,483	1	698	0.72	419	139%	167
60-69.....	855	469,184	13	7,994	11.71	6,397	111	125
70-79.....	2,120	1,293,982	54	49,346	77.99	48,466	69	102
80 and over.....	1,544	964,557	124	76,208	163.82	101,131	76	75
All ages.....	4,648	\$2,805,814	192	\$134,246	254.24	\$156,417	76%	86%
All durations:								
Under 50.....	6	\$ 2,542	0	\$ 0	0.00	\$ 6		0%
50-59.....	183	104,236	1	698	1.06	571	94%	122
60-69.....	1,112	672,799	15	8,657	15.21	9,166	99	94
70-79.....	2,366	1,461,581	61	53,076	86.24	53,958	71	98
80 and over.....	1,599	1,014,096	126	77,092	168.01	105,098	75	73
All ages.....	5,266	\$3,255,254	203	\$139,523	270.52	\$168,799	75%	83%

TABLE F—Continued  
 WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION  
 ARISING FROM DEATH CLAIMS  
 NONPAYEE ELECTIONS  
 MALE LIVES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Durations 1-5:								
Under 50	12	\$ 5,797	0	\$ 0	0 04	\$ 28	0%	0%
50-59	6	2,403	0	0	0 06	21	0	0
60-69	9	2,385	0	0	0 20	47	0	0
70-79	0	0	0	0	0 00	0		
80 and over	0	0	0	0	0 00	0		
All ages	27	\$ 10,585	0	\$ 0	0 30	\$ 96	0%	0%
Durations 6-10:								
Under 50	3	\$ 1,602	0	\$ 0	0 02	\$ 8	0%	0%
50-59	4	3,310	0	0	0 04	25	0	0
60-69	13	11,562	2	979	0 30	257	66%	41%
70-79	7	5,399	1	249	0 42	353	238	7%
80 and over	1	1,150	0	0	0 09	98	0	0
All ages	28	\$ 23,023	3	\$ 1,228	0 87	\$ 721	345%	170%
Durations 1-10:								
Under 50	15	\$ 7,399	0	\$ 0	0 06	\$ 46	0%	0%
50-59	10	5,713	0	0	0 10	46	0	0
60-69	22	13,947	2	979	0 50	284	400	34%
70-79	7	5,399	1	249	0 42	353	238	7%
80 and over	1	1,150	0	0	0 09	98	0	0
All ages	55	\$ 33,608	3	\$ 1,228	1 17	\$ 817	256%	150%
Durations 11 and over:								
Under 50	20	\$ 24,514	0	\$ 0	0 06	\$ 100	0%	0%
50-59	12	11,809	0	0	0 10	82	0	0
60-69	31	12,881	1	1,332	0 79	307	127	434
70-79	38	6,506	6	2,421	2 33	421	258	57%
80 and over	26	3,970	5	809	2 98	391	168	207
All ages	127	\$ 59,680	12	\$ 4,562	6 26	\$ 1,301	192%	351%
Durations 6 and over:								
Under 50	23	\$ 26,116	0	\$ 0	0 08	\$ 108	0%	0%
50-59	16	15,119	0	0	0 14	107	0	0
60-69	44	24,443	3	2,311	1 09	544	275	42%
70-79	45	11,905	7	2,670	2 75	774	255	34%
80 and over	27	5,120	5	809	3 07	489	163	16%
All ages	155	\$ 82,703	15	\$ 5,790	7 13	\$ 2,022	210%	286%
All durations:								
Under 50	35	\$ 31,913	0	\$ 0	0 12	\$ 136	0%	0%
50-59	22	17,522	0	0	0 20	128	0	0
60-69	53	26,828	3	2,311	1 29	591	233	391
70-79	45	11,905	7	2,670	2 75	774	255	34%
80 and over	27	5,120	5	809	3 07	489	163	16%
All ages	182	\$ 93,288	15	\$ 5,790	7 43	\$ 2,118	202%	273%

TABLE F—Continued  
 WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION  
 ARISING FROM DEATH CLAIMS  
 NONPAYEE ELECTIONS—Continued  
 FEMALE LIVES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Durations 1-5:								
Under 50	6	\$ 878	0	\$ 0	0.00	\$ 1		0%
50-59	50	46,253	1	113	0.30	244	333%	46
60-69	184	113,942	1	367	2.34	1,415	43	26
70-79	149	164,770	6	3,239	5.37	6,416	112	50
80 and over	50	47,035	6	7,881	4.73	4,682	127	168
All ages	439	\$ 372,878	14	\$ 11,600	12.74	\$ 12,758	110%	91%
Durations 6-10:								
Under 50	5	\$ 1,888	0	\$ 0	0.00	\$ 5		0%
50-59	38	28,006	0	0	0.25	165	0%	0
60-69	200	152,327	1	860	2.72	1,997	37	43
70-79	232	175,983	4	5,911	7.79	6,060	51	98
80 and over	96	122,429	4	3,656	8.31	9,584	48	38
All ages	571	\$ 480,633	9	\$ 10,427	19.07	\$ 17,811	47%	59%
Durations 1-10:								
Under 50	11	\$ 2,766	0	\$ 0	0.00	\$ 6		0%
50-59	88	74,259	1	113	0.55	409	182%	28
60-69	384	266,269	2	1,227	5.06	3,412	40	36
70-79	381	340,753	10	9,150	13.16	12,476	76	73
80 and over	146	169,464	10	11,537	13.04	14,266	77	81
All ages	1,010	\$ 853,511	23	\$ 22,027	31.81	\$ 30,569	72%	72%
Durations 11 and over:								
Under 50	58	\$ 29,538	0	\$ 0	0.08	\$ 44	0%	0%
50-59	195	78,376	0	0	1.00	384	0	0
60-69	617	354,000	10	7,355	8.49	4,978	118	148
70-79	1,127	869,366	40	33,556	39.94	31,338	100	107
80 and over	591	543,048	56	38,081	63.69	55,998	88	68
All ages	2,588	\$ 1,874,328	106	\$ 78,992	113.20	\$ 92,742	94%	85%
Durations 6 and over:								
Under 50	63	\$ 31,426	0	\$ 0	0.08	\$ 49	0%	0%
50-59	233	106,382	0	0	1.25	549	0	0
60-69	817	506,327	11	8,215	11.21	6,975	98	118
70-79	1,359	1,043,349	44	39,467	47.73	37,398	92	106
80 and over	687	665,477	60	41,737	72.00	65,582	83	64
All ages	3,159	\$ 2,354,961	115	\$ 89,419	132.27	\$ 110,553	87%	81%
All durations:								
Under 50	69	\$ 32,304	0	\$ 0	0.08	\$ 50	0%	0%
50-59	283	152,635	1	113	1.55	793	65	14
60-69	1,001	620,269	12	8,582	13.55	8,390	89	102
70-79	1,508	1,210,119	50	42,706	53.10	43,814	94	97
80 and over	737	712,512	66	49,618	76.73	70,264	86	71
All ages	3,598	\$ 2,727,839	129	\$ 101,019	145.01	\$ 123,311	89%	82%

TABLE F—Continued

WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION  
ARISING FROM MATURITIES AND SURRENDERS  
OTHER THAN PENSION TRUST ISSUES

MALE LIVES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Durations 1-5:								
Under 50	4	\$ 15,504	0	\$ 0	0.00	\$ 34		0%
50-59	164	99,117	0	0	1.93	1,212		0%
60-69	2,449	958,836	60	17,714	63.12	23,663	95	75
70-79	327	237,630	11	7,569	16.41	11,812	67	64
80 and over	65	58,557	4	1,752	6.74	6,225	59	28
All ages	3,009	\$1,369,644	75	\$ 27,035	88.20	\$ 42,946	85%	63%
Durations 6-10:								
Under 50	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59	11	1,802	1	126	0.12	21	833%	600%
60-69	724	458,527	10	4,761	18.64	12,070	54	39
70-79	2,058	1,053,827	59	21,609	93.76	51,392	63	42
80 and over	128	93,859	8	6,597	14.98	11,066	53	60
All ages	2,921	\$1,668,015	78	\$ 33,093	127.50	\$ 74,549	61%	44%
Durations 11-15:								
Under 50	4	\$ 15,504	0	\$ 0	0.00	\$ 34		0%
50-59	175	100,919	1	126	2.05	1,233	49%	10
60-69	3,173	1,417,363	70	22,475	81.76	35,733	86	63
70-79	2,385	1,291,457	70	29,178	110.17	63,204	64	46
80 and over	193	152,416	12	8,349	21.72	17,291	55	48
All ages	5,930	\$2,977,659	153	\$ 60,128	215.70	\$117,495	71%	51%
Durations 16 and over:								
Under 50	10	\$ 2,155	0	\$ 0	0.00	\$ 3		0%
50-59	112	9,871	1	45	1.32	124	76%	36
60-69	935	406,501	22	8,240	23.80	10,855	92	76
70-79	4,985	3,064,814	250	156,610	291.33	179,448	86	87
80 and over	2,268	1,399,018	287	158,065	266.19	165,001	108	96
All ages	8,310	\$4,882,359	560	\$322,960	582.64	\$355,431	96%	91%
Durations 6 and over:								
Under 50	10	\$ 2,155	0	\$ 0	0.00	\$ 3		0%
50-59	123	11,673	2	171	1.44	145	139%	118
60-69	1,659	865,028	32	13,001	42.44	22,925	75	57
70-79	7,043	4,118,641	309	178,219	385.09	230,840	80	77
80 and over	2,396	1,492,877	295	164,662	281.17	176,067	105	94
All ages	11,231	\$6,490,374	638	\$356,053	710.14	\$429,980	90%	83%
All durations:								
Under 50	14	\$ 17,659	0	\$ 0	0.00	\$ 37		0%
50-59	287	110,790	2	171	3.37	1,357	59%	13
60-69	4,108	1,823,864	92	30,715	105.56	46,588	87	66
70-79	7,370	4,356,271	320	185,788	401.50	242,652	80	77
80 and over	2,461	1,551,434	299	166,414	287.91	182,292	104	91
All ages	14,240	\$7,860,018	713	\$383,088	798.34	\$472,926	89%	81%

TABLE F—Continued  
 WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION  
 ARISING FROM MATURITIES AND SURRENDERS  
 OTHER THAN PENSION TRUST ISSUES—Continued  
 FEMALE LIVES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Durations 1-5:								
Under 50	9	\$ 2,339	0	\$ 0	0.00	\$ 5		0%
50-59	196	71,604	1	131	1.10	402	91%	33
60-69	2,492	925,506	24	8,079	35.17	12,843	68	63
70-79	377	199,351	5	2,077	10.70	5,651	47	37
80 and over	11	11,842	0	0	0.76	811	0	0
All ages	3,085	\$1,210,642	30	\$ 10,287	47.73	\$ 19,712	63%	52%
Durations 6-10:								
Under 50	4	\$ 1,419	0	\$ 0	0.00	\$ 1		0%
50-59	63	24,101	0	0	0.42	152	0%	0
60-69	1,174	535,328	6	1,678	16.55	7,541	36	22
70-79	1,830	666,237	33	8,385	51.88	19,438	64	43
80 and over	60	28,892	2	921	5.32	2,421	38	38
All ages	3,131	\$1,255,977	41	\$ 10,984	74.17	\$ 29,553	55%	37%
Durations 1-10:								
Under 50	13	\$ 3,758	0	\$ 0	0.00	\$ 6		0%
50-59	259	95,705	1	131	1.52	554	66%	24
60-69	3,666	1,460,834	30	9,787	51.72	20,384	58	48
70-79	2,207	865,588	38	10,462	62.58	25,089	61	42
80 and over	71	40,734	2	921	6.08	3,232	33	28
All ages	6,216	\$2,466,619	71	\$ 21,271	121.90	\$ 49,265	58%	43%
Durations 11 and over:								
Under 50	34	\$ 16,894	2	\$ 1,671	0.03	\$ 29	6,667%	5,762%
50-59	314	60,172	1	382	1.78	329	56	116
60-69	2,326	815,947	31	12,661	32.60	11,740	95	108
70-79	7,179	2,761,928	198	81,221	261.22	99,620	76	82
80 and over	2,391	913,550	200	77,906	212.40	81,856	94	95
All ages	12,244	\$4,568,491	432	\$173,841	508.03	\$193,574	85%	90%
Durations 6 and over:								
Under 50	38	\$ 18,313	2	\$ 1,671	0.03	\$ 30	6,667%	5,570%
50-59	377	84,273	1	382	2.20	481	45	79
60-69	3,500	1,351,275	37	14,339	49.15	19,281	75	74
70-79	9,009	3,428,165	231	89,606	313.10	119,058	74	75
80 and over	2,451	942,442	202	78,827	217.72	84,277	93	94
All ages	15,375	\$5,824,468	473	\$184,825	582.20	\$223,127	81%	83%
All durations:								
Under 50	47	\$ 20,652	2	\$ 1,671	0.03	\$ 35	6,667%	4,774%
50-59	573	155,877	2	513	3.30	883	61	58
60-69	5,992	2,276,781	61	22,418	84.32	32,124	72	70
70-79	9,386	3,627,516	236	91,683	323.80	124,709	73	74
80 and over	2,462	954,284	202	78,827	218.48	85,088	92	93
All ages	18,460	\$7,035,110	503	\$195,112	629.93	\$242,839	80%	80%

TABLE F—Continued  
 WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION  
 ARISING FROM MATURITIES AND SURRENDERS  
 PENSION TRUST ISSUES  
 MALE LIVES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Durations 1-5:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	28	11,087	0	0	0 35	137	0%	0%
60-69	710	549,176	25	19,149	18 39	14,031	136	136
70-79	134	136,556	12	11,013	6 26	6,612	192	167
80 and over	10	10,249	1	1,071	0 93	922	108	116
All ages	882	\$ 698,068	38	\$ 31,233	25 93	\$ 21,702	147%	144%
Durations 6-10:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	5	413	0	0	0 93	6	0%	0%
60-69	77	45,490	1	115	2 11	1,242	4	9
70-79	1,076	734,867	32	12,960	50 53	34,210	63	38
80 and over	10	8,903	1	160	0 91	818	110	20
All ages	1,166	\$ 789,673	34	\$ 13,233	53 58	\$ 36,276	63%	36%
Durations 11-10:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	31	11,500	0	0	0 38	143	0%	0%
60-69	787	585,666	26	19,262	20 50	15,273	127	126
70-79	1,210	871,423	44	23,973	56 79	40,822	77	59
80 and over	20	19,152	2	1,231	1 84	1,740	109	71
All ages	2,048	\$1,487,741	72	\$ 44,466	79 51	\$ 57,978	91%	77%
Durations 11 and over:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	0	0	0	0	0 00	0		
60-69	37	9,729	2	397	1 00	260	200%	133%
70-79	1,782	1,051,933	131	79,908	112 53	66,462	116	120
80 and over	859	447,227	110	65,127	91 52	46,537	120	140
All ages	2,678	\$1,508,889	243	\$145,432	205 05	\$113,259	119%	128%
Durations 6 and over:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	3	413	0	0	0 03	6	0%	0%
60-69	114	55,219	3	510	3 11	1,502	96	34
70-79	2,858	1,786,800	163	92,868	163 06	100,672	100	92
80 and over	869	456,130	111	65,287	92 43	47,355	120	138
All ages	3,844	\$2,298,562	277	\$158,665	258 63	\$149,535	107%	106%
All durations:								
Under 50	0	\$ 0	0	\$ 0	0 00	\$ 0		
50-59	31	11,500	0	0	0 38	143	0%	0%
60-69	824	595,395	28	19,659	21 50	15,533	130	127
70-79	2,992	1,923,356	175	103,881	169 32	107,284	103	97
80 and over	879	466,379	112	66,358	93 36	48,277	120	137
All ages	4,726	\$2,996,630	315	\$189,898	284 56	\$171,237	111%	111%



TABLE F — *Continued*  
 WITHOUT A GUARANTEED PERIOD OR REFUND PROVISION  
 ARISING FROM MATURITIES AND SURRENDERS  
 PENSION TRUST ISSUES—*Continued*  
 FEMALE LIVES

ATTAINED AGES	EXPOSURES		ACTUAL DEATHS		EXPECTED DEATHS		MORTALITY RATIO	
	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income	Number of Contracts	Amount of Annual Income
Durations 1-5:								
Under 50.....	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59.....	22	5,183	0	0	0.17	31	0%	0%
60-69.....	947	529,357	18	4,940	13.32	7,506	135	66
70-79.....	180	102,987	4	1,194	4.60	2,563	87	47
80 and over.....	4	944	1	236	0.32	76	313	311
All ages.....	1,153	\$ 638,471	23	\$ 6,370	18.41	\$ 10,176	125%	63%
Durations 6-10:								
Under 50.....	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59.....	0	0	0	0	0.00	0		
60-69.....	118	43,181	6	829	1.79	661	335%	125%
70-79.....	579	224,491	23	7,299	16.74	6,247	137	117
80 and over.....	10	6,868	2	1,148	0.99	641	202	179
All ages.....	707	\$ 274,540	31	\$ 9,276	19.52	\$ 7,549	159%	123%
Durations 1-10:								
Under 50.....	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59.....	22	5,183	0	0	0.17	31	0%	0%
60-69.....	1,065	572,538	24	5,769	15.11	8,167	159	71
70-79.....	759	327,478	27	8,493	21.34	8,810	127	96
80 and over.....	14	7,812	3	1,384	1.31	717	229	193
All ages.....	1,860	\$ 913,011	54	\$ 15,646	37.93	\$ 17,725	142%	88%
Durations 11 and over:								
Under 50.....	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59.....	0	0	0	0	0.00	0		
60-69.....	39	6,076	1	206	0.55	93	182%	222%
70-79.....	533	219,288	20	4,280	21.21	8,621	94	50
80 and over.....	191	94,301	10	2,606	15.06	7,308	66	36
All ages.....	763	\$ 319,665	31	\$ 7,092	36.82	\$ 16,022	84%	44%
Durations 6 and over:								
Under 50.....	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59.....	0	0	0	0	0.00	0		
60-69.....	157	49,257	7	1,035	2.34	754	299%	137%
70-79.....	1,112	443,779	43	11,579	37.95	14,808	113	78
80 and over.....	201	101,169	12	3,754	16.05	7,949	75	47
All ages.....	1,470	\$ 594,205	62	\$ 16,368	56.34	\$ 23,571	110%	69%
All durations:								
Under 50.....	0	\$ 0	0	\$ 0	0.00	\$ 0		
50-59.....	22	5,183	0	0	0.17	31	0%	0%
60-69.....	1,104	578,614	25	5,975	15.66	8,260	160	72
70-79.....	1,292	546,766	47	12,773	42.55	17,431	110	73
80 and over.....	205	102,113	13	3,990	16.37	8,025	79	50
All ages.....	2,623	\$1,232,676	85	\$ 22,738	74.75	\$ 33,747	114%	67%