REPORT OF THE GROUP ANNUITY EXPERIENCE COMMITTEE

GROUP ANNUITY MORTALITY

1. ABSTRACT

This report presents the 1999 and 2000 calendar year experience of retired individuals in the United States and Canada who are covered under group pension contracts issued in the United States and Canada. Data for calendar years 1995 through 1998 are also included to provide a comparison with 1999 and 2000 experience and to provide information on mortality trends over time. Substantially all 1999 and 2000 data were submitted from contracts issued in the United States.

A partial list of previous Society of Actuaries (SoA) reports on Group Annuity Mortality is shown below.

1981-82 calendar years - TSA, 1983 Reports 1983-84 calendar years - TSA, 1984 Reports

1985-86 calendar years - TSA, 1985-86-87 Reports 1987-88 calendar years - TSA, 1988-89-90 Reports 1989-90 calendar years - TSA, 1993-94 Reports 1991-92 calendar years - TSA, 1995-96 Reports

1993-94 calendar years - on SOA website
1995-96 calendar years - on SOA website
1997-98 calendar years - on SOA website

The report includes the annuity experience under contracts providing insurance company guaranteed annuity benefits to ongoing pension plans and the experience of contracts covering closed groups of lives for which purchases are made by a single payment at issue (single premium close-out business). It also includes contracts that do not contain insurance company guarantees of future payments (*e.g.*, certain types of immediate participation guarantee contracts).

The total data reported in this study include all annuitants receiving life contingent payments or, in some cases, past normal retirement date but not currently receiving payments. With respect to joint and survivor annuities, only the person in payment status is counted in the exposure and death statistics.

2. CAVEATS

This study, covering 1999 and 2000 calendar year experience, includes all data for these years submitted by the contributing companies through the end of October, 2002, including any late

reported deaths. Due to the extended collection period, no adjustment has been made to the study results to reflect any further lag in late reported deaths.

Results in this report for years prior to 1999 may have been updated to reflect additional submissions of late reported deaths and other data adjustments since the prior report. All references in this report to data for years prior to 1999 relate to data contained in Tables 1-27 herein, which may vary slightly from prior published reports on Group Annuity Mortality. Any variations have been minor, with little impact on reported trends and observations. Future reports issued by the Group Annuity Experience Committee may incorporate data updates from contributing companies for calendar years 1999 and 2000 received subsequent to the compilation of this report.

Data submitted was in sufficient detail to allow the committee to partition the total experience into subsets based on a single parameter or a combination of parameters. The committee believes that the tables in this report produce data cells generally large enough to be credible, and in a format that facilitates data analysis. Data at very low and very high-attained ages may be too small to be credible, however.

3. FORMAT OF STUDY

The format of the study is largely the same as for the Group Annuity Mortality Report of 1997 and 1998 calendar year experience. In prior Reports, we presented observations on data in Section 4. below in terms of 1999 – 2000 Experience, comparison with 1997-98 Experience, 1995-2000 Experience Trends, and comparison with 83 GAM and the four GAM-94 Tables. To improve clarity, subsections in Section 4. will be organized in this and future Reports with respect to parameters and tables, condensing discussion of various parameters in terms of comparison of various experience years and tables.

The mortality table used for expected deaths for Tables 1-27 (described below) is the 1983 Group Annuity Mortality (83 GAM) Table. The 83 GAM Table is used without projection. The mortality table used for expected deaths for Tables 16A through 27A is the 1994 Group Annuity Basic (GAM-94 Basic) Table without projection. Expected deaths for females are based on the female mortality tables (as opposed to the male mortality table with the standard six-year setback), except for Table 15, which is based on male mortality with no age setback. The mortality table used for expected deaths for Tables 24B through 27B is the GAM-94 Basic Table with projection. The mortality table used for expected deaths for Tables 24C through 27C is the GAM-94 Static Table. The mortality table used for expected deaths for Tables 24D through 27D is the GAR-94 Table. Section 4. contains additional discussion on the four GAM-94 tables. For all mortality tables used, attained age is defined as age nearest birthday as of January 1 of the calendar year of exposure.

In 1994, the Society of Actuaries Group Annuity Valuation Table Task Force recommended the GAR-94 Table as the new group annuity reserve valuation standard for adoption by the NAIC to

replace 83GAM. The GAR-94 Table used in this report should not be confused with the mortality table defined by Revenue Ruling 2001-62 of the Internal Revenue Service.

The mortality tables used for expected deaths can be found in the Table Manager database on the Society of Actuaries website (http://www.soa.org/).

The following index describes the tables and charts.

TABLE	DESCRIPTION
1	Summary of Results (1995-2000): by Lives and Annual Income, for Males and Females.
2-4	Summary of Exposures and Deaths: by Lives and Annual Income, by attained age group, for Males and Females, in calendar years (2) 1999, (3) 2000, and (4) 1999-2000.
5-6	Experience by Retirement Class: prior to normal retirement date (NRD), on or after NRD, no stated NRD, and past NRD with no payment, by Lives and Annual Income, by attained age group, in calendar years 1999-2000 for (5) Males and (6) Females.
7-8	Experience by Benefit Class: life annuity, life annuity with period certain, and cash refund annuity, by Lives and Annual Income, by attained age group, in calendar years 1999-2000 for (7) Males and (8) Females.
9-10	Experience by Survivor Continuance: single life and joint life annuity, by Lives and Annual Income, by attained age group, in calendar years 1999-2000 for (9) Males and (10) Females.
11-12	Experience by Years Since Retirement: 0-1, 2-5, 6-10, and 11 or more years, by Lives and Annual Income, by attained age group, in calendar years 1999-2000 for (11) Males and (12) Females.
13-14	Experience by Guaranteed Status: guaranteed versus non-guaranteed, by Lives and Annual Income, by attained age group, in calendar years 1999-2000 for (13) Males and (14) Females.
15	Comparison of Male and Female Mortality Experience: by Lives and Annual Income, by attained age group, in calendar years 1999-2000.
16-19 16A-19A	Summary of Group Annuity Mortality Experience: by classification group, in calendar years 1999 and 2000 for Males, by (16 and 16A) Lives and (17 and 17A) Annual Income; and for Females, by (18 and 18A) Lives and (19 and 19A) Annual Income.

Comparison of 1997-98 with 1999-2000 Group Annuity Mortality Experience: by classification group, for 1997-98 versus 1999-2000 for Males, by (20) Lives and (21) Annual Income; and for Females, by (22) Lives and (23) Annual Income.
Summary of Mortality Improvement for calendar years 1999 to 2000: by attained age group, for Males, by (24, 24A, 24B, 24C, and 24D) Lives and (25, 25A, 25B, 25C, and 25D) Annual Income; and for Females, by (26, 24C-27C) 26A, 26B, 26C, and 26D) Lives and (27, 27A, 27B, 27C, and 27D) Annual Income.

CHART

DESCRIPTION

- I-IV Histograms of A/E ratios for 1995-2000. The mortality table used for expected deaths for all years is the 83 GAM Table.
- IA-IVA Histograms of A/E ratios for 1995-2000. The mortality table used for expected deaths for all years is the GAM-94 Basic Table without projection.
- IB-IVB Histograms of A/E ratios for 1995-2000. The mortality table used for expected deaths for all years is the GAM-94 Basic Table with projection.
- IC-IVC Histograms of A/E ratios for 1995-2000. The mortality table used for expected deaths for all years is the GAM-94 Static Table.
- ID-IVD Histograms of A/E ratios for 1995-2000. The mortality table used for expected deaths for all years is the GAR-94 Table.

Each of the tables displays exposure and/or an actual to expected (A/E) ratio. The amount of exposure provides a key to the credibility of the data in each classification age cell and for the classification group in total. Caution is advised in drawing any conclusions for experience at the very low or very high ages, for which exposures are rather limited.

A/E ratios provide simple reference values for comparison of mortality experience data with established mortality tables. The exact reference values are quantitatively significant only to the extent that underlying exposure is similar for the current experience data and the tables. U.S. and Canadian workforce, retiree and beneficiary populations have undergone significant demographic changes since experience data was originally obtained for the 83 GAM and GAM-94 Tables. In addition, as noted in Section 1, data reported in this study derive primarily from retirees in group annuity contracts in pay status. The Table mortality rates, in contrast, were derived from blended populations of active workers and retirees. Blending was not significant at older ages. The interpretation of data in terms of A/E ratios in the sections below should, nevertheless, be adopted only with these factors taken into consideration.

4. PRINCIPAL OBSERVATIONS

Summary Tables (Tables 1-4)

Within our 6-year study, overall A/E ratios based on lives and income remain relatively flat with a high of 1.13 in 1999 and a low of 1.09 in 1996 (lives) and a high of 1.01 in 1997 and a low of 0.96 in both 1999 and 2000 (income) (Table 1).

Male A/E ratios decreased, for both lives and income, over those from the updated 1997-98 study. Female A/E ratios also decreased slightly on an income basis over the 1997-98 study, however, the A/E ratios increased considerably when comparing lives.

Exposures decreased for both males and females from the updated 1997-98 study to the 1999-00 study. For males, the number of lives exposed decreased by 8.0% and the amount of income exposed decreased by 4.9%, consistent with the decreases seen in the 1997-98 study. For females, the number of lives exposed decreased by 12.7% and the amount of income exposed decreased by 7.9%, a significant change from the 1997-98 study.

Some of this change is due to the changing group of contributors. In the 1997-98 experience years, there were 10 companies who contributed. In the 1999-2000 experience years, there are 9 companies contributing. The changing mix of companies and the loss of one company's data affects the A/E ratios. Preliminary data for the 2001 experience year are consistent with 1999-2000 experience year data and analysis in this report.

Overall, both male and female A/E ratios based on income are lower than those based on lives (0.92 vs. 1.05, respectively for males and 1.20 vs. 1.28, respectively for females). This is true for all five-year age groups for each sex, although the differences tend to decline with increasing age. The results for both males and females support the notion that individuals with higher income exhibit lower mortality (Table 4).

Experience by Retirement Class and by Benefit Class (Tables 5-6)

The Retirement Class results show the 1999 and 2000 A/E ratios based on the timing of the annuitants' retirement. In aggregate and for most attained ages, those who retire <u>prior</u> to their normal retirement date have higher mortality than those who retire on or after their normal retirement date. This holds in aggregate and for most attained ages for males and females by lives and by amounts. Note, however, that approximately one quarter of the experience does not have a stated retirement date and that this block has the highest A/E ratios overall during this period.

This pattern is generally consistent with the 1997-98 experience (Tables 20–23). Thus, experience losses that arise from subsidized early retirement options could be partially offset by higher mortality of those lives that elect early retirement. The current differential is significantly smaller, however, than observed in the prior study. In 1997-98, the "Prior to NRD" A/E ratios were 20% or more higher than the "On/After NRD" ratios. In 1999-2000, these differentials ranged from 4% to 7% by gender and amount. Care should be exercised in using these results.

The contributing companies are not identical for the 1997-98 and 1999-2000 two-year periods. For the latter period, moreover, the overall exposure dropped but the "No Stated Retirement Date" exposure increased significantly, suggesting that experience shifted between retirement categories during the period.

Experience by Benefit Class (Tables 7-8)

The Benefit Class results (Tables 7 and 8) show 1999 and 2000 actual-to-expected results based on life only vs. life with guaranteed benefit forms. There appears to be no anti-selection in the choice of guaranteed benefit payments since the A/E ratios for life only annuities are generally <u>higher</u> than those for annuities with either a period certain or cash refund benefit. Annuitants with cash refund benefits appear to have slightly lower mortality than the annuitants with period certain benefits.

This holds in aggregate and for most attained ages for males and females by lives and by amounts. Similar patterns were observed in the 1997-98 experience (Tables 20-23).

Experience by Survivor Class (Tables 9-10)

In prior studies, A/E ratios have generally been higher for single-life annuities than for joint lives. In the current study, A/E ratios are higher for single-life annuities than for joint life annuities with survivorship of 50% or less except for the A/E ratio by female income for attained age group 55 - 59. Compared to A/E ratios of the 1997-1998 study, A/E ratios for single-life annuities have decreased while A/E ratios for joint life annuities have generally increased (Tables 20-23). Consistent with the 1997-1998 study, in this study the "unknown" classification is split into two categories: "joint indicator unknown" and "joint percent unknown." Exposure in the "joint indicator unknown" category increased significantly compared to the 1997-1998 study.

Experience by Years Since Retirement (Tables 11-12)

It is difficult to reach any specific conclusions about mortality experience based on number of years since retirement. While the overall A/E ratios generally tend to decrease with increasing years since retirement, different age groupings exhibit varying patterns that may reflect early or late retirement and the reasons for these elections. Experience by years since retirement may be less reliable since, for single-premium closeout business, some contributors may have coded the year of retirement to be the year of purchase. Such treatment would cause an understatement in the years since retirement.

Experience by Guaranteed Status (Tables 13-14)

Under "guaranteed" contracts, which constitute about 65% of the study data as measured by income, an insurer guarantees future benefit payments. These include single-premium closeout business, which is usually non-participating, as well as some types of participating contracts. Payments that are "non-guaranteed" by the insurer include some contracts with an immediate participation guarantee feature (Tables 13-14).

Measured by income, male A/E ratios are generally lower for "guaranteed" payments than for "non-guaranteed" payments. This relationship holds true for all of the central age groups, comprising the majority of the exposure, but not for the youngest and the oldest groups. Female A/E ratios show the opposite pattern, with higher A/E ratios for "guaranteed" payments than for "non-guaranteed" in the majority of the age groups. This is a reversal of the pattern seen for females in prior studies. It is not clear why females should exhibit different results from males.

For the total male population, A/E ratios, measured by income, are lower for "guaranteed" payments than for "non-guaranteed" payments in both the 1997-1998 and the 1999-2000 periods. The A/E ratios dropped in 1999-2000 for both "guaranteed" and "non-guaranteed" payments, in line with overall mortality trends. The decrease in ratios is larger for "non-guaranteed" payments, with the result that there is less differentiation in A/E ratios between "guaranteed" and "non-guaranteed" payments in 1999-2000 than there was in 1997-1998.

For the overall female population, A/E ratios, measured by income, remained stable between the two periods for "guaranteed" payments, but dropped in 1999-2000 for "non-guaranteed" payments. This resulted in a reversal of the results for females between the two periods. In 1997-1998, "guaranteed" payments showed a slightly lower A/E ratio than "non-guaranteed" payments, in 1999-2000, "guaranteed" payments showed a higher A/E ratio (see Tables 20-23).

Male and Female Mortality Experience (Tables 15-19)

As prior studies have indicated, females are living longer than males. The ratio of female mortality to male mortality averages 0.73, based on lives, and 0.75, based on income. The ratio of female to male mortality tends to increase towards equity at the higher ages. The ratio of female mortality to male mortality has risen steadily in recent years; this is because, measured by income, male mortality is decreasing at a faster rate than female mortality (Table 15).

For both males and females, A/E ratios decrease for increasing attained age groups before bottoming out around ages 75-79 and generally increase for attained age groups thereafter, except for the oldest age group (over 94) which exhibits relatively low A/E ratios. The A/E ratios by male income for attained age groups 65-69 through 80-84 and for the oldest age group (over 94) are below 1.00 (Tables 16-19).

Mortality Improvement for 1999-2000 (Tables 24-27 [including A-D])

Tables 24-27 contain summaries of the A/E ratios and annual mortality improvement factors for years 1995-2000 with respect to the GAM-83 table. Tables 24A-27D contain summaries of the A/E ratios and annual mortality improvement factors for years 1995-2000 with respect to the GAM-94 Basic, the GAM-94 Basic with projection scale AA, the GAM-94 Static, and the GAR-94 Tables (Please note that the sequence of tables is different than the prior study.).

The GAM-94 Basic Table is the GAM-94 Static Table without loading. The GAM-94 Basic Table does not contain any projection for future mortality improvements. The GAM-94 Basic Table is used to calculate expected deaths for Tables 16A through 19A and Tables 24A through 27A. Tables 24B through 27B summarize the experience for calendar years 1995-2000 relative to the GAM-94 Basic Table with projection scale AA.

The GAM-94 Static Table is the static table underlying the GAR-94 Table and represents the mortality rates for the 1994 calendar year. The GAM-94 Static Table generally includes a flat 7% loading. The GAM-94 Static Table is used to calculate expected deaths for Tables 24C through 27C.

The GAR-94 Table incorporates the use of generational mortality into statutory reserving requirements. The underlying GAM-94 Static Table is projected from 1994 to future years using Scale AA. Tables 24D through 27D summarize the experience for calendar years 1995-2000 relative to the GAR-94 Table.

As with the previous two Reports, the last two columns calculate the average annual improvement rates. The second-to-last column gives the "Arithmetic Average" of the improvement factors and the last column gives the "Loglinear Regression Slope", calculated by plotting a loglinear regression fit to the improvement factors.

For males, with respect to the unprojected tables (GAM-83, GAM-94 Basic, and GAM-94 Static), mortality has decreased over the six-year period. The average annual rate of improvement (decrease) over this six-year period was 0.3% measured by lives, and 1.0% measured by income (using the Loglinear Regression Slope in Tables 24A and 25A). With respect to the projected tables (GAM94 Basic with projection scale AA and GAR-94), mortality increased for the 1995-2000 time period. The average annual rate of improvement over this six-year period was –0.6% measured by lives and –0.1% measured by income (using the Loglinear Regression Slope in Tables 24B and 25B). Since the GAM-94 Basic with projection scale AA and GAR-94 tables have improvement factors, the A/E trends indicate that male mortality is not decreasing as quickly as the projection scale AA would predict.

For females, with respect to the unprojected tables (GAM-83, GAM-94 Basic, and GAM-94 Static), mortality has increased over the six-year period. The average annual rate of improvement over this six-year period was -1.6% measured by lives, and -1.0% measured by income (using the Loglinear Regression Slope in Tables 26A and 27A). With respect to the projected tables (GAM94 Basic with projection scale AA and GAR-94), mortality increased for the 1995-2000 time period. The average annual rate of improvement over this six-year period was -2.1% measured by lives and -1.6% measured by income (using the Loglinear Regression Slope in Tables 26B and 27B). These A/E trends indicate that female mortality is not generally decreasing even relative to a static mortality assumption.

The "TOTAL" lines from Tables 24 though 27D, which are summarized below, provide a good illustration of the impact of projection. As can be seen from A/E ratios in the table, the GAR-94 table includes a significant decrease in mortality for males and a slight decrease in mortality for females. The A/E ratios based on male income show a decline from 1.11 in 1995 to 1.06 in 2000 using the GAM-94 Static Table. But with the GAR-94 Table as the expected mortality, the pattern of A/E ratios increases from 1.13 in 1995 to 1.17 in 1997 and then decreases back to 1.13 by 2000.

Tables 24B through 27B and 24D through 27D may provide an indication of how closely Scale AA reflects the actual annual improvement (decrease) in mortality. If the A/E ratios remain unchanged during the period, this indicates actual changes in experience mortality are consistent with the improvement rates in Scale AA. Another indication would come from the "A/E Improvement Factors". Unlike the "Annual Improvement Factors" shown in Tables 24-27 and 24C-27C, these "A/E Improvement Factors" do not represent rates of decrease of the underlying mortality experience. These factors simply show rates of decrease in actual mortality relative to the expected mortality basis. If these factors are positive, this indicates the actual mortality is decreasing faster than assumed by Scale AA. If these factors are negative, actual mortality is decreasing at a slower rate than assumed by Scale AA. Tables 25B, 27B, 25D, and 27D, which show results for male and female income, all show that the overall average of the A/E Improvement Factors are less than zero. Although year-to-year results vary, overall mortality experience appears to decrease at rates less than Scale AA during the period from 1995-2000.

The results of the experience for calendar years 1995-2000 compared to the 83 GAM Table, GAM-94 Basic Table, GAM-94 Basic Table with Projection Scale AA, GAM-94 Static Table, and GAR-94 Table, are summarized in the following table.

A/E Ratios by Expected Mortality Table

GAM-94 Basic With

			With		
			Projection Scale	GAM-94	
Category	<u>83 GAM</u>	GAM-94 Basic	AA	Static	<u>GAR-94</u>
Male Lives:					
1995	1.07	1.16	1.17	1.24	1.26
1996	1.05	1.13	1.15	1.21	1.24
1997	1.06	1.14	1.17	1.22	1.26
1998	1.07	1.15	1.20	1.24	1.29
1999	1.06	1.14	1.20	1.23	1.29
2000	1.04	1.12	1.19	1.21	1.28
Male Income:					
1995	0.96	1.03	1.05	1.11	1.13
1996	0.96	1.03	1.06	1.11	1.14
1997	0.97	1.05	1.09	1.13	1.17
1998	0.95	1.03	1.08	1.11	1.16
1999	0.92	1.00	1.05	1.07	1.13
2000	0.91	0.99	1.05	1.06	1.13
Female Lives:					
1995	1.19	1.12	1.13	1.21	1.21
1996	1.21	1.14	1.15	1.22	1.23
1997	1.20	1.13	1.15	1.21	1.23
1998	1.22	1.15	1.17	1.24	1.26
1999	1.29	1.22	1.25	1.31	1.35
2000	1.27	1.19	1.23	1.28	1.33
Female Income:					
1995	1.17	1.08	1.09	1.17	1.17
1996	1.15	1.08	1.09	1.16	1.17
1997	1.21	1.13	1.15	1.22	1.24
1998	1.21	1.14	1.16	1.22	1.25
1999	1.19	1.12	1.15	1.20	1.24
2000	1.21	1.13	1.17	1.22	1.26

5. CONTRIBUTING COMPANIES

The following twelve companies have contributed experience for one or more years during the six-year period 1995 through 2000 inclusive:

Aetna Life Insurance Company
Equitable Life Assurance Society
John Hancock Life Insurance Company
Lincoln National Life Insurance Company
Metropolitan Life Insurance Company
Mutual/United of Omaha Insurance Company
Nationwide Life Insurance Company
New York Life Insurance Company
Pacific Life Insurance Company
Principal Life Insurance Company
Prudential Insurance Company of America

6. ACKNOWLEDGMENTS

The Group Annuity Experience Committee recognizes and appreciates the significant time and effort expended by each of the contributing companies to collect, compile and validate data submitted for publication in this report. In addition, we wish to express our thanks to Stacy Gill, Keith Hoffman and William McDonald of the Knowledge Services Group at MIB, Inc. for the tabulation, refinement and production of the data for the group annuity tables and charts.

CHART I

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1983 GROUP ANNUITY MORTALITY TABLE

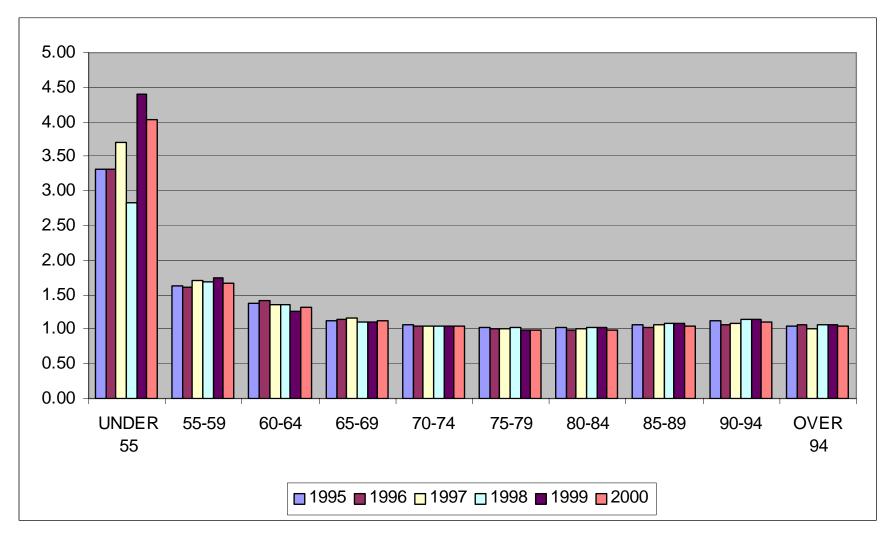


CHART II

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1983 GROUP ANNUITY MORTALITY TABLE

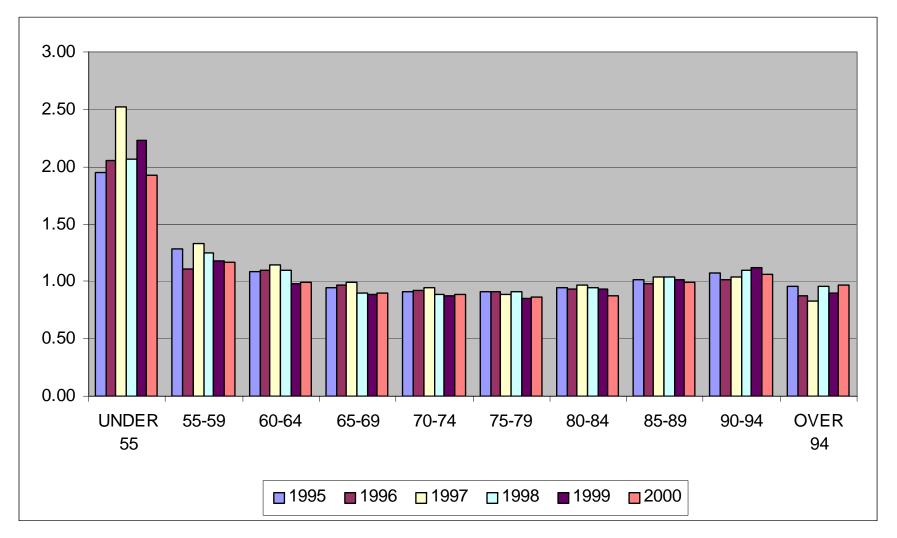


CHART III

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1983 GROUP ANNUITY MORTALITY TABLE

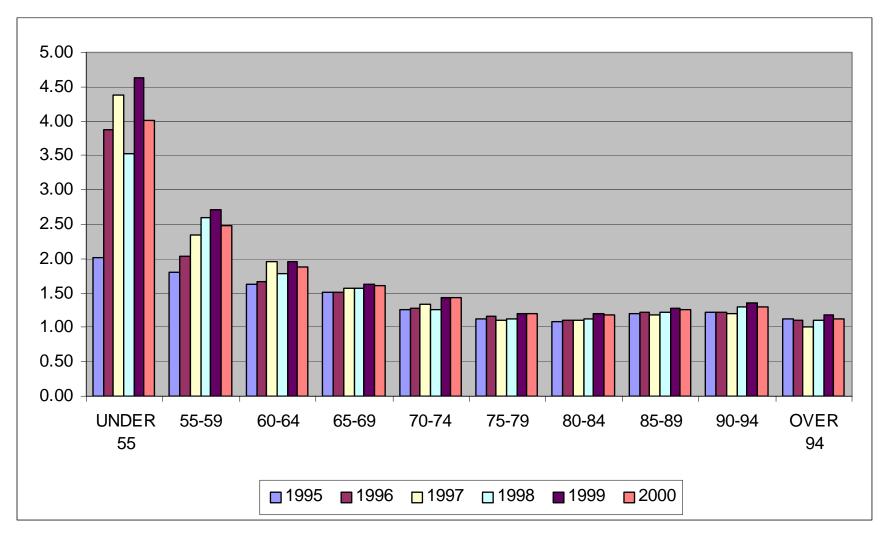


CHART IV

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1983 GROUP ANNUITY MORTALITY TABLE

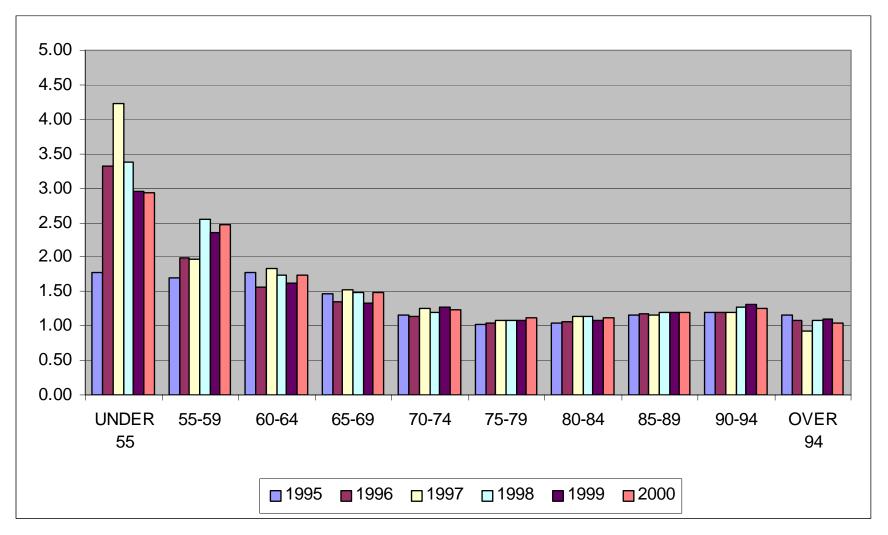


CHART I-A

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY BASIC

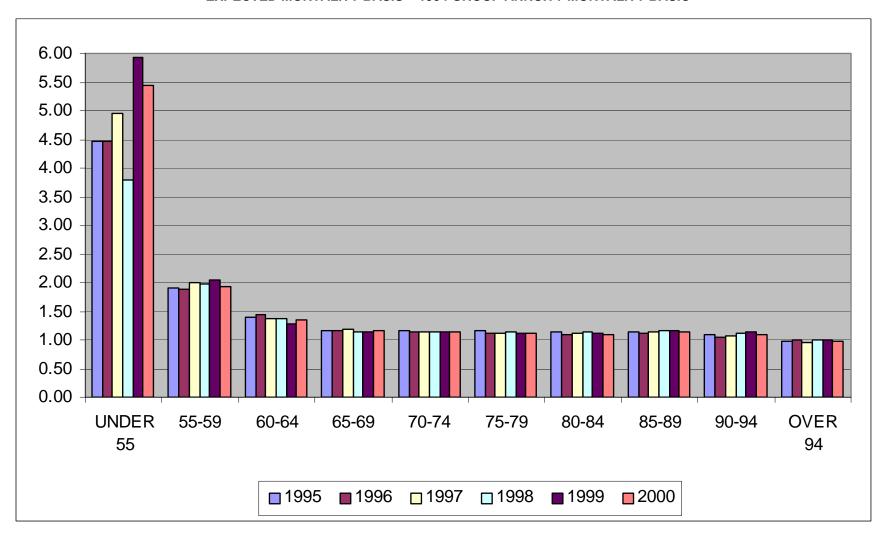


CHART II-A

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY BASIC

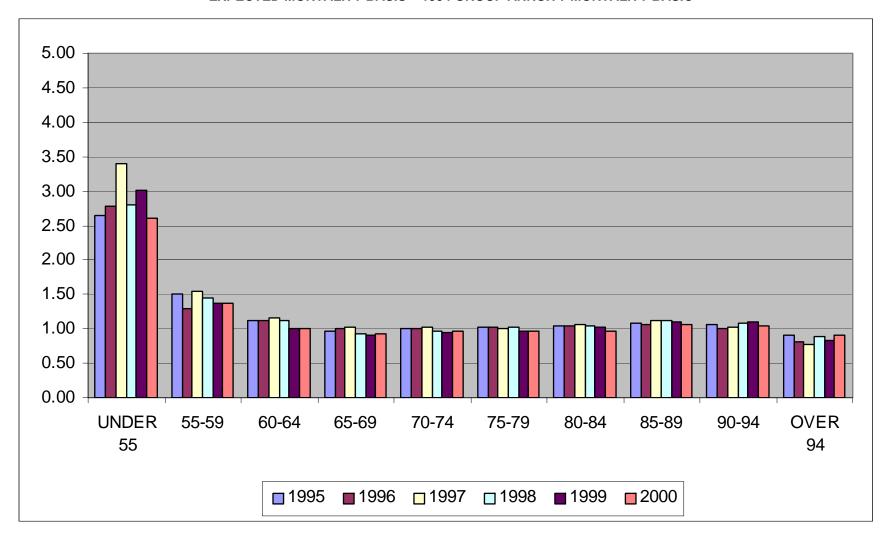


CHART III-A

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY BASIC

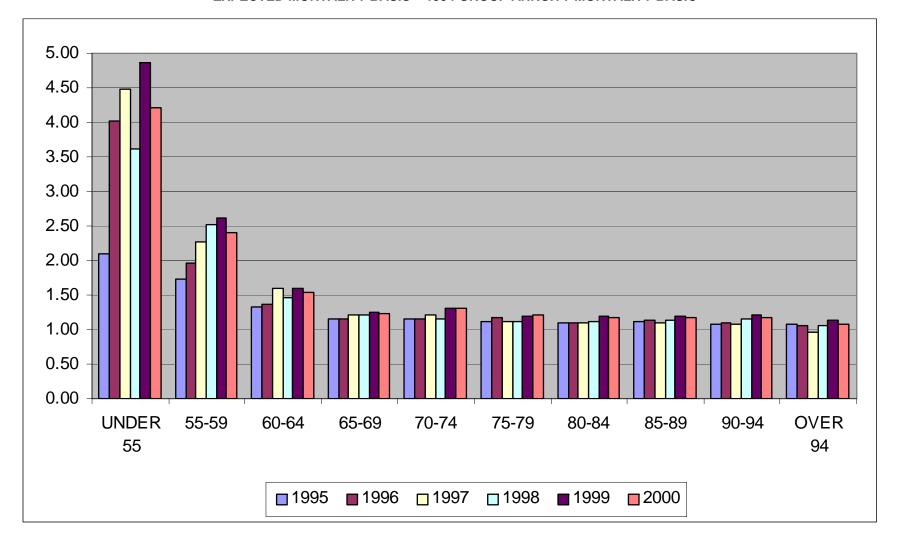


CHART IV-A

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY BASIC

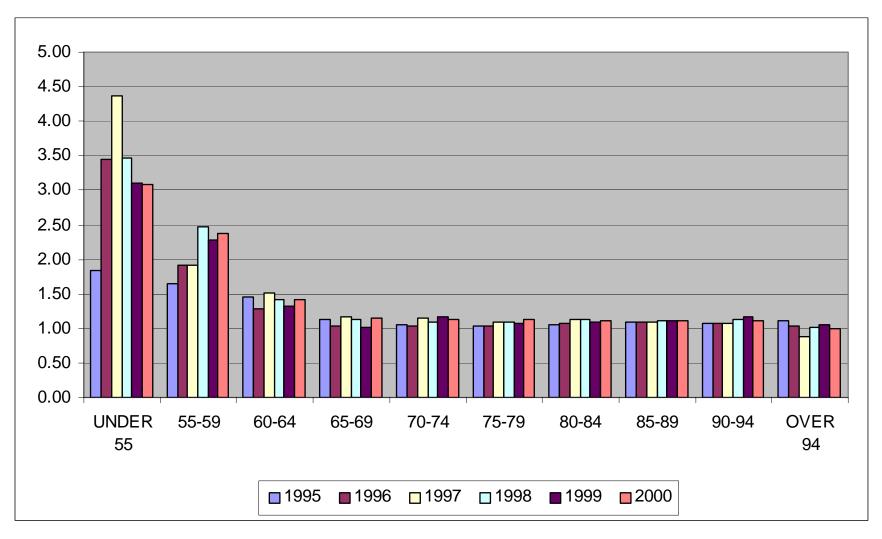


CHART I-B

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY BASIC WITH PROJECTION

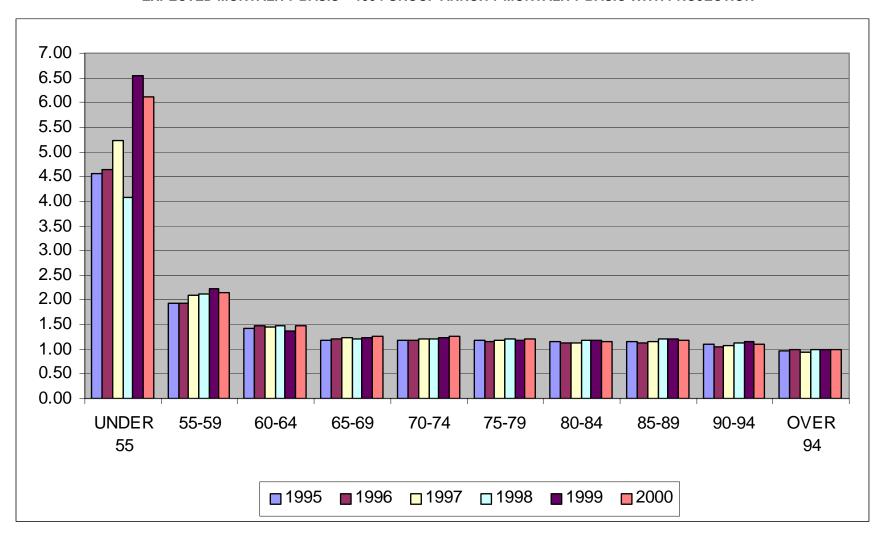


CHART II-B

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY BASIC WITH PROJECTION

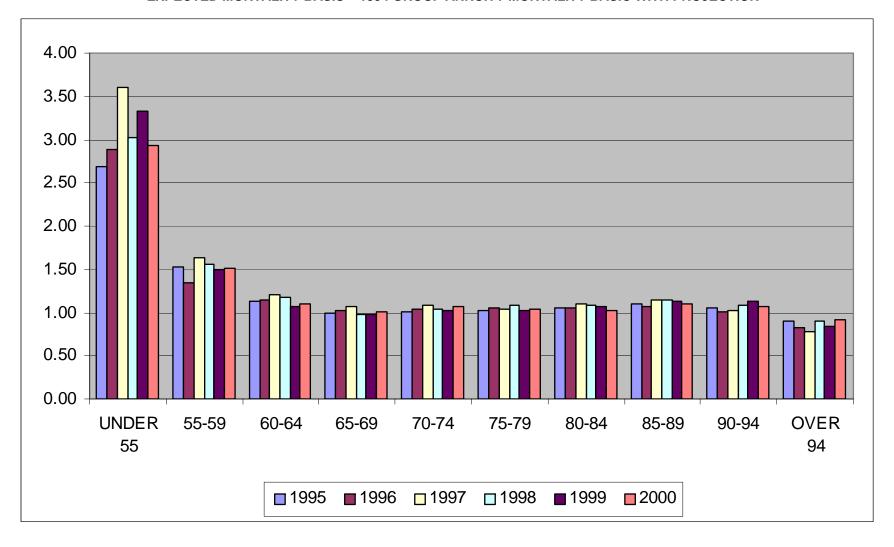


CHART III-B

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY BASIC WITH PROJECTION

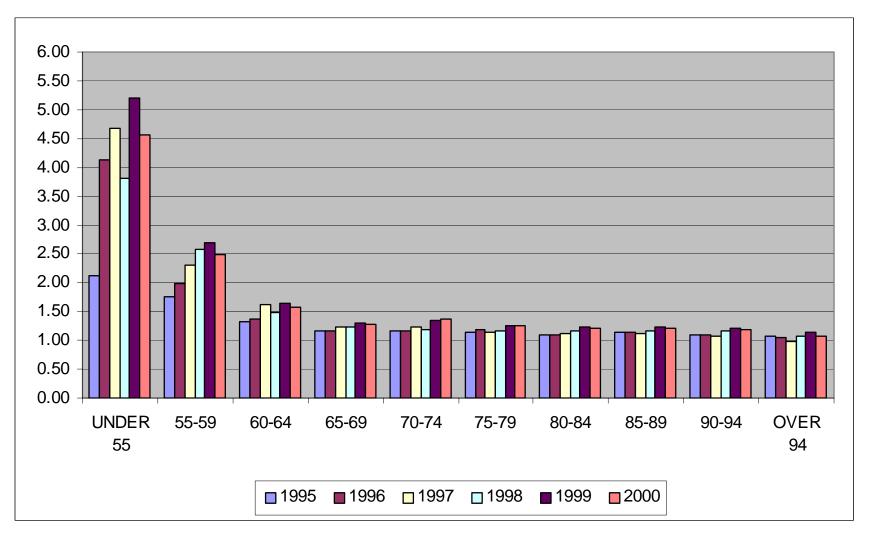


CHART IV-B

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY BASIC WITH PROJECTION

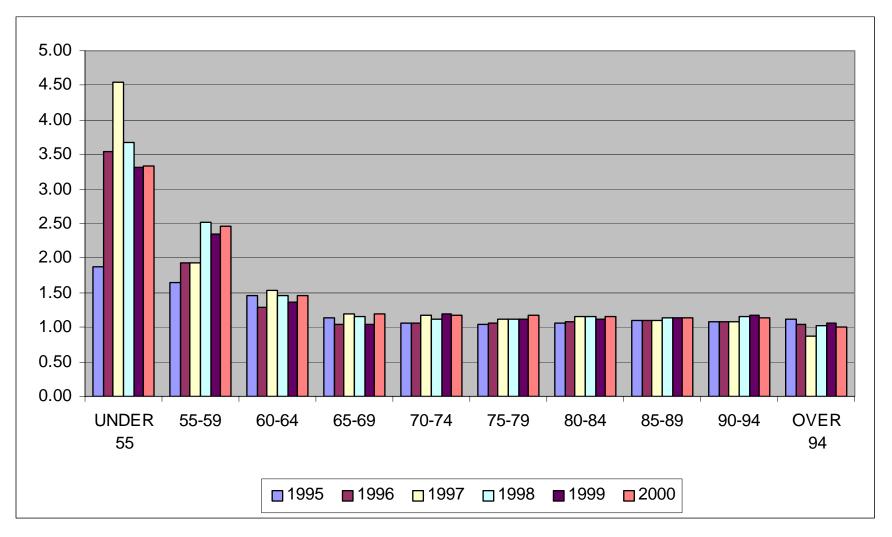


CHART I-C

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY STATIC

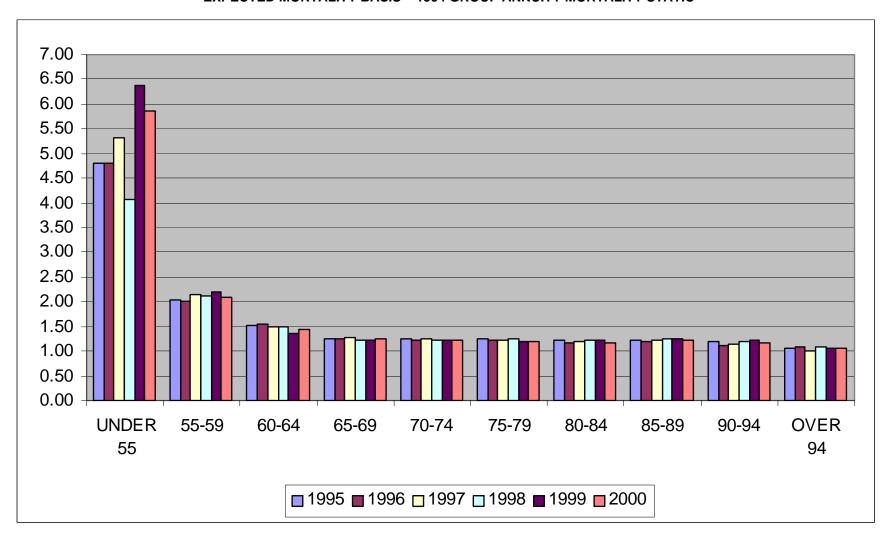


CHART II-C

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY STATIC

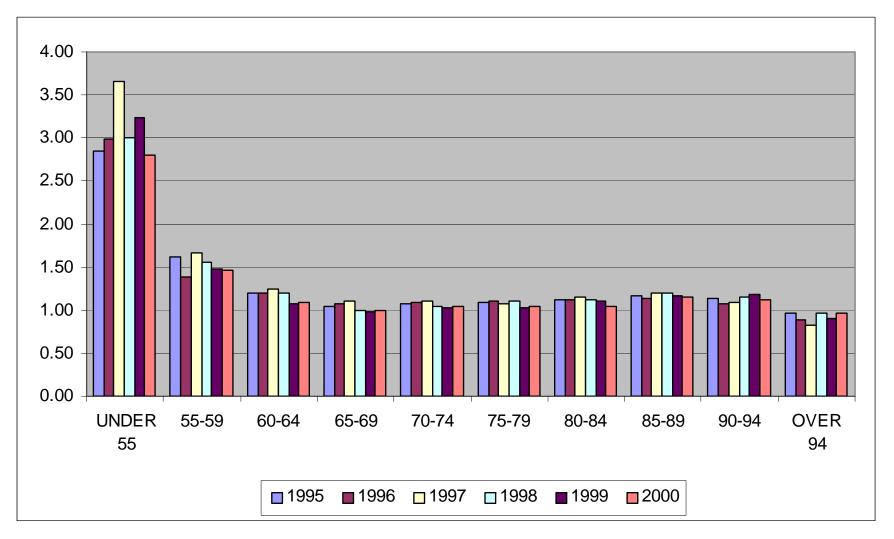


CHART III-C

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY STATIC

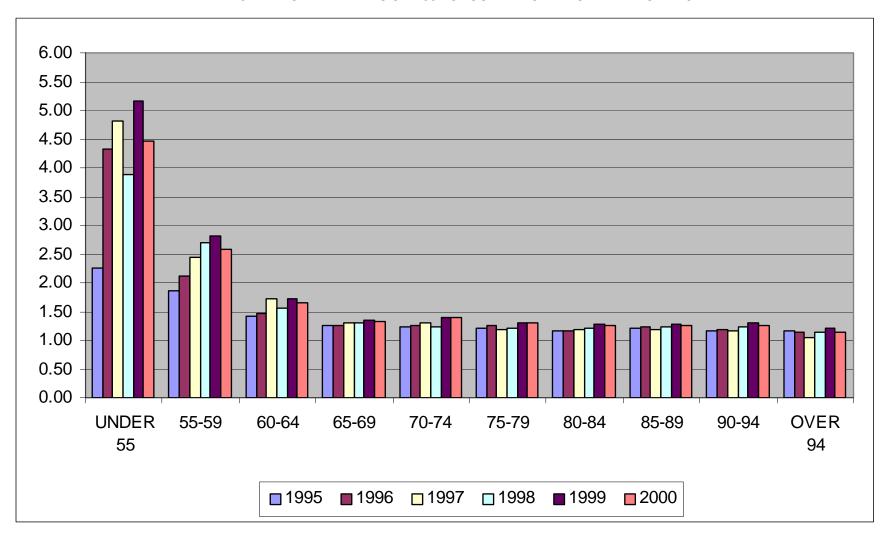


CHART IV-C

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY MORTALITY STATIC

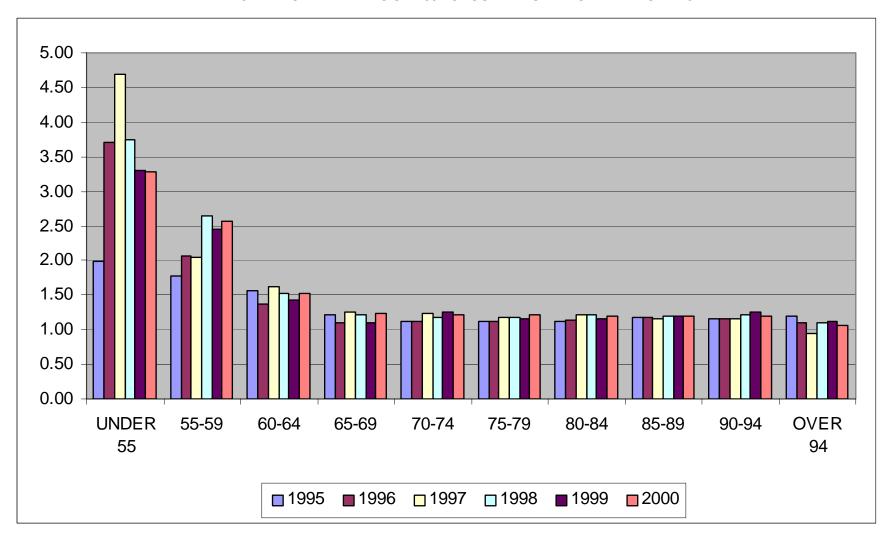


CHART I-D

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY RESERVING TABLE

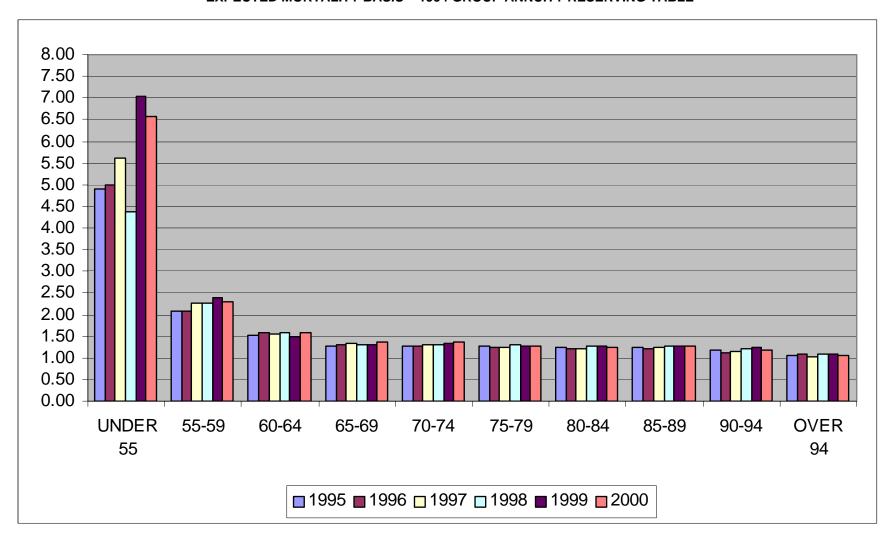


CHART II-D

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY RESERVING TABLE

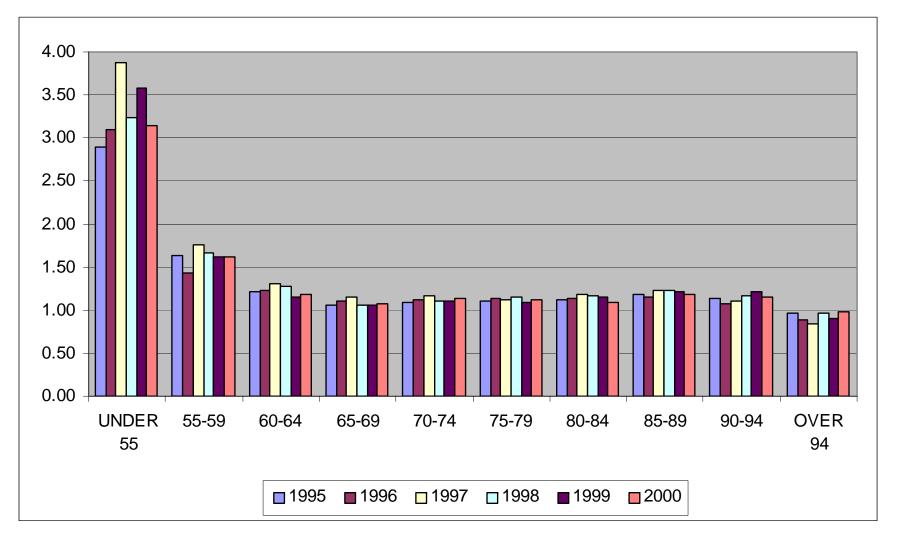


CHART III-D

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY RESERVING TABLE

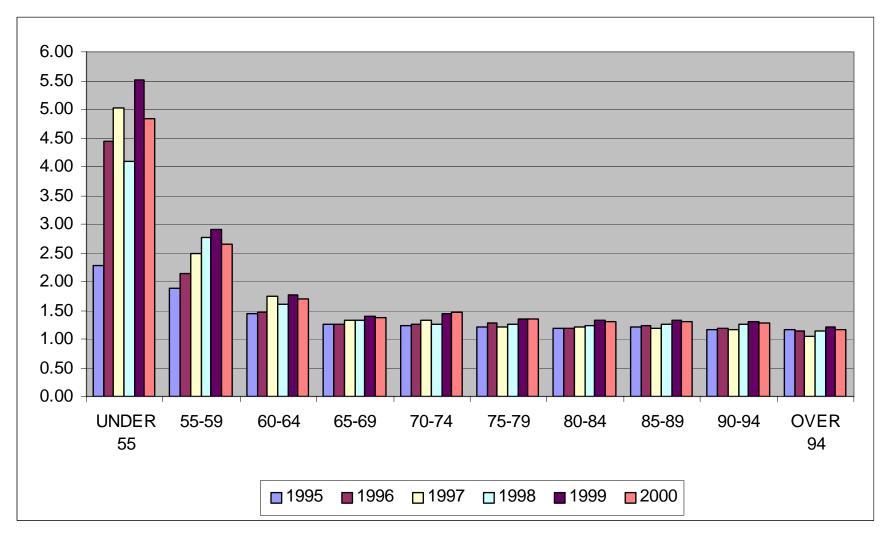


CHART IV-D

SUMMARY OF ACTUAL/EXPECTED RATIOS FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000
EXPECTED MORTALITY BASIS – 1994 GROUP ANNUITY RESERVING TABLE

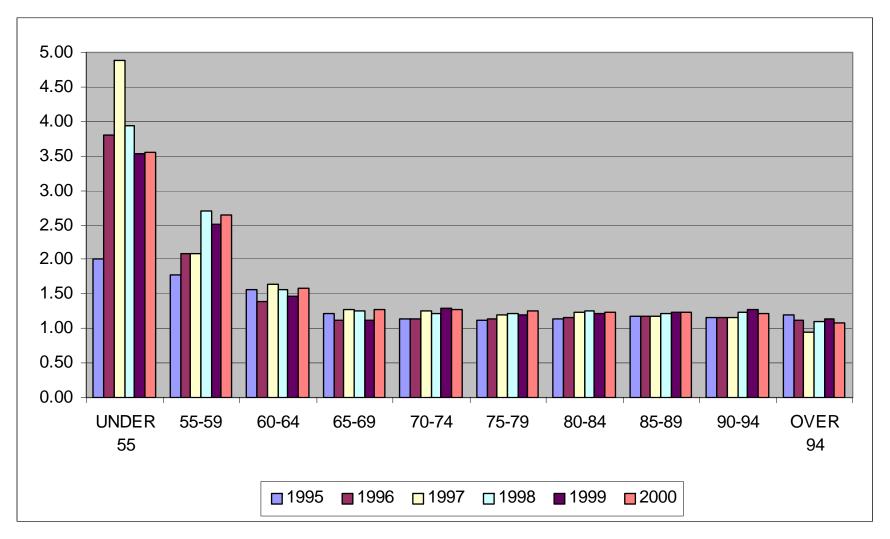


TABLE 1
SUMMARY OF RESULTS (1995-00)
EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

Lives

		1995	1996	1997	1998	1999	2000
Male	Exposure	1,273,167	1,231,835	1,135,355	1,124,830	1,045,205	1,033,407
	Actual Deaths	62,683	61,436	57,694	59,771	57,945	57,640
	Expected Deaths	58,442	58,614	54,597	55,772	54,563	55,163
	A/E Ratio	1.07	1.05	1.06	1.07	1.06	1.04
Female	Exposure	606,893	583,330	678,583	684,396	591,540	598,019
	Actual Deaths	21,867	22,363	25,492	27,275	27,273	27,819
	Expected Deaths	18,309	18,522	21,259	22,369	21,086	21,957
	A/E Ratio	1.19	1.21	1.20	1.22	1.29	1.27
Total	Exposure	1,880,059	1,815,165	1,813,938	1,809,226	1,636,745	1,631,427
	Actual Deaths	84,550	83,799	83,186	87,046	85,218	85,459
	Expected Deaths	76,751	77,136	75,856	78,141	75,648	77,120
	A/E Ratio	1.10	1.09	1.10	1.11	1.13	1.11
				Income (\$	thousands)		
		1995	1996	1997	1998	1999	2000
Male	Exposure	6,403,003	6,510,877	6,125,664	6,247,618	5,854,398	5,909,096
	Actual Deaths	214,621	224,886	224,805	232,198	221,325	227,160
	Expected Deaths	223,897	235,273	230,628	243,505	239,670	248,358
	A/E Ratio	0.96	0.96	0.97	0.95	0.92	0.91
Female	Exposure	1,499,187	1,519,850	1,786,579	1,856,076	1,649,731	1,706,773
	Actual Deaths	39,366	41,107	51,359	55,671	52,422	56,765
	Expected Deaths	33,769	35,639	42,352	45,907	44,024	47,098
	A/E Ratio	1.17	1.15	1.21	1.21	1.19	1.21
Total	Exposure	7,902,190	8,030,727	7,912,243	8,103,693	7,504,129	7,615,869
	Actual Deaths	253,987	265,993	276,164	287,869	273,746	283,926
	Expected Deaths	257,666	270,912	272,979	289,412	283,694	295,456
	A/E Ratio	0.99	0.98	1.01	0.99	0.96	0.96

TABLE 2

SUMMARY OF EXPOSURES AND DEATHS FOR CALENDAR YEAR 1999
EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

						Lives						
		Males				Female			Total			
		Actual	Expected	A/E		Actual	Expected	A/E		Actual	Expected	A/E
Attained Age	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio
Under 55	7,621	153	35	4.39	6,895	57	12	4.63	14,516	210	47	4.46
55-59	48,764	629	360	1.75	23,582	207	76	2.71	72,347	836	436	1.92
60-64	108,496	1,586	1,266	1.25	48,889	517	265	1.95	157,385	2,103	1,531	1.37
65-69	186,129	4,183	3,773	1.11	89,863	1,319	806	1.64	275,992	5,502	4,579	1.20
70-74	221,523	7,842	7,474	1.05	116,537	2,771	1,939	1.43	338,059	10,613	9,413	1.13
75-79	210,465	11,510	11,565	1.00	124,185	4,580	3,829	1.20	334,650	16,090	15,394	1.05
80-84	150,745	13,619	13,320	1.02	94,733	5,958	4,958	1.20	245,478	19,577	18,278	1.07
85-89	79,664	11,239	10,416	1.08	57,419	6,090	4,742	1.28	137,084	17,329	15,158	1.14
90-94	25,899	5,508	4,779	1.15	23,057	4,072	3,017	1.35	48,956	9,580	7,796	1.23
Over 94	5,898	1,676	1,575	1.06	6,380	1,702	1,441	1.18	12,278	3,378	3,016	1.12
Total	1,045,205	57,945	54,563	1.06	591,540	27,273	21,086	1.29	1,636,745	85,218	75,648	1.13
					In	come (\$ tho	-			_		
		Males				Female				Total		
		Actual	Expected	A/E		Actual	Expected	A/E		Actual	Expected	A/E
	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio
Attained Age												
Under 55	101,783	1,078	485	2.22	39,259	218	74	2.96	141,042	1,296	559	2.32
55-59	420,695	3,656	3,098	1.18	106,053	798	340	2.35	526,748	4,454	3,437	1.30
60-64	819,136	9,269	9,483	0.98	188,522	1,651	1,016	1.63	1,007,658	10,920	10,499	1.04
65-69	1,199,607	21,535	24,256	0.89	303,487	3,594	2,715	1.32	1,503,094	25,129	26,972	0.93
70-74	1,319,812	38,619	44,353	0.87	355,600	7,504	5,887	1.27	1,675,412	46,122	50,240	0.92
75-79	1,081,623	50,236	58,963	0.85	325,494	10,654	9,940	1.07	1,407,116	60,891	68,903	0.88
80-84	589,437	47,828	51,526	0.93	194,562	10,976	10,080	1.09	783,999	58,803	61,606	0.95
85-89	241,401	31,888	31,406	1.02	95,395	9,388	7,839	1.20	336,796	41,276	39,246	1.05
90-94	66,426	13,737	12,212	1.12	33,336	5,664	4,342	1.30	99,762	19,402	16,554	1.17
0 0.4												
Over 94	14,479	3,479	3,887	0.90	8,023	1,974	1,792	1.10	22,502	5,453	5,679	0.96

Total.....

5,854,398

221,325

239,670

0.92

1,649,731

52,422

44,024

1.19

7,504,129

273,746

283,694

0.96

TABLE 3

SUMMARY OF EXPOSURES AND DEATHS FOR CALENDAR YEAR 2000
EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

						Lives						
		Males			Female	g	Total					
		Actual	Expected	A/E		Actual	Expected	A/E		Actual	Expected	A/E
Attained Age	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio
Under 55	7,372	137	34	4.04	6,808	49	12	4.01	14,180	186	46	4.03
55-59	49,011	602	363	1.66	23,985	193	78	2.48	72,996	795	440	1.81
60-64	106,219	1,636	1,238	1.32	48,745	494	263	1.87	154,964	2,130	1,502	1.42
65-69	178,813	4,050	3,610	1.12	87,981	1,266	786	1.61	266,794	5,316	4,396	1.21
70-74	213,271	7,569	7,202	1.05	113,337	2,695	1,884	1.43	326,608	10,264	9,086	1.13
75-79	208,021	11,304	11,448	0.99	125,102	4,633	3,865	1.20	333,123	15,937	15,313	1.04
80-84	152,975	13,375	13,498	0.99	99,173	6,090	5,181	1.18	252,148	19,465	18,679	1.04
85-89	83,578	11,510	10,935	1.05	61,005	6,359	5,044	1.26	144,582	17,869	15,979	1.12
90-94	27,735	5,670	5,117	1.11	24,966	4,279	3,271	1.31	52,701	9,949	8,388	1.19
Over 94	6,412	1,787	1,718	1.04	6,918	1,761	1,573	1.12	13,331	3,548	3,290	1.08
Total	1,033,407	57,640	55,163	1.04	598,019	27,819	21,957	1.27	1,631,427	85,459	77,120	1.11
					Tn	come (\$ tho	uganda)					
		Males			1110	Female	-			Total		
		Actual	Expected	A/E		Actual	Expected	A/E		Actual	Expected	A/E
Attained Age	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio
Under 55	100,928	930	483	1.93	38,556	214	73	2.94	139,484	1,144	556	2.06
55-59	434,031	3,744	3,206	1.17	113,666	902	366	2.46	547 , 697	4,645	3,572	1.30
60-64	821,234	9,433	9,495	0.99	191,959	1,794	1,033	1.74	1,013,193	11,227	10,528	1.07
65-69	1,160,788	21,030	23,388	0.90	301,907	4,026	2,691	1.50	1,462,695	25,056	26,079	0.96
70-74	1,293,896	38,685	43,508	0.89	352,531	7,244	5,824	1.24	1,646,427	45,929	49,332	0.93
75-79	1,108,929	52,209	60,613	0.86	340,636	11,667	10,428	1.12	1,449,565	63,876	71,041	0.90
80-84	636,207	48,607	55,517	0.88	215,953	12,427	11,160	1.11	852,160	61,034	66,677	0.92
85-89	263,561	33,949	34,300	0.99	105,467	10,331	8,670	1.19	369,028	44,281	42,970	1.03
90-94	73,439	14,363	13,493	1.06	37,147	6,054	4,842	1.25	110,586	20,418	18,335	1.11
Over 94	16,081	4,208	4,354	0.97	8,952	2,107	2,012	1.05	25,033	6,315	6,366	0.99

56,765

47,098

1.21

7,615,869

283,926

295,456

0.96

1,706,773

5,909,096

227,160

248,358

0.91

Total.....

TABLE 4 SUMMARY OF EXPOSURES AND DEATHS FOR CALENDAR YEARS 1999 AND 2000 EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

						Lives							
		Males				Female	s		Total				
		Actual	Expected	A/E		Actual	Expected	A/E		Actual	Expected	A/E	
Attained Age	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio	
Under 55	14,993	290	69	4.22	13,703	106	25	4.32	28,696	396	93	4.24	
55-59	97,775	1,231	723	1.70	47,567	400	154	2.60	145,343	1,631	877	1.86	
60-64	214,715	3,222	2,504	1.29	97,634	1,011	528	1.91	312,349	4,233	3,033	1.40	
65-69	364,942	8,233	7,382	1.12	177,844	2,585	1,593	1.62	542,786	10,818	8,975	1.21	
70-74	434,794	15,411	14,677	1.05	229,873	5,466	3,823	1.43	664,667	20,877	18,499	1.13	
75-79	418,486	22,814	23,013	0.99	249,288	9,213	7,694	1.20	667,773	32,027	30,706	1.04	
80-84	303,720	26,994	26,818	1.01	193,906	12,048	10,139	1.19	497,626	39,042	36,957	1.06	
85-89	163,242	22,749	21,351	1.07	118,424	12,449	9,786	1.27	281,666	35,198	31,136	1.13	
90-94	53,634	11,178	9,896	1.13	48,023	8,351	6,288	1.33	101,657	19,529	16,185	1.21	
Over 94	12,311	3,463	3,293	1.05	13,298	3,463	3,014	1.15	25,609	6,926	6,307	1.10	
Total	2,078,612	115,585	109,725	1.05	1,189,560	55,092	43,043	1.28	3,268,172	170,677	152,768	1.12	
					Inc	ome (\$ tho	usands)						
		Males				Female	-			Total			
		Actual	Expected	A/E		Actual	Expected	A/E		Actual	Expected	A/E	
Attained Age	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio	Exposure	Deaths	Deaths	Ratio	
Under 55	202,711	2,009	968	2.08	77,815	432	146	2.95	280,526	2,440	1,114	2.19	
55-59	854,727	7,400	6,304	1.17	219,719	1,700	706	2.41	1,074,445	9,099	7,009	1.30	
60-64	1,640,371	18,702	18,978	0.99	380,481	3,445	2,049	1.68	2,020,851	22,147	21,027	1.05	
65-69	2,360,395	42,565	47,645	0.89	605,394	7,620	5,406	1.41	2,965,789	50,185	53,051	0.95	
70-74	2,613,708	77,304	87,861	0.88	708,131	14,747	11,710	1.26	3,321,839	92,051	99,571	0.92	
75-79	2,190,551	102,446	119,576	0.86	666,130	22,321	20,368	1.10	2,856,681	124,767	139,944	0.89	
80-84		-	-		•	-	•			•	•	0.93	
80-84 85-89	1,225,644	96,435	107,043	0.90	410,515	23,403	21,240	1.10	1,636,159	119,838	128,283	0.93 1.04	
85-89	1,225,644 504,962	96,435 65,837	107,043 65,706	0.90 1.00	410,515 200,862	23,403 19,720	21,240 16,510	1.10 1.19	1,636,159 705,824	119,838 85,557	128,283 82,216	1.04	
	1,225,644	96,435	107,043	0.90	410,515	23,403	21,240	1.10	1,636,159	119,838	128,283		

TABLE 5

EXPERIENCE BY RETIREMENT CLASS FOR CALENDAR YEARS 1999 AND 2000

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

Male Lives

					Past NRD/No							
	Prior to N	RD	On/After N	RD	No Stated	NRD	Payment		Total			
		A/E		A/E		A/E		A/E		A/E		
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio		
Under 55	12,192	3.72	1,056	3.18	1,744	8.87	•	•	14,993	4.22		
55-59	83,143	1.50	2,235	2.01	12,392	3.00	4	0.00	97 , 775	1.70		
60-64	172,879	1.20	7,912	1.35	33,856	1.71	68	0.00	214,715	1.29		
65-69	213,693	1.06	69,079	0.97	82,140	1.39	30	0.00	364,942	1.12		
70-74	223,582	1.04	95,713	0.94	115,471	1.16	28	1.04	434,794	1.05		
75-79	177,984	0.98	111,374	0.92	129,061	1.07	67	0.26	418,486	0.99		
80-84	101,768	1.00	105,575	0.96	96,315	1.07	62	0.18	303,720	1.01		
85-89	47,006	1.07	64,241	1.06	51,944	1.07	51	0.00	163,242	1.07		
90-94	11,610	1.17	24,865	1.14	17,135	1.09	24	0.44	53,634	1.13		
Over 94	1,573	1.21	6,552	1.11	4,176	0.91	10	0.00	12,311	1.05		
Total	1,045,431	1.05	488,603	1.01	544,234	1.11	344	0.19	2,078,612	1.05		

Male Income (\$ thousands)

	Prior to	NRD	On/After	NRD	No Stated	NRD	Payme	nt	Total		
		A/E		A/E		A/E		A/E		A/E	
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	
Under 55	177,068	1.95	16,339	1.48	9,304	5.73	•	•	202,711	2.08	
55-59	780,025	1.08	24,459	1.00	50,203	2.67	41	0.00	854,727	1.17	
60-64	1,415,877	0.96	63,385	1.00	160,271	1.25	837	0.00	1,640,371	0.99	
65-69	1,585,130	0.87	419,594	0.82	355,528	1.11	143	0.00	2,360,395	0.89	
70-74	1,488,330	0.89	586,253	0.75	538,856	0.99	269	0.16	2,613,708	0.88	
75-79	959,220	0.88	643,592	0.76	586,743	0.93	997	0.25	2,190,551	0.86	
80-84	392,987	0.92	471,863	0.86	360,069	0.94	725	0.08	1,225,644	0.90	
85-89	134,974	0.98	225,204	1.00	144,174	1.02	611	0.00	504,962	1.00	
90-94	27,253	1.15	71,232	1.10	41,103	1.06	277	0.45	139,865	1.09	
Over 94	2,932	1.36	19,869	0.87	7,752	0.93	8	0.00	30,560	0.93	
Total	6,963,795	0.92	2,541,789	0.87	2,254,002	0.99	3,907	0.16	11,763,494	0.92	

TABLE 6

EXPERIENCE BY RETIREMENT CLASS FOR CALENDAR YEARS 1999 AND 2000

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

Female Lives

							Past NRD/	No		
	Prior to N	RD	On/After N	RD	No Stated	NRD	Payment		Total-	
		A/E		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	9,821	3.02	924	2.77	2,958	9.61	•	•	13,703	4.32
55-59	37,165	2.12	2,072	2.51	8,328	4.73	2	0.00	47,567	2.60
60-64	71,530	1.70	6,284	1.67	19,820	2.75	•		97,634	1.91
65-69	89,138	1.55	40,932	1.36	47,758	1.99	16	7.13	177,844	1.62
70-74	96,101	1.38	62,669	1.25	71,100	1.65	3	0.00	229,873	1.43
75-79	87,401	1.10	82,197	1.12	79,678	1.38	12	0.00	249,288	1.20
80-84	54,288	1.16	80,808	1.09	58,800	1.35	10	0.00	193,906	1.19
85-89	31,556	1.24	52,949	1.23	33,913	1.37	6	0.00	118,424	1.27
90-94	11,602	1.34	23,435	1.29	12,976	1.39	10	1.55	48,023	1.33
Over 94	2,624	1.13	7,078	1.16	3,596	1.14	•	•	13,298	1.15
Total	491,225	1.26	359,347	1.19	338,929	1.42	59	1.03	1,189,560	1.28

Female Income (\$ thousands)

Past NRD/No

	Prior to	NRD	On/After	NRD	No Stated	NRD	Payme	nt	Total	
		A/E		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	65,420	2.62	3,047	2.68	9,348	5.65	•	•	77,815	2.95
55-59	188,313	2.09	8,318	2.51	23,071	4.97	17	0.00	219,719	2.41
60-64	303,411	1.61	24,102	1.34	52,967	2.22	•	•	380,481	1.68
65-69	330,972	1.41	146,357	1.09	128,015	1.78	50	15.26	605,394	1.41
70-74	300,166	1.26	222,329	1.12	185,611	1.42	25	0.00	708,131	1.26
75-79	210,294	1.03	252,172	1.02	203,511	1.25	152	0.00	666,130	1.10
80-84	93,155	1.10	193,419	0.99	123,902	1.27	40	0.00	410,515	1.10
85-89	42,279	1.15	100,774	1.14	57,802	1.33	7	0.00	200,862	1.19
90-94	12,932	1.31	38,435	1.23	19,101	1.35	15	3.34	70,483	1.28
Over 94	2,425	1.16	9,786	1.05	4,764	1.08	•		16,975	1.07
Total	1,549,367	1.23	998,739	1.08	808,091	1.34	308	1.27	3,356,504	1.20

TABLE 7

EXPERIENCE BY BENEFIT CLASS FOR CALENDAR YEARS 1999 AND 2000

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

Male Lives

Life with period

	Life only*		certain		Cash refu	nd	Total		
		A/E		A/E		A/E		A/E	
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	
	11 012	4 40	1 066				14 000	4 00	
Under 55	11,013	4.42	1,966	2.02	2,013	5.07	14,993	4.22	
55-59	79,623	1.75	9,049	1.64	9,104	1.36	97,775	1.70	
60-64	176,308	1.29	17,234	1.31	21,173	1.23	214,715	1.29	
65-69	308,301	1.13	28,045	1.08	28,596	0.97	364,942	1.12	
70-74	382,826	1.06	27,036	1.03	24,932	0.87	434,794	1.05	
75-79	373,311	1.01	23,267	0.89	21,908	0.85	418,486	0.99	
80-84	272,166	1.01	15,047	0.97	16,507	0.95	303,720	1.01	
85-89	145,834	1.08	7,918	0.88	9,491	1.07	163,242	1.07	
90-94	48,291	1.13	2,561	1.04	2,782	1.15	53,634	1.13	
Over 94	11,548	1.04	391	1.18	372	1.17	12,311	1.05	
Total	1,809,219	1.06	132,514	0.99	136,879	0.99	2,078,612	1.05	

Male Income (\$ thousands)

Life with period

	Life onl	у*	certai	n	Cash ref	und	Total	
		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	120,912	2.43	34,668	1.17	47,131	1.77	202,711	2.08
55-59	601,616	1.24	70,755	1.19	182,356	0.93	854,727	1.17
60-64	1,204,985	1.01	120,696	0.94	314,689	0.90	1,640,371	0.99
65-69	1,866,045	0.91	158,656	0.92	335,694	0.78	2,360,395	0.89
70-74	2,225,997	0.90	160,089	0.87	227,622	0.68	2,613,708	0.88
75-79	1,889,776	0.87	134,567	0.79	166,208	0.71	2,190,551	0.86
80-84	1,068,925	0.90	76,047	0.91	80,672	0.86	1,225,644	0.90
85-89	439,700	1.02	31,972	0.85	33,291	0.96	504,962	1.00
90-94	123,781	1.10	9,024	1.00	7,060	1.17	139,865	1.09
Over 94	28,658	0.92	1,224	0.95	678	1.26	30,560	0.93
Total	9,570,395	0.93	797,698	0.88	1,395,401	0.81	11,763,494	0.92

^{*} Includes Unknown, Temporary Life, and Life Only.

TABLE 8

EXPERIENCE BY BENEFIT CLASS FOR CALENDAR YEARS 1999 AND 2000

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

Female Lives

Life with period

	Life only*		certain		Cash refu	nd	Total		
		A/E		A/E		A/E		A/E	
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	
	11 450	4 15	1 106		1 100		12.502	4 20	
Under 55	11,450	4.17	1,126	3.64	1,127	6.58	13,703	4.32	
55-59	40,197	2.49	4,710	3.16	2,660	3.13	47,567	2.60	
60-64	81,950	1.87	9,031	2.46	6,653	1.69	97,634	1.91	
65-69	151,614	1.63	16,051	1.61	10,178	1.54	177,844	1.62	
70-74	203,396	1.46	16,475	1.16	10,002	1.28	229,873	1.43	
75-79	226,090	1.22	12,843	1.01	10,354	1.03	249,288	1.20	
80-84	177,834	1.20	7,142	1.03	8,930	1.05	193,906	1.19	
85-89	109,072	1.28	3,653	1.15	5,698	1.15	118,424	1.27	
90-94	44,651	1.33	1,137	1.11	2,235	1.31	48,023	1.33	
Over 94	12,623	1.15	223	1.20	452	1.09	13,298	1.15	
Total	1,058,879	1.29	72,391	1.19	58,289	1.18	1,189,560	1.28	

Female Income (\$ thousands)

Life with period

	Life onl	y*	certai	n	Cash ref	und	Total	
		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	60,003	2.47	8,832	5.29	8,981	4.15	77,815	2.95
55-59	173,670	2.19	21,556	3.93	24,493	2.59	219,719	2.41
60-64	296,341	1.65	36,179	2.18	47,960	1.48	380,481	1.68
65-69	491,899	1.42	57,283	1.49	56,213	1.21	605,394	1.41
70-74	605,040	1.29	58,516	1.04	44,575	1.09	708,131	1.26
75-79	587 , 735	1.11	44,542	0.89	33,852	1.16	666,130	1.10
80-84	370,476	1.11	20,474	1.11	19,565	0.97	410,515	1.10
85-89	183,212	1.20	7,926	1.08	9,724	1.09	200,862	1.19
90-94	65,526	1.27	2,032	1.51	2,924	1.25	70,483	1.28
Over 94	16,270	1.07	314	1.18	391	1.17	16,975	1.07
Total	2,850,172	1.20	257,655	1.19	248,678	1.16	3,356,504	1.20

^{*} Includes Unknown, Temporary Life, and Life Only.

TABLE 9

Total.....

664,962

1.15

5,737,838

0.95

1,903,879

0.77

EXPERIENCE BY SURVIVOR CONTINUANCE FOR CALENDAR YEARS 1999 AND 2000 EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

Male Lives - % Continuing to Survivor

					-	лате пту			Bulvivoi					
	Joint Indi	cator									Joint Perd	cent		
	Unknow	n	-0% (single	life)	> 0% - <=	50%	> 50% - <=	75%	> 75% - <=	100%	Unknow	n	Total	
		A/E		A/E		A/E		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	867	18.47	7,834	3.80	1,089	1.91	1,272	9.04	1,042	2.68	2,888	1.24	14,993	4.22
55-59	6,354	4.23	50,051	1.57	11,626	1.21	10,145	1.52	11,266	1.72	8,334	1.49	97,775	1.70
60-64	15,608	2.24	104,675	1.26	28,461	1.06	25,217	1.09	22,920	1.34	17,834	1.16	214,715	1.29
65-69	32,252	1.83	182,032	1.06	50,859	0.99	35,695	1.06	36,646	0.99	27,458	1.13	364,942	1.12
70-74	44,187	1.38	232,038	1.04	59,811	0.92	32,662	1.02	36,618	0.95	29,477	1.06	434,794	1.05
75-79	47,582	1.24	238,827	0.99	52,113	0.88	26,918	0.90	28,954	0.93	24,091	0.89	418,486	0.99
80-84	38,620	1.19	192,126	1.00	27,895	0.90	17,324	0.97	15,316	0.92	12,438	0.94	303,720	1.01
85-89	24,217	1.07	111,637	1.08	9,081	0.93	7,495	1.09	6,024	1.00	4,788	1.01	163,242	1.07
90-94	8,875	1.02	38,928	1.17	1,496	0.90	1,623	1.15	1,584	1.01	1,128	0.93	53,634	1.13
Over 94	2,593	0.78	8,531	1.16	365	0.64	310	1.33	328	0.77	183	1.14	12,311	1.05
Total	221,156	1.21	1,166,681	1.06	242,796	0.92	158,662	1.02	160,698	0.98	128,618	1.00	2,078,612	1.05
					Male Inco	ome (\$ t	housands) - %	Continu	ing to Survivo	or				
	Joint Indi	cator												
											Joint Per			
	Ulikilow	n	-0% (single		> 0% - <=		> 50% - <=	75%	> 75% - <=		Unknow	n	Total	
		A/E		A/E		A/E		A/E		A/E	Unknow	n A/E		A/E
Attained Age	Exposure		-0% (single		> 0% - <= Exposure		> 50% - <= Exposure		> 75% - <= Exposure			n	Total	A/E Ratio
Attained Age	Exposure	A/E	Exposure	A/E	Exposure	A/E Ratio	Exposure	A/E Ratio	Exposure	A/E	Unknow	n A/E	Exposure	A/E Ratio
Under 55	Exposure	A/E Ratio 13.28	Exposure	A/E Ratio	Exposure	A/E Ratio	Exposure	A/E Ratio	Exposure	A/E Ratio	Exposure 47,403	A/E Ratio 	Exposure	A/E Ratio 2.08
Under 55 55-59	Exposure 3,742 24,670	A/E Ratio	Exposure 105,410 412,631	A/E Ratio	Exposure 11,321 90,177	A/E Ratio	Exposure 24,353 158,083	A/E Ratio	Exposure 10,482 66,687	A/E Ratio	Exposure 47,403 102,479	A/E Ratio	Exposure 202,711 854,727	A/E Ratio 2.08 1.17
Under 55 55-59	Exposure 3,742 24,670 61,760	A/E Ratio 13.28 3.48 1.67	Exposure 105,410 412,631 723,728	A/E Ratio 2.04 1.13 0.99	Exposure 11,321 90,177 236,199	A/E Ratio 1.51 0.84 0.68	Exposure 24,353 158,083 317,742	A/E Ratio 3.54 1.16 1.04	Exposure 10,482 66,687 134,188	A/E Ratio 1.62 1.28 1.21	Exposure 47,403 102,479 166,754	A/E Ratio 0.77 1.01 0.87	Exposure 202,711 854,727 1,640,371	A/E Ratio 2.08 1.17 0.99
Under 55 55-59 60-64	Exposure 3,742 24,670 61,760 115,609	A/E Ratio 13.28 3.48 1.67 1.56	Exposure 105,410 412,631 723,728 997,725	A/E Ratio 2.04 1.13 0.99 0.87	Exposure 11,321 90,177 236,199 425,606	A/E Ratio 1.51 0.84 0.68 0.80	Exposure 24,353 158,083 317,742 383,512	A/E Ratio 3.54 1.16 1.04 0.97	Exposure 10,482 66,687 134,188 212,471	A/E Ratio 1.62 1.28 1.21 0.77	Exposure	A/E Ratio 0.77 1.01 0.87 0.82	Exposure 202,711 854,727 1,640,371 2,360,395	A/E Ratio 2.08 1.17 0.99 0.89
Under 55 55-59 60-64 65-69	Exposure 3,742 24,670 61,760 115,609 144,803	A/E Ratio 13.28 3.48 1.67 1.56	Exposure 105,410 412,631 723,728 997,725 1,217,279	A/E Ratio 2.04 1.13 0.99 0.87 0.92	Exposure 11,321 90,177 236,199 425,606 508,119	A/E Ratio 1.51 0.84 0.68 0.80 0.72	Exposure	A/E Ratio 3.54 1.16 1.04 0.97 0.88	Exposure 10,482 66,687 134,188 212,471 222,800	A/E Ratio 1.62 1.28 1.21 0.77 0.74	Exposure 47,403 102,479 166,754 225,472 233,391	A/E Ratio 0.77 1.01 0.87 0.82 0.89	Exposure 202,711 854,727 1,640,371 2,360,395 2,613,708	A/E Ratio 2.08 1.17 0.99 0.89 0.88
Under 55 55-59 60-64 65-69 70-74	3,742 24,670 61,760 115,609 144,803	A/E Ratio 13.28 3.48 1.67 1.56 1.31	Exposure 105,410 412,631 723,728 997,725 1,217,279 1,130,278	A/E Ratio 2.04 1.13 0.99 0.87 0.92 0.88	Exposure 11,321 90,177 236,199 425,606 508,119 404,879	A/E Ratio 1.51 0.84 0.68 0.80 0.72 0.78	Exposure 24,353 158,083 317,742 383,512 287,317 187,911	A/E Ratio 3.54 1.16 1.04 0.97 0.88 0.83	Exposure 10,482 66,687 134,188 212,471 222,800 161,309	A/E Ratio 1.62 1.28 1.21 0.77 0.74 0.77	Exposure 47,403 102,479 166,754 225,472 233,391 168,301	A/E Ratio 0.77 1.01 0.87 0.82 0.89 0.73	Exposure	A/E Ratio 2.08 1.17 0.99 0.89 0.88 0.86
Under 55 55-59 60-64 65-69 70-74 75-79 80-84	Exposure 3,742 24,670 61,760 115,609 144,803 137,874 100,984	A/E Ratio 13.28 3.48 1.67 1.56 1.31 1.15 1.03	Exposure 105,410 412,631 723,728 997,725 1,217,279 1,130,278 709,049	A/E Ratio 2.04 1.13 0.99 0.87 0.92 0.88 0.92	Exposure 11,321 90,177 236,199 425,606 508,119 404,879 172,618	A/E Ratio 1.51 0.84 0.68 0.80 0.72 0.78 0.80	Exposure 24,353 158,083 317,742 383,512 287,317 187,911 94,580	A/E Ratio 3.54 1.16 1.04 0.97 0.88 0.83 0.89	Exposure 10,482 66,687 134,188 212,471 222,800 161,309 74,716	A/E Ratio 1.62 1.28 1.21 0.77 0.74 0.77	Exposure	A/E Ratio 0.77 1.01 0.87 0.82 0.89 0.73 0.87	Exposure 202,711 854,727 1,640,371 2,360,395 2,613,708 2,190,551 1,225,644	A/E Ratio 2.08 1.17 0.99 0.89 0.88 0.86 0.90
Under 55 55-59 60-64 65-69 70-74 75-79 80-84 85-89	Exposure 3,742 24,670 61,760 115,609 144,803 137,874 100,984 54,207	A/E Ratio 13.28 3.48 1.67 1.56 1.31 1.15 1.03	Exposure 105,410 412,631 723,728 997,725 1,217,279 1,130,278 709,049 323,038	A/E Ratio 2.04 1.13 0.99 0.87 0.92 0.88 0.92 1.02	Exposure 11,321 90,177 236,199 425,606 508,119 404,879 172,618 44,561	A/E Ratio 1.51 0.84 0.68 0.80 0.72 0.78 0.80 0.84	Exposure 24,353 158,083 317,742 383,512 287,317 187,911 94,580 32,728	A/E Ratio 3.54 1.16 1.04 0.97 0.88 0.83 0.89 0.95	Exposure 10,482 66,687 134,188 212,471 222,800 161,309 74,716 23,978	A/E Ratio 1.62 1.28 1.21 0.77 0.74 0.77 0.80 1.08	Exposure 47,403 102,479 166,754 225,472 233,391 168,301 73,696 26,449	A/E Ratio 0.77 1.01 0.87 0.82 0.89 0.73 0.87 0.93	Exposure 202,711 854,727 1,640,371 2,360,395 2,613,708 2,190,551 1,225,644 504,962	A/E Ratio 2.08 1.17 0.99 0.89 0.88 0.86 0.90 1.00
Under 55 55-59 60-64 65-69 70-74 75-79 80-84	Exposure 3,742 24,670 61,760 115,609 144,803 137,874 100,984	A/E Ratio 13.28 3.48 1.67 1.56 1.31 1.15 1.03	Exposure 105,410 412,631 723,728 997,725 1,217,279 1,130,278 709,049	A/E Ratio 2.04 1.13 0.99 0.87 0.92 0.88 0.92	Exposure 11,321 90,177 236,199 425,606 508,119 404,879 172,618	A/E Ratio 1.51 0.84 0.68 0.80 0.72 0.78 0.80	Exposure 24,353 158,083 317,742 383,512 287,317 187,911 94,580	A/E Ratio 3.54 1.16 1.04 0.97 0.88 0.83 0.89	Exposure 10,482 66,687 134,188 212,471 222,800 161,309 74,716	A/E Ratio 1.62 1.28 1.21 0.77 0.74 0.77	Exposure	A/E Ratio 0.77 1.01 0.87 0.82 0.89 0.73 0.87	Exposure 202,711 854,727 1,640,371 2,360,395 2,613,708 2,190,551 1,225,644	A/E Ratio 2.08 1.17 0.99 0.89 0.88 0.86 0.90

1,493,261

0.93

912,700

0.84

1,050,854

0.84 11,763,494

0.92

TABLE 10

EXPERIENCE BY SURVIVOR CONTINUANCE FOR CALENDAR YEARS 1999 AND 2000 EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

Female Lives - % Continuing to Survivor

					Fe	emale Li	ves - % Conti	nuing to	Survivor					
	Joint Indi	cator									Joint Per	cent		
	Unknow	n	-0% (single	life)	> 0% - <=	50%	> 50% - <=	75%	> 75% - <=	100%	Unknow	n	Total	
		A/E		A/E		A/E		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	2,183	11.44	9,240	3.36	383	1.30	162	9.21	176	3.14	1,560	1.69	13,703	4.32
55-59	5,002	6.34	34,156	2.16	3,220	1.14	1,639	2.82	1,846	2.49	1,704	2.97	47,567	2.60
60-64	10,044	3.84	72,264	1.68	6,629	1.06	2,802	2.22	3,313	2.09	2,583	2.52	97,634	1.91
65-69	19,748	2.64	135,339	1.48	10,709	1.33	3,405	1.65	4,928	1.50	3,715	2.26	177,844	1.62
70-74	27,304	2.22	179,631	1.34	10,955	1.01	3,641	1.45	4,652	1.16	3,691	1.46	229,873	1.43
75-79	29,237	1.74	202,444	1.14	8,518	0.89	2,867	0.97	3,455	0.95	2,767	1.18	249,288	1.20
80-84	23,296	1.63	161,805	1.14	3,887	0.80	1,629	1.38	1,881	0.83	1,408	0.78	193,906	1.19
85-89	15,176	1.54	100,323	1.24	1,111	0.92	482	0.80	821	1.01	511	0.82	118,424	1.27
90-94	6,463	1.53	41,081	1.30	109	0.72	88	0.80	188	1.03	94	1.21	48,023	1.33
Over 94	2,002	1.13	11,202	1.16	12	0.73	18	0.21	42	0.96	22	0.82	13,298	1.15
Total	140,454	1.69	947,484	1.23	45,532	0.95	16,732	1.27	21,302	1.09	18,055	1.29	1,189,560	1.28
	Joint Indi	astor			Female Inc	come (\$	thousands) - 9	% Contin	uing to Surviv	vor	Joint Per	nent.		
	Unknow		-0% (single	1:fo)	> 0% - <=	E08	> E0% _ /-	75%	> 75% - <=	100%	Unknow		Total	
	Ulikilow	A/E	-0% (Single	A/E	> 0% - <-	A/E	> 50% - <-	A/E	> /5% - <-	A/E	Ulkilow	A/E	IOCal	A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Accarned Age	Exposure	Racio	Exposure	Racio	Exposure	RACIO	Exposure	Racio	Exposure	Racio	Exposure	RACIO	Exposure	
Under 55	6,888	7.13	53,527	3.07	2,583	0.77	2,190	2.25	942	5.15	11,686	0.85	77,815	2.95
55-59	14,739	6.32	158,881	1.89	14,664	2.40	14,100	1.88	5,804	1.86	11,531	5.43	219,719	2.41
60-64	30,010	3.06	282,320	1.53	29,024	0.99	16,083	1.97	9,777	2.47	13,266	2.31	380,481	1.68
65-69	58,571	2.13	459,437	1.34	42,275	0.91	14,733	1.50	14,042	1.38	16,336	1.99	605,394	1.41
70-74	74,970	1.81	554,135	1.21	38,002	0.93	13,605	1.24	12,144	0.96	15,275	1.41	708,131	1.26
75-79	74,125	1.40	541,257	1.07	24,704	0.76	8,426	0.86	7,852	1.26	9,765	1.11	666,130	1.10
80-84	49,164	1.47	340,858	1.06	8,741	0.69	3,792	1.34	3,953	0.70	4,008	0.89	410,515	1.10
85-89	25,172	1.42	169,618	1.17	2,218	0.89	827	0.79	1,584	0.90	1,442	0.71	200,862	1.19
90-94	9,109	1.58	60,460	1.24	204	0.74	143	0.67	296	0.87	271	0.91	70,483	1.28
Over 94	2,124	1.17	14,642	1.06	44	1.00	25	0.18	75	1.16	66	0.61	16,975	1.07
Total	344,871	1.57	2,635,134	1.15	162,459	0.86	73,924	1.24	56,470	1.13	83,647	1.39	3,356,504	1.20

TABLE 11

EXPERIENCE BY YEARS SINCE RETIREMENT FOR CALENDAR YEARS 1999 AND 2000

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

					Male Live	s				
	0-1		2-5		6-10		11 and Ov	er	Total-	
		A/E		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	5,677	4.56	6,463	2.85	1,731	7.10	1,122	6.94	14,993	4.22
55-59	35,150	2.00	54,019	1.40	6,332	2.10	2,274	3.63	97 , 775	1.70
60-64	45,559	1.31	87 , 670	1.19	72,911	1.31	8,575	1.90	214,715	1.29
65-69	33,250	1.26	127,158	1.00	124,460	1.12	80,074	1.24	364,942	1.12
70-74	7,776	0.98	34,095	0.93	180,958	1.01	211,965	1.11	434,794	1.05
75-79	4,271	0.92	13,354	0.91	55,964	0.97	344,897	1.00	418,486	0.99
80-84	2,453	0.92	7,508	0.92	21,531	0.96	272,228	1.01	303,720	1.01
85-89	1,101	0.99	3,815	0.88	9,726	1.02	148,600	1.07	163,242	1.07
90-94	320	0.98	995	0.97	2,605	1.11	49,714	1.13	53,634	1.13
Over 94	67	0.64	286	0.70	604	0.89	11,354	1.07	12,311	1.05
Total	135,624	1.26	335,363	1.02	476,822	1.04	1,130,803	1.05	2,078,612	1.05

0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-,	0.00	3,013	0.00	J , , = 0				,	,
-94	320	0.98	995	0.97	2,605	1.11	49,7	14 1.1	3 53	,634
er 94	67	0.64	286	0.70	604	0.89	11,3	54 1.0	7 12	,311
tal	135,624	1.26	335,363	1.02	476,822	1.04	1,130,8	03 1.0	5 2,078	,612
				Mal	le Income (\$ t	housands)			
	0-1		2-5-		6-10		11 and O	ver	Total	
		A/E		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	86,443	2.36	86,296	1.44	21,631	3.10	8,340	3.40	202,711	2.08
55-59	302,437	1.25	447,911	1.10	82,141	1.15	22,238	1.79	854,727	1.17
60-64	373,788	1.00	755,265	0.91	451,919	1.02	59,399	1.60	1,640,371	0.99
65-69	186,980	0.81	803,807	0.84	961,827	0.89	407,781	1.03	2,360,395	0.89
70-74	50,280	0.72	221,500	0.70	1,110,027	0.83	1,231,902	0.96	2,613,708	0.88
75-79	21,443	0.67	69,567	0.69	334,315	0.81	1,765,227	0.87	2,190,551	0.86
80-84	10,478	0.68	28,268	0.81	104,010	0.89	1,082,888	0.91	1,225,644	0.90
85-89	3,220	0.69	12,248	0.84	36,121	0.95	453,373	1.01	504,962	1.00
90-94	776	1.00	3,454	0.88	8,789	1.02	126,846	1.10	139,865	1.09
Over 94	90	0.41	608	0.67	2,240	0.63	27,622	0.97	30,560	0.93
Total	1,035,936	0.94	2,428,923	0.84	3,113,019	0.87	5,185,615	0.94	11,763,494	0.92

TABLE 12

EXPERIENCE BY YEARS SINCE RETIREMENT FOR CALENDAR YEARS 1999 AND 2000

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

					Female Liv	es				
	0-1		2-5		6-10		11 and Ov	er	Total-	
		A/E		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	4,252	6.21	5,829	2.65	2,069	4.63	1,553	5.44	13,703	4.32
55-59	15,731	2.96	24,911	2.44	4,815	2.43	2,110	2.33	47,567	2.60
60-64	21,043	1.73	39,899	1.73	30,767	2.15	5,925	2.52	97,634	1.91
65-69	20,827	1.56	63,528	1.47	56 , 572	1.67	36,917	1.84	177,844	1.62
70-74	9,508	1.15	26,813	1.28	90,220	1.40	103,332	1.51	229,873	1.43
75-79	7,256	0.93	13,929	1.13	41,205	1.23	186,898	1.21	249,288	1.20
80-84	5,089	0.78	7,875	1.07	17,990	1.25	162,952	1.20	193,906	1.19
85-89	2,527	0.68	3,675	1.08	8,248	1.23	103,974	1.30	118,424	1.27
90-94	849	0.75	1,185	1.23	2,843	1.33	43,146	1.34	48,023	1.33
Over 94	175	0.57	330	1.00	746	1.18	12,047	1.16	13,298	1.15
Total	87,257	1.11	187,974	1.31	255,475	1.36	658,854	1.27	1,189,560	1.28

L 22	1/3	0.37	330	1.00	740	1.10	12,0	- ,	10 13	, 230
al	87,257	1.11	187,974	1.31	255,475	1.36	658,8	54 1.2	27 1,189	,560
				Fem	ale Income (\$	thousand	ls)			
	0-1		2-5-		6-10-		11 and 0	ver	Total	
		A/E		A/E		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	27,097	2.93	36,725	2.25	9,918	5.67	4,076	3.68	77,815	2.95
55-59	70,717	2.18	112,621	2.68	30,309	2.02	6,071	1.75	219,719	2.41
60-64	91,432	1.44	168,623	1.60	103,024	1.96	17,401	2.02	380,481	1.68
65-69	71,138	1.28	232,927	1.33	208,376	1.46	92,954	1.58	605,394	1.41
70-74	29,411	1.02	100,387	1.02	299,603	1.23	278,730	1.39	708,131	1.26
75-79	18,920	0.77	45,865	0.95	131,685	1.08	469,659	1.13	666,130	1.10
80-84	10,500	0.63	19,969	0.99	50,572	1.13	329,475	1.12	410,515	1.10
85-89	3,788	0.63	7,490	0.95	20,528	1.09	169,056	1.23	200,862	1.19
90-94	979	0.99	2,389	1.07	7,113	1.27	60,001	1.29	70,483	1.28
Over 94	154	0.99	470	0.79	1,685	1.12	14,665	1.08	16,975	1.07
Total	324,136	1.09	727,467	1.22	862,813	1.22	1,442,088	1.19	3,356,504	1.20

TABLE 13

EXPERIENCE BY GUARANTEED STATUS FOR CALENDAR YEARS 1999 AND 2000

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

	Guarantee	d	Male Live		Total-	
		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	5,524	4.18	9,469	4.24	14,993	4.22
55-59	56,910	1.68	40,865	1.74	97 , 775	1.70
60-64	136,131	1.26	78,584	1.33	214,715	1.29
65-69	257,104	1.11	107,838	1.13	364,942	1.12
70-74	333,532	1.03	101,262	1.12	434,794	1.05
75-79	343,654	0.98	74,832	1.02	418,486	0.99
80-84	259,559	1.00	44,161	1.05	303,720	1.01
85-89	142,483	1.06	20,759	1.07	163,242	1.07
90-94	47,757	1.13	5,877	1.10	53,634	1.13
Over 94	10,903	1.07	1,407	0.88	12,311	1.05
Total	1,593,558	1.04	485,054	1.10	2,078,612	1.05

otal	1,593,558	1.04	485,054	1.10	2,078,6	12 1.
		Ma	le Income (\$	thousand	s)	
	Guarante	ed	Non-Guaran	teed	Total	
		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	41,500	2.86	161,211	1.88	202,711	2.08
55-59	281,106	1.31	573,620	1.10	854,727	1.17
60-64	740,806	0.93	899,564	1.04	1,640,371	0.99
65-69	1,320,933	0.89	1,039,463	0.90	2,360,395	0.89
70-74	1,743,058	0.87	870,651	0.90	2,613,708	0.88
75-79	1,668,389	0.85	522,162	0.87	2,190,551	0.86
80-84	1,005,948	0.89	219,696	0.96	1,225,644	0.90
85-89	427,765	1.00	77,197	1.02	504,962	1.00
90-94	119,991	1.10	19,874	1.05	139,865	1.09
Over 94	23,191	1.10	7,369	0.44	30,560	0.93
Total	7.372.687	0.91	4,390,807	0.93	11.763.494	0.92

TABLE 14

EXPERIENCE BY GUARANTEED STATUS FOR CALENDAR YEARS 1999 AND 2000

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

	Guarantee	d	es eed	Total			
		A/E		A/E		A/E	
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio	
Under 55	5,824	6.17	7,880	3.07	13,703	4.32	
55-59	28,336	2.90	19,232	2.14	47,567	2.60	
60-64	64,245	2.06	33,388	1.64	97,634	1.91	
65-69	129,723	1.70	48,122	1.42	177,844	1.62	
70-74	185,224	1.45	44,649	1.33	229,873	1.43	
75-79	212,172	1.22	37,116	1.08	249,288	1.20	
80-84	169,996	1.20	23,909	1.11	193,906	1.19	
85-89	105,230	1.28	13,194	1.23	118,424	1.27	
90-94	43,075	1.34	4,948	1.24	48,023	1.33	
Over 94	11,952	1.15	1,346	1.18	13,298	1.15	
Total	955,776	1.29	233,784	1.23	1,189,560	1.28	

otal	955,776	1.29	233,784	1.23	1,189,5	60 1.
		Fem	ale Income (\$	thousand	is)	
	Guarante	ed	Non-Guaran	teed	Total	
		A/E		A/E		A/E
Attained Age	Exposure	Ratio	Exposure	Ratio	Exposure	Ratio
Under 55	20,075	5.53	57,740	2.16	77,815	2.95
55-59	86,426	2.70	133,292	2.22	219,719	2.41
60-64	192,150	1.85	188,331	1.51	380,481	1.68
65-69	373,182	1.52	232,212	1.22	605,394	1.41
70-74	520,457	1.30	187,674	1.15	708,131	1.26
75-79	540,941	1.12	125,189	1.00	666,130	1.10
80-84	349,483	1.11	61,032	1.03	410,515	1.10
85-89	174,119	1.21	26,742	1.12	200,862	1.19
90-94	61,316	1.29	9,167	1.16	70,483	1.28
Over 94	14,923	1.06	2,053	1.19	16,975	1.07
Total	2,333,073	1.21	1.023.432	1.16	3,356,504	1.20

TABLE 15

COMPARISON OF MALE AND FEMALE MORTALITY EXPERIENCE FOR CALENDAR YEARS 1999 AND 2000 EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

Lives

		п	ives		
					Ratio of
			A/E	A/E	Female
	Exposure	Exposure	Ratio	Ratio	To Male
Attained Age	Male	Female	Male*	Female*	Mortality
Under 55	14,993	13,703	4.22	1.80	0.43
55-59	97 , 775	47,567	1.70	1.14	0.67
60-64	214,715	97,634	1.29	0.89	0.69
65-69	364,942	177,844	1.12	0.72	0.64
70-74	434,794	229,873	1.05	0.70	0.67
75-79	418,486	249,288	0.99	0.67	0.68
80-84	303,720	193,906	1.01	0.70	0.70
85-89	163,242	118,424	1.07	0.80	0.75
90-94	53,634	48,023	1.13	0.94	0.83
Over 94	12,311	13,298	1.05	0.97	0.93
Total	2,078,612	1,189,560	1.05	0.77	0.73
		Income (\$	thousand	s)	
					Ratio of
			A/E	A/E	Female
	Exposure	Exposure	Ratio	Ratio	To Male
Attained Age	Male	Female	Male*	Female*	Mortality
Under 55	202,711	77,815	2.08	1.22	0.59
55-59	854,727	219,719	1.17	1.06	0.90
60-64	1,640,371	380,481	0.99	0.78	0.79
65-69	2,360,395	605,394	0.89	0.62	0.70
70-74	2,613,708	708,131	0.88	0.62	0.70
75-79	2,190,551	666,130	0.86	0.61	0.72
80-84	1,225,644	410,515	0.90	0.65	0.72
85-89	504,962	200,862	1.00	0.75	0.75
90-94	139,865	70,483	1.09	0.90	0.82
Over 94	30,560	16,975	0.93	0.90	0.97
Total	11,763,494	3,356,504	0.92	0.69	0.75
	TT,/03, TJT	3,330,304	0.92	0.03	0.75

^{*}Expected deaths for both males and females using male mortality.

TABLE 16

SUMMARY OF GROUP ANNUITY MORTALITY EXPERIENCE BY MALE LIVES EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

	1999		2000		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	1,045,205	1.06	1,033,407	1.04	-0.02
By Attained Age					
Under 55	7,621	4.39	7,372	4.04	-0.35
55-59	48,764	1.75	49,011	1.66	-0.09
60-64	108,496	1.25	106,219	1.32	0.07
65-69	186,129	1.11	178,813	1.12	0.01
70-74	221,523	1.05	213,271	1.05	0.00
75-79	210,465	1.00	208,021	0.99	-0.01
80-84	150,745	1.02	152,975	0.99	-0.03
85-89	79,664	1.08	83,578	1.05	-0.03
90-94	25,899	1.15	27,735	1.11	-0.04
Over 94	5,898	1.06	6,412	1.04	-0.02
By Retirement Class					
Prior to NRD	525,391	1.06	520,040	1.04	-0.02
On/After NRD	250,113	1.01	238,490	1.00	-0.01
No Stated NRD	269,524	1.12	274,710	1.10	-0.02
Past NRD/No Payment	177	0.30	166	0.08	-0.22
By Benefit Class					
Life only*	908,333	1.07	900,886	1.05	-0.02
Life with period certain	67,824	1.01	64,690	0.96	-0.05
Cash refund	69,048	0.98	67,831	0.99	0.01
By Survivor Class					
0% (single life)	591,883	1.06	574,798	1.05	-0.01
> 0% - <= 50%	120,663	0.93	122,133	0.91	-0.02
> 50% - <= 75%	79,045	1.04	79,616	1.00	-0.04
> 75% - <= 100%	79,612	1.01	81,086	0.95	-0.06
Unknown**	174,001	1.18	175,773	1.13	-0.05
By Years Since Retirement					
0-1	65,963	1.25	69,661	1.28	0.03
2-5	176,124	1.00	159,239	1.05	0.05
6-10	243,806	1.06	233,016	1.01	-0.05
11 and Over	559,312	1.06	571,491	1.04	-0.02
By Guaranteed Status					
Guaranteed	802,533	1.05	791,024	1.04	-0.01
Non-Guaranteed	242,672	1.11	242,383	1.09	-0.02

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 17

SUMMARY OF GROUP ANNUITY MORTALITY EXPERIENCE BY MALE INCOME EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY (\$ THOUSANDS)

	1999		2000		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	5,854,398	0.92	5,909,095	0.91	-0.01
By Attained Age					
Under 55	101,783	2.22	100,928	1.93	-0.29
55-59	420,695	1.18	434,031	1.17	-0.01
60-64	819,136	0.98	821,234	0.99	0.01
65-69	1,199,607	0.89	1,160,788	0.90	0.01
70-74	1,319,812	0.87	1,293,896	0.89	0.02
75-79	1,081,623	0.85	1,108,929	0.86	0.01
80-84	589,437	0.93	636,207	0.88	-0.05
85-89	241,401	1.02	263,561	0.99	-0.03
90-94	66,426	1.12	73,439	1.06	-0.06
Over 94	14,479	0.90	16,081	0.97	0.07
	,		,		
By Retirement Class					
Prior to NRD	3,460,097	0.92	3,503,698	0.91	-0.01
On/After NRD	1,283,362	0.88	1,258,427	0.86	-0.02
No Stated NRD	1,109,068	0.98	1,144,934	0.99	0.01
Past NRD/No Payment	1,871	0.32	2,036	0.03	-0.29
By Benefit Class					
Life only*	4,756,659	0.93	4,813,736	0.93	0.00
Life with period certain	403,300	0.91	394,398	0.85	-0.06
Cash refund	694,439	0.84	700,962	0.79	-0.05
By Survivor Class					
0% (single life)	2,868,558	0.95	2,869,279	0.95	0.00
> 0% - <= 50%	944,976	0.77	958,902	0.78	0.01
> 50% - <= 75%	726,162	0.93	767,100	0.92	-0.01
> 75% - <= 100%	449,295	0.85	463,404	0.82	-0.03
Unknown**	865,406	1.02	850,410	0.98	-0.04
D. W dinas Datius					
By Years Since Retirement	F00 070	0 05	F32 666	0 04	0 01
0-1	502,270	0.95	533,666	0.94	
2-5 6-10	1,243,777	0.85	1,185,146	0.84	
	1,583,496	0.88	1,529,523	0.85	-0.03
11 and Over	2,524,855	0.95	2,660,760	0.94	-0.01
By Guaranteed Status					
Guaranteed	3,699,056	0.92	3,673,631	0.90	-0.02
Non-Guaranteed	2,155,343	0.92	2,235,465	0.94	0.02

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 18

SUMMARY OF GROUP ANNUITY MORTALITY EXPERIENCE BY FEMALE LIVES EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

	1999		2000		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	591,540	1.29	598,019	1.27	-0.02
By Attained Age					
Under 55	6,895	4.63	6,808	4.01	-0.62
55-59	23,582	2.71	23,985	2.48	-0.23
60-64	48,889	1.95	48,745	1.87	-0.08
65-69	89,863	1.64	87,981	1.61	-0.03
70-74	116,537	1.43	113,337	1.43	0.00
75-79	124,185	1.20	125,102	1.20	0.00
80-84	94,733	1.20	99,173	1.18	-0.02
85-89	57,419	1.28	61,005	1.26	-0.02
90-94	23,057	1.35	24,966	1.31	-0.04
Over 94	6,380	1.18	6,918	1.12	-0.06
By Retirement Class					
Prior to NRD	246,326	1.25	244,899	1.28	0.03
On/After NRD	182,103	1.19	177,244	1.19	0.00
No Stated NRD	163,081	1.50	175,848	1.36	-0.14
Past NRD/No Payment	31	0.00	28	1.98	1.98
By Benefit Class					
Life only*	526,210	1.31	532,670	1.27	-0.04
Life with period certain	36,205	1.16	36,187	1.22	0.06
Cash refund	29,126	1.16	29,163	1.20	0.04
By Survivor Class					
0% (single life)	474,364	1.22	473,120	1.24	0.02
> 0% - <= 50%	22,109	0.95	23,422	0.95	0.00
> 50% - <= 75%	8,329	1.26	8,403	1.29	0.03
> 75% - <= 100%	10,292	1.14	11,011	1.05	-0.09
Unknown**	76,446	1.85	82,063	1.52	-0.33
By Years Since Retirement					
0-1	38,940	1.33	48,316	0.97	-0.36
2-5	96,245	1.32	91,729	1.30	-0.02
6-10	132,479	1.36	122,996	1.35	-0.01
11 and Over	323,876	1.28	334,978	1.27	-0.01
By Guaranteed Status					
Guaranteed	474,977	1.31	480,799	1.27	-0.04
Non-Guaranteed	116,563	1.22	117,221	1.24	0.02

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 19

SUMMARY OF GROUP ANNUITY MORTALITY EXPERIENCE BY FEMALE INCOME EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY (\$ THOUSANDS)

	1999		2000		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	1,649,731	1.19	1,706,773	1.21	0.02
By Attained Age					
Under 55	39,259	2.96	38,556	2.94	-0.02
55-59	106,053	2.35	113,666	2.46	0.11
60-64	188,522	1.63	191,959	1.74	0.11
65-69	303,487	1.32	301,907	1.50	0.18
70-74	355,600	1.27	352,531	1.24	-0.03
75-79	325,494	1.07	340,636	1.12	0.05
80-84	194,562	1.09	215,953	1.11	0.02
85-89	95,395	1.20	105,467	1.19	-0.01
90-94	33,336	1.30	37,147	1.25	-0.05
Over 94	8,023	1.10	8,952	1.05	-0.05
By Retirement Class					
Prior to NRD	763,502	1.18	785,865	1.27	0.09
On/After NRD	497,956	1.08	500,783	1.09	0.01
No Stated NRD	388,129	1.38	419,962	1.30	-0.08
Past NRD/No Payment	144	0.00	163	2.23	2.23
By Benefit Class					
Life only*	1,400,887	1.20	1,449,284	1.20	0.00
Life with period certain	127,398	1.17	130,257	1.20	0.03
Cash refund	121,445	1.03	127,233	1.28	0.25
By Survivor Class					
0% (single life)	1,300,217	1.14	1,334,917	1.17	0.03
> 0% - <= 50%	78 , 748	0.76	83,711	0.95	0.19
> 50% - <= 75%	35 , 999	1.11	37,925	1.36	0.25
> 75% - <= 100%	27,099	1.28	29,371	0.98	-0.30
Unknown**	207,669	1.64	220,849	1.48	-0.16
By Years Since Retirement					
0-1	152,280	1.12	171,857	1.06	-0.06
2-5	374 , 843	1.23	352,624	1.21	-0.02
6-10	427,071	1.20	435,742	1.25	0.05
11 and Over	695,536	1.19	746,552	1.20	0.01
By Guaranteed Status					
Guaranteed	1,154,898	1.20	1,178,175	1.21	0.01
Non-Guaranteed	494,833	1.14	528,598	1.17	0.03

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 20

COMPARISON OF 1997-98 WITH 1999-00 GROUP ANNUITY MORTALITY EXPERIENCE BY MALE LIVES

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

	1997-98		1999-00			
				Change		
		A/E		A/E	in A/E	
	Exposure	Ratio	Exposure	Ratio	Ratios	
Total	2,260,185	1.06	2,078,612	1.05	-0.01	
By Attained Age						
Under 55	26,859	3.28	14,993	4.22	0.94	
55-59	110,100	1.70	97,775	1.70	0.00	
60-64	245,108	1.36	214,715	1.29	-0.07	
65-69	440,104	1.13	364,942	1.12	-0.01	
70-74	492,260	1.05	434,794	1.05	0.00	
75-79	439,868	1.01	418,486	0.99	-0.02	
80-84	302,520	1.02	303,720	1.01	-0.01	
85-89	146,742	1.07	163,242	1.07	0.00	
90-94	46,621	1.11	53,634	1.13	0.02	
Over 94	10,004	1.04	12,311	1.05	0.01	
By Retirement Class						
Prior to NRD	1,245,790	1.17	1,045,431	1.05	-0.12	
On/After NRD	623,394	0.97	488,603	1.01	0.04	
No Stated NRD	390,637	1.03	544,234	1.11	0.08	
Past NRD/No Payment	364	0.46	344	0.19	-0.27	
By Benefit Class						
Life only*	1,911,373	1.10	1,809,219	1.06	-0.04	
Life with period certain	158,131	0.96	132,514	0.99	0.03	
Cash refund	190,680	0.79	136,879	0.99	0.20	
By Survivor Class						
0% (single life)	1,503,192	1.09	1,166,681	1.06	-0.03	
> 0% - <= 50%	291,199	0.61	242,796	0.92	0.31	
> 50% - <= 75%	170,539	0.78	158,662	1.02	0.24	
> 75% - <= 100%	147,477	0.80	160,698	0.98	0.18	
Unknown**	147,778	2.08	349,775	1.15	-0.93	
By Years Since Retirement						
0-1	147,486	1.26	135,624	1.26	0.00	
2-5	408,181	1.11	335,363	1.02	-0.09	
6-10	579,707	1.07	476,822	1.04	-0.03	
11 and Over	1,124,811	1.05	1,130,803	1.05	0.00	
By Guaranteed Status						
Guaranteed	1,648,656	1.06	1,593,558	1.04	-0.02	
Non-Guaranteed	611,529	1.08	485,054	1.10	0.02	
344-4110004	0,0_0		-00,001			

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 21

COMPARISON OF 1997-98 WITH 1999-00 GROUP ANNUITY MORTALITY EXPERIENCE BY MALE INCOME EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

(\$ THOUSANDS)

	1997-98		1999-00		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	12,373,281	0.96	11,763,494	0.92	-0.04
By Attained Age					
Under 55	253,368	2.30	202,711	2.08	-0.22
55-59	905,106	1.29	854 , 727	1.17	-0.12
60-64	1,817,721	1.12	1,640,371	0.99	-0.13
65-69	2,773,672	0.95	2,360,395	0.89	-0.06
70-74	2,841,780	0.92	2,613,708	0.88	-0.04
75-79	2,111,641	0.90	2,190,551	0.86	-0.04
80-84	1,098,018	0.96	1,225,643	0.90	-0.06
85-89	429,254	1.04	504,962	1.00	-0.04
90-94	116,534	1.07	139,865	1.09	0.02
Over 94	26,187	0.90	30,560	0.93	0.03
By Retirement Class					
Prior to NRD	7,629,475	1.06	6,963,795	0.92	-0.14
On/After NRD	2,900,505	0.86	2,541,789	0.87	0.01
No Stated NRD	1,840,373	0.92	2,254,002	0.99	0.07
Past NRD/No Payment	2,928	0.74	3,907	0.16	-0.58
By Benefit Class					
Life only*	10,079,246	0.98	9,570,395	0.93	-0.05
Life with period certain	876 , 770	0.93	797,698	0.88	-0.05
Cash refund	1,417,265	0.80	1,395,401	0.81	0.01
By Survivor Class					
0% (single life)	6,832,602	1.01	5,737,838	0.95	-0.06
> 0% - <= 50%	2,105,608	0.49	1,903,879	0.77	0.28
> 50% - <= 75%	1,456,627	0.64	1,493,261	0.93	0.29
> 75% - <= 100%	763,538	0.69	912,700	0.84	0.15
Unknown**	1,214,906	1.99	1,715,816	1.00	-0.99
By Years Since Retirement					
0-1	1,090,090	1.07	1,035,936	0.94	-0.13
2-5	2,900,987	0.93	2,428,923	0.84	-0.09
6-10	3,616,914	0.94	3,113,019	0.87	-0.07
11 and Over	4,765,290	0.98	5,185,615	0.94	-0.04
By Guaranteed Status					
Guaranteed	7,468,146	0.95	7,372,686	0.91	-0.04
Non-Guaranteed	4,905,135	0.99	4,390,807	0.93	-0.06

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 22

COMPARISON OF 1997-98 WITH 1999-00 GROUP ANNUITY MORTALITY EXPERIENCE BY FEMALE LIVES

EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

	1997-98	1	1990-00			
				Change		
		A/E		A/E	in A/E	
	Exposure	Ratio	Exposure	Ratio	Ratios	
Total	1,362,979	1.21	1,189,560	1.28	0.07	
By Attained Age						
Under 55	30,432	3.96	13,703	4.32	0.36	
55-59	58,986	2.47	47,567	2.60	0.13	
60-64	123,517	1.87	97,634	1.91	0.04	
65-69	228,280	1.57	177,844	1.62	0.05	
70-74	285,111	1.29	229,873	1.43	0.14	
75-79	272,460	1.11	249,288	1.20	0.09	
80-84	199,708	1.12	193,906	1.19	0.07	
85-89	110,899	1.20	118,424	1.27	0.07	
90-94	42,704	1.25	48,023	1.33	0.08	
Over 94	10,881	1.07	13,298	1.15	0.08	
By Retirement Class						
Prior to NRD	648,479	1.34	491,225	1.26	-0.08	
On/After NRD	439,842	1.12	359,347	1.19	0.07	
No Stated NRD	274,595	1.19	338,929	1.42	0.23	
Past NRD/No Payment	64	0.00	59	1.03	1.03	
By Benefit Class						
Life only*	1,192,180	1.24	1,058,879	1.29	0.05	
Life with period certain	82,193	1.12	72,391	1.19	0.07	
Cash refund	88,605	0.90	58,289	1.18	0.28	
By Survivor Class						
0% (single life)	1,181,574	1.23	947,484	1.23	0.00	
> 0% - <= 50%	99,927	0.75	45,532	0.95	0.20	
> 50% - <= 75%	26,630	0.81	16,732	1.27	0.46	
> 75% - <= 100%	36,763	0.79	21,302	1.09	0.30	
Unknown**	18,085	2.67	158,509		-1.00	
By Years Since Retirement						
0-1	91,986	1.54	87,257	1.11	-0.43	
2-5	234,296	1.32	187,974	1.31	-0.01	
6-10	339,934	1.25	255,475		0.11	
11 and Over	696,763	1.18	658,854	1.27	0.09	
By Guaranteed Status						
Guaranteed Status	1,035,656	1.22	955,776	1.29	0.07	
Non-Guaranteed	327,323	1.16	233,784	1.23	0.07	
Non-Guaranteed	341,323	1.10	233,/84	1.23	0.07	

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 23

COMPARISON OF 1997-98 WITH 1999-00 GROUP ANNUITY MORTALITY EXPERIENCE BY FEMALE INCOME EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

(\$ THOUSANDS)

	1997-98	}	1999-00			
				Change		
		A/E		A/E	in A/E	
	Exposure	Ratio	Exposure	Ratio	Ratios	
Total	3,642,655	1.21	3,356,504	1.20	-0.01	
By Attained Age						
Under 55	119,868	3.81	77,815	2.95	-0.86	
55-59	241,918	2.27	219,719	2.41	0.14	
60-64	440,407	1.79	380,481	1.68	-0.11	
65-69	732,595	1.50	605,394	1.41	-0.09	
70-74	822,480	1.23	708,131	1.26	0.03	
75-79	656,451	1.09	666,130	1.10	0.01	
80-84	377,728	1.13	410,515	1.10	-0.03	
85-89	177,873	1.18	200,862	1.19	0.01	
90-94	59,645	1.24	70,483	1.28	0.04	
Over 94	13,692	1.01	16,975	1.07	0.06	
By Retirement Class						
Prior to NRD	1,843,098	1.43	1,549,367	1.23	-0.20	
On/After NRD	1,128,861	1.08	998,739	1.08	0.00	
No Stated NRD	670,477	1.14	808,091	1.34	0.20	
Past NRD/No Payment	219	0.00	308	1.27	1.27	
By Benefit Class						
Life only*	3,106,650	1.24	2,850,172	1.20	-0.04	
Life with period certain	275,332	1.04	257,655	1.19	0.15	
Cash refund	260,673	1.04	248,678	1.16	0.12	
By Survivor Class						
0% (single life)	3,042,704	1.23	2,635,134	1.15	-0.08	
> 0% - <= 50%	298,623	0.82	162,459	0.86	0.04	
> 50% - <= 75%	102,593	0.89	73,924	1.24	0.35	
> 75% - <= 100%	118,965	0.74	56,470	1.13	0.39	
Unknown**	79,770	2.80	428,518	1.55	-1.25	
By Years Since Retirement						
0-1	348,497	1.58	324,136	1.09	-0.49	
2-5	857,609	1.26	727,467	1.22	-0.04	
6-10	1,025,333	1.22	862,813	1.22	0.00	
11 and Over	1,411,216	1.18	1,442,088	1.19	0.01	
By Guaranteed Status						
Guaranteed	2,413,168	1.21	2,333,073	1.21	0.00	
Non-Guaranteed	1,229,487	1.22	1,023,432	1.16	-0.06	

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 24

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

	Male Lives								
	 	Actual to Expected							
ATTAINED AGE	 1995	1996	1997	1998	1999	2000			
UNDER 55	3.32	3.31	3.70	2.83	4.39	4.04			
55-59	1.63	1.61	1.71	1.69	1.75	1.66			
60-64	1.38	1.41	1.36	1.36	1.25	1.32			
65-69	1.13	1.14	1.16	1.11	1.11	1.12			
70-74	1.06	1.05	1.05	1.05	1.05	1.05			
75-79	1.03	1.00	1.00	1.03	1.00	0.99			
80-84	1.03	0.99	1.01	1.03	1.02	0.99			
85-89	1.06	1.04	1.06	1.08	1.08	1.05			
90-94	1.12	1.06	1.08	1.14	1.15	1.11			
OVER 94	1.04	1.07	1.01	1.07	1.06	1.04			
TOTAL	1.07	1.05	1.06	1.07	1.06	1.04			

	AN	NUAL IMP	ROVEMENT				
	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
UNDER 55	0.003	-0.119	0.235	-0.552	0.082	-0.070	-0.046
55-59	0.011	-0.063	0.013	-0.033	0.050	-0.004	-0.009
60-64	-0.021	0.034	0.001	0.078	-0.055	0.007	0.016
65-69	-0.009	-0.017	0.042	-0.000	-0.012	0.001	0.004
70-74	0.007	-0.002	0.001	0.002	-0.002	0.001	0.001
75-79	0.024	0.001	-0.024	0.030	0.008	0.008	0.006
80-84	0.039	-0.014	-0.021	0.004	0.031	0.008	0.003
85-89	0.022	-0.022	-0.025	0.005	0.025	0.001	-0.003
90-94	0.058	-0.023	-0.052	-0.013	0.039	0.002	-0.007
OVER 94	-0.027	0.055	-0.058	0.003	0.022	-0.001	-0.001
TOTAL	0.023	-0.008	-0.014	0.009	0.016	0.005	0.002

TABLE 25

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

!	Male Income								
		Actual to Expected							
ATTAINED AGE	 1995	1996	1997	1998	1999	2000			
UNDER 55	1.95	2.05	2.52	2.07	2.22	1.93			
55-59	1.29	1.11	1.33	1.24	1.18	1.17			
60-64	1.09	1.09	1.14	1.09	0.98	0.99			
65-69	0.95	0.97	0.99	0.90	0.89	0.90			
70-74	0.91	0.92	0.95	0.89	0.87	0.89			
75-79	0.91	0.92	0.89	0.91	0.85	0.86			
80-84	0.94	0.94	0.97	0.95	0.93	0.88			
85-89	1.01	0.98	1.04	1.04	1.02	0.99			
90-94	1.08	1.02	1.04	1.09	1.12	1.06			
OVER 94	0.96	0.87	0.83	0.96	0.90	0.97			
TOTAL	0.96	0.96	0.97	0.95	0.92	0.91			

	AN	NUAL IMP	ROVEMENT	FACTORS	; 		
	1995	1996	1997	1998	1999		LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
UNDER 55	-0.050	-0.228	0.179	-0.076	0.134	-0.008	0.001
55-59	0.136	-0.196	0.066	0.051	0.011	0.014	0.011
60-64	-0.001	-0.044	0.040	0.107	-0.016	0.017	0.024
65-69	-0.029	-0.022	0.095	0.013	-0.013	0.009	0.018
70-74	-0.010	-0.024	0.060	0.022	-0.021	0.005	0.011
75-79	-0.010	0.026	-0.024	0.067	-0.011	0.010	0.013
80-84	0.003	-0.030	0.020	0.021	0.057	0.014	0.012
85-89	0.030	-0.060	0.003	0.022	0.025	0.004	0.001
90-94	0.057	-0.021	-0.054	-0.028	0.054	0.001	-0.008
OVER 94	0.089	0.050	-0.157	0.068	-0.080	-0.006	-0.007
TOTAL	0.003	-0.020	0.022	0.032	0.010	0.009	0.010

TABLE 26

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

		Female Lives								
		Actual to Expected								
ATTAINED AGE	1995	1996	1997	1998	1999	2000				
UNDER 55	2.02	3.87	4.38	3.53	4.63	4.01				
55-59	1.80	2.03	2.35	2.60	2.71	2.48				
60-64	1.62	1.66	1.95	1.78	1.95	1.87				
65-69	1.51	1.51	1.58	1.57	1.64	1.61				
70-74	1.26	1.27	1.33	1.25	1.43	1.43				
75-79	1.12	1.16	1.10	1.12	1.20	1.20				
80-84	1.09	1.10	1.11	1.13	1.20	1.18				
85-89	1.21	1.22	1.18	1.22	1.28	1.26				
90-94	1.22	1.23	1.20	1.29	1.35	1.31				
OVER 94	1.13	1.10	1.01	1.11	1.18	1.12				
TOTAL	1.19	1.21	1.20	1.22	1.29	1.27				

ANNUAL IMPROVEMENT FACTORS 1995| 1996| 1997| 1998| 1999| LOGLINEAR тоі TO ARITHMETIC REGRESSION TO TO TO 1996 1997 1998 | 1999 | 2000 | AVERAGE | SLOPE ATTAINED AGE UNDER 55 | -0.919 | -0.130 | 0.193 | -0.310 | 0.133 | 55-59 -0.128 | -0.158 | -0.105 | -0.045 | 0.086 -0.070 -0.076 60-64 | -0.024 | -0.177 | 0.089 | -0.096 | 0.039 | -0.034 -0.032 0.001 -0.045 0.007 -0.044 0.016 65-69 -0.013 -0.016 70-74 -0.011 -0.046 0.057 -0.139 -0.001 -0.028 -0.027 -0.014 75-79 -0.037 | 0.049 | -0.015 | -0.067 | -0.002 -0.013 -0.004| -0.010| -0.020| -0.064| 0.022| 80-84 -0.015 -0.019 -0.012 | 0.037 | -0.040 | -0.049 | 0.018 | 85-89 -0.009 -0.012 -0.015 90-94 -0.012 | 0.021 | -0.074 | -0.044 | 0.031 | -0.021 OVER 94 0.021 0.080 -0.098 -0.061 0.052 -0.001 İ -0.008

| -0.011 | 0.007 | -0.017 | -0.061 | 0.020 | -0.012

TOTAL

-0.015

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1983 GROUP ANNUITY MORTALITY

TABLE 27

		Female Income								
		Actual to Expected								
ATTAINED AGE	1995	1996	1997	1998	1999	2000				
UNDER 55	1.77	3.32	4.23	3.37	2.96	2.94				
55-59	1.71	1.99	1.97	2.55	2.35	2.46				
60-64	1.77	1.56	1.84	1.74	1.63	1.74				
65-69	1.46	1.34	1.52	1.48	1.32	1.50				
70-74	1.15	1.14	1.26	1.20	1.27	1.24				
75-79	1.03	1.04	1.09	1.09	1.07	1.12				
80-84	1.05	1.07	1.14	1.13	1.09	1.11				
85-89	1.16	1.17	1.16	1.20	1.20	1.19				
90-94	1.20	1.20	1.20	1.28	1.30	1.25				
OVER 94	1.16	1.08	0.92	1.08	1.10	1.05				
TOTAL	1.17	1.15	1.21	1.21	1.19	1.21				

	AN	NUAL IMP	ROVEMENT				
	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
UNDER 55	-0.870	-0.277	0.204	0.123	0.005	-0.163	-0.058
55-59	-0.164	0.006	-0.291	0.078	-0.047	-0.084	-0.077
60-64	0.119	-0.178	0.058	0.063	-0.069	-0.001	0.001
65-69	0.081	-0.133	0.028	0.106	-0.130	-0.010	-0.001
70-74	0.005	-0.104	0.047	-0.059	0.024	-0.017	-0.019
75-79	-0.009	-0.045	0.000	0.014	-0.044	-0.017	-0.014
80-84	-0.017	-0.062	0.002	0.039	-0.023	-0.012	-0.010
85-89	-0.007	0.008	-0.030	0.001	0.005	-0.005	-0.006
90-94	0.005	-0.003	-0.063	-0.021	0.042	-0.008	-0.015
OVER 94	0.069	0.148	-0.167	-0.024	0.050	0.015	0.009
TOTAL	0.011	-0.051	-0.000	0.018	-0.012	-0.007	-0.008

TABLE 16A

SUMMARY OF GROUP ANNUITY MORTALITY EXPERIENCE BY MALE LIVES EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC

	1999		2000		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	1,045,205	1.14	1,033,407	1.12	-0.02
By Attained Age					
Under 55	7,621	5.93	7,372	5.45	-0.48
55-59	48,764	2.04	49,011	1.93	-0.11
60-64	108,496	1.27	106,219	1.34	0.07
65-69	186,129	1.14	178,813	1.16	0.02
70-74	221,523	1.15	213,271		
75-79	210,465	1.12	208,021		
80-84	150,745		152,975		
85-89	79,664		83,578		
90-94	25,899		27,735	1.09	
Over 94	5,898	0.99	6,412	0.97	-0.02
By Retirement Class					
Prior to NRD	525,391	1.15	520,040	1.12	-0.03
On/After NRD	250,113	1.08	238,490		
No Stated NRD	269,524		274,710		
Past NRD/No Payment	177	0.32	166	0.08	-0.24
By Benefit Class					
Life only*	908,333	1.15	900,886	1.13	-0.02
Life with period certain	67,824	1.09	64,690	1.03	-0.06
Cash refund	69,048	1.05	67,831	1.07	0.02
By Survivor Class					
0% (single life)	591,883	1.13	574,798	1.13	0.00
> 0% - <= 50%	120,663	1.01	122,133	0.98	-0.03
> 50% - <= 75%	79,045	1.13	79,616	1.09	-0.04
> 75% - <= 100%	79,612	1.09	81,086		
Unknown**	174,001	1.26	175,773	1.21	-0.05
By Years Since Retirement					
0-1	65,963	1.33	69,661	1.36	0.03
2-5	176,124	1.05	159,239	1.11	0.06
6-10	243,806	1.15	233,016		
11 and Over	559,312	1.15	571,491	1.12	-0.03
By Guaranteed Status					
Guaranteed	802,533	1.13	791,024	1.11	-0.02
Non-Guaranteed	242,672	1.20	242,383	1.17	-0.03

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

SUMMARY OF GROUP ANNUITY MORTALITY EXPERIENCE BY MALE INCOME EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC (\$ THOUSANDS)

TABLE 17A

	1999		2000		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	5,854,398	1.00	5,909,095	0.99	-0.01
By Attained Age					
Under 55	101,783	3.01	100,928	2.61	-0.40
55-59	420,695	1.38	434,031	1.36	-0.02
60-64	819,136	1.00	821,234	1.01	0.01
65-69	1,199,607	0.91	1,160,788	0.93	0.02
70-74	1,319,812	0.95	1,293,896	0.97	0.02
75-79	1,081,623	0.96	1,108,929	0.97	0.01
80-84	589,437	1.02	636,207	0.97	-0.05
85-89	241,401	1.09	263,561	1.06	-0.03
90-94	66,426	1.10	73,439	1.04	-0.06
Over 94	14,479	0.84	16,081	0.90	0.06
By Retirement Class					
Prior to NRD	3,460,097	1.00	3,503,698	0.99	-0.01
On/After NRD	1,283,362	0.95	1,258,427	0.93	-0.02
No Stated NRD	1,109,068	1.07	1,144,934	1.07	0.00
Past NRD/No Payment	1,871	0.34	2,036	0.03	-0.31
By Benefit Class					
Life only*	4,756,659	1.01	4,813,736	1.01	0.00
Life with period certain	403,300	0.98	394,398	0.92	-0.06
Cash refund	694,439	0.90	700,962	0.85	-0.05
By Survivor Class					
0% (single life)	2,868,558	1.02	2,869,279	1.02	0.00
> 0% - <= 50%	944,976	0.84	958,902	0.85	0.01
> 50% - <= 75%	726,162	1.00	767,100	1.00	0.00
> 75% - <= 100%	449,295	0.93	463,404	0.89	-0.04
Unknown**	865,406	1.10	850,410	1.06	-0.04
By Years Since Retirement					
0-1	502,270	1.01	533,666	1.01	0.00
2-5	1,243,777	0.90	1,185,146	0.89	-0.01
6-10	1,583,496	0.94	1,529,523	0.92	-0.02
11 and Over	2,524,855	1.03	2,660,760	1.02	-0.01
By Guaranteed Status					
Guaranteed	3,699,056	1.00	3,673,631	0.98	-0.02
Non-Guaranteed	2,155,343	1.00	2,235,465	1.02	0.02

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 18A

SUMMARY OF GROUP ANNUITY MORTALITY EXPERIENCE BY FEMALE LIVES EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC

	1999		2000		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	591,540	1.22	598,019	1.19	-0.03
By Attained Age					
Under 55	6,895	4.87	6,808	4.21	-0.66
55-59	23,582	2.62	23,985	2.40	-0.22
60-64	48,889	1.59	48,745		-0.06
65-69	89,863	1.26	87,981		-0.02
70-74	116,537		113,337		0.00
75-79	124,185	1.20	125,102		
80-84	94,733	1.20	99,173		
85-89	57,419		61,005		
90-94	23,057		24,966	1.17	
Over 94	6,380	1.13	6,918	1.07	-0.06
By Retirement Class					
Prior to NRD	246,326	1.17	244,899	1.20	
On/After NRD	182,103	1.12	177,244		0.00
No Stated NRD	163,081		175,848		
Past NRD/No Payment	31	0.00	28	1.83	1.83
By Benefit Class					
Life only*	526,210	1.23	532,670		
Life with period certain	36,205	1.08	36,187	1.14	0.06
Cash refund	29,126	1.09	29,163	1.13	0.04
By Survivor Class					
0% (single life)	474,364	1.15	473,120	1.17	
> 0% - <= 50%	22,109	0.89	23,422		
> 50% - <= 75%	8,329	1.18	8,403		
> 75% - <= 100%	10,292	1.06	11,011		
Unknown**	76,446	1.74	82,063	1.43	-0.31
By Years Since Retirement					
0-1	38,940	1.21	48,316		
2-5	96,245	1.18	91,729	1.16	
6-10	132,479	1.26	122,996	1.25	-0.01
11 and Over	323,876	1.22	334,978	1.20	-0.02
By Guaranteed Status					
Guaranteed	474,977	1.23	480,799	1.20	-0.03
Non-Guaranteed	116,563	1.14	117,221	1.15	0.01

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 19A

SUMMARY OF GROUP ANNUITY MORTALITY EXPERIENCE BY FEMALE INCOME EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC (\$ THOUSANDS)

	1999		2000		
					Change
		A/E		A/E	in A/E
	Exposure	Ratio	Exposure	Ratio	Ratios
Total	1,649,731	1.12	1,706,773	1.13	0.01
By Attained Age					
Under 55	39,259	3.10	38,556	3.08	-0.02
55-59	106,053	2.28	113,666	2.38	0.10
60-64	188,522	1.33	191,959	1.42	0.09
65-69	303,487	1.02	301,907	1.15	0.13
70-74	355,600	1.16	352,531	1.13	
75-79	325,494	1.08	340,636	1.12	0.04
80-84	194,562	1.08	215,953	1.11	
85-89	95,395	1.12	105,467		
90-94	33,336		37,147		
Over 94	8,023	1.05	8,952	1.00	-0.05
By Retirement Class					
Prior to NRD	763,502	1.09	785,865	1.18	0.09
On/After NRD	497,956	1.02	500,783	1.03	0.01
No Stated NRD	388,129	1.31	419,962	1.24	-0.07
Past NRD/No Payment	144	0.00	163	2.15	2.15
By Benefit Class					
Life only*	1,400,887	1.13	1,449,284	1.13	0.00
Life with period certain	127,398	1.09	130,257	1.12	0.03
Cash refund	121,445	0.95	127,233	1.19	0.24
By Survivor Class					
0% (single life)	1,300,217	1.07	1,334,917	1.10	0.03
> 0% - <= 50%	78,748	0.70	83,711	0.88	0.18
> 50% - <= 75%	35,999	1.02	37,925	1.26	0.24
> 75% - <= 100%	27,099	1.19	29,371	0.91	-0.28
Unknown**	207,669	1.54	220,849	1.39	-0.15
By Years Since Retirement					
0-1	152,280	1.00	171,857	0.96	-0.04
2-5	374,843	1.08	352,624	1.07	-0.01
6-10	427,071	1.11	435,742	1.15	0.04
11 and Over	695,536	1.13	746,552	1.15	0.02
By Guaranteed Status					
Guaranteed	1,154,898	1.14	1,178,175	1.15	0.01
Non-Guaranteed	494,833	1.05	528,598	1.08	0.03

^{*} Includes Unknown, Temporary Life, and Life Only.

^{**} Includes both cases where single or joint status is unknown and where percent continuing to survivor is unknown.

TABLE 24A*

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC

		Male Lives								
		Actual to Expected								
ATTAINED AGE	1995	1996	1997	1998	1999	2000				
UNDER 55	4.47	4.47	4.94	3.78	5.93	5.45				
55-59	1.90	1.88	2.00	1.97	2.04	1.93				
60-64	1.40	1.43	1.38	1.38	1.27	1.34				
65-69	1.16	1.17	1.19	1.14	1.14	1.16				
70-74	1.15	1.15	1.15	1.15	1.15	1.15				
75-79	1.15	1.13	1.12	1.15	1.12	1.11				
80-84	1.14	1.09	1.11	1.13	1.13	1.09				
85-89	1.14	1.11	1.14	1.17	1.16	1.13				
90-94	1.10	1.04	1.06	1.12	1.13	1.09				
OVER 94	0.97	1.00	0.94	1.00	0.99	0.97				
TOTAL	1.16	1.13	1.14	1.15	1.14	1.12				

		A/E IMPR	OVEMENT				
i	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
	+	+	+	+			+
UNDER 55	0.001	-0.107	0.235	-0.569	0.082	-0.072	-0.046
55-59	0.012	-0.064	0.012	-0.033	0.051	-0.004	-0.009
60-64	-0.021	0.034	0.001	0.078	-0.055	0.007	0.016
65-69	-0.010	-0.017	0.042	-0.000	-0.012	0.001	0.004
70-74	0.007	-0.002	0.001	0.002	-0.002	0.001	0.001
75-79	0.024	0.001	-0.024	0.030	0.008	0.008	0.006
80-84	0.039	-0.014	-0.021	0.005	0.031	0.008	0.003
85-89	0.022	-0.022	-0.025	0.006	0.025	0.001	-0.003
90-94	0.057	-0.023	-0.052	-0.012	0.039	0.002	-0.007
OVER 94	-0.025	0.055	-0.058	0.003	0.023	-0.001	-0.001
TOTAL	0.023	-0.008	-0.013	0.010	0.017	0.006	0.003

*Table 24C in 1997-98 Study

TABLE 25A*

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE INCOME FOR CALENDAR-YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC

		Male Income								
		Actual to Expected								
ATTAINED AGE	 1995	1996	1997	1998	1999	 2000				
UNDER 55	2.64	2.78	3.40	2.79	3.01	2.61				
55-59	1.50	1.29	1.55	1.45	1.38	1.36				
60-64	1.11	1.11	1.16	1.11	1.00	1.01				
65-69	0.97	1.00	1.02	0.93	0.91	0.93				
70-74	1.00	1.01	1.03	0.97	0.95	0.97				
75-79	1.02	1.03	1.00	1.02	0.96	0.97				
80-84	1.04	1.04	1.07	1.05	1.02	0.97				
85-89	1.09	1.06	1.12	1.12	1.09	1.06				
90-94	1.06	1.00	1.02	1.07	1.10	1.04				
OVER 94	0.90	0.82	0.77	0.89	0.84	0.90				
TOTAL	1.03	1.03	1.05	1.03	1.00	0.99				

A/E IMPROVEMENT FACTORS 1995| 1996| 1997 1998| 1999| LOGLINEAR TO TO TO тоІ TO ARITHMETIC REGRESSION 1996 1997 1998 1999 | 2000 | AVERAGE | SLOPE ATTAINED AGE UNDER 55 | -0.050 | -0.225 | 0.179 | -0.079 | 0.135 | 55-59 0.137 -0.198 0.066 0.049 0.012 0.013 0.010 -0.001 -0.044 0.040 | 0.107 | -0.017 | 0.017 0.024 60-64 -0.030| -0.022| 0.095 | 0.013 | -0.012 65-69 0.009 0.018 0.005 -0.010 -0.024 0.021 -0.021 0.011 70-74 0.060 0.010| 75-79 -0.010 0.026 -0.024 0.067 -0.011 0.013 0.014 80-84 0.003| -0.030| 0.020 0.021 | 0.057| 0.012 0.004 85-89 0.030 -0.060 0.003 | 0.022 | 0.025 | 0.001 0.001 90-94 0.056 -0.021 -0.054 -0.027 0.053 -0.008 OVER 94 0.091 | 0.055 | -0.156 | 0.066 | -0.082 -0.005 -0.006

*Table 25C in 1997-98 Study

0.009

0.010

0.002 -0.021 0.022 0.031 0.010

TOTAL

TABLE 26A*

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC

!		Female Lives							
		Actu	al to	Expect	ed				
 ATTAINED AGE	1995	1996	1997	1998	1999	2000			
UNDER 55	2.09	4.01	4.48	3.61	4.87	4.21			
55-59	1.74	1.96	2.27	2.51	2.62	2.40			
60-64	1.32	1.36	1.60	1.46	1.59	1.53			
65-69	1.16	1.16	1.21	1.20	1.26	1.24			
70-74	1.15	1.16	1.21	1.15	1.31	1.31			
75-79	1.12	1.17	1.11	1.12	1.20	1.20			
80-84	1.09	1.09	1.10	1.12	1.20	1.17			
85-89	1.12	1.14	1.10	1.14	1.20	1.17			
90-94	1.08	1.10	1.07	1.15	1.20	1.17			
OVER 94	1.07	1.05	0.97	1.06	1.13	1.07			
TOTAL	1.12	1.14	1.13	1.15	1.22	1.19			

		A/E IMPR	OVEMENT	FACTORS			
i	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
	+	+	+	+			+
UNDER 55	-0.919	-0.115	0.193	-0.347	0.134	-0.211	-0.117
55-59	-0.128	-0.159	-0.106	-0.044	0.086	-0.070	-0.077
60-64	-0.024	-0.177	0.088	-0.096	0.038	-0.034	-0.033
65-69	0.001	-0.045	0.007	-0.044	0.016	-0.013	-0.016
70-74	-0.012	-0.047	0.056	-0.140	-0.001	-0.029	-0.028
75-79	-0.037	0.049	-0.015	-0.068	-0.002	-0.014	-0.013
80-84	-0.004	-0.010	-0.020	-0.064	0.022	-0.015	-0.019
85-89	-0.012	0.036	-0.040	-0.049	0.018	-0.009	-0.012
90-94	-0.012	0.020	-0.074	-0.043	0.031	-0.015	-0.021
OVER 94	0.021	0.080	-0.099	-0.060	0.051	-0.001	-0.008
TOTAL	-0.013	0.006	-0.018	-0.062	0.020	-0.013	-0.016

*Table 26C in 1997-98 Study

TABLE 27A*

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC

!		Female Income								
	Actual to Expected									
 ATTAINED AGE 	 1995	1996	1997	1998	1999	2000				
UNDER 55	1.85	3.45	4.37	3.48	3.10	3.08				
55-59	1.65	1.92	1.91	2.47	2.28	2.38				
60-64	1.45	1.28	1.51	1.42	1.33	1.42				
65-69	1.12	1.03	1.17	1.14	1.02	1.15				
70-74	1.04	1.04	1.15	1.10	1.16	1.13				
75-79	1.03	1.04	1.09	1.09	1.08	1.12				
80-84	1.05	1.06	1.13	1.13	1.08	1.11				
85-89	1.09	1.09	1.09	1.12	1.12	1.11				
90-94	1.07	1.07	1.07	1.14	1.16	1.12				
OVER 94	1.11	1.03	0.88	1.02	1.05	1.00				
TOTAL	1.08	1.08	1.13	1.14	1.12	1.13				

!!!		A/E IMPR	OVEMENT	FACTORS			
	1995	1996	1997	1998	1999		LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
UNDER 55	-0.868	-0.267	0.204	0.107	0.008	-0.163	-0.059
55-59	-0.164	0.004	-0.292	0.076	-0.046	-0.084	-0.078
60-64	0.118	-0.178	0.057	0.064	-0.070	-0.002	0.001
65-69	0.081	-0.133	0.027	0.106	-0.130	-0.010	-0.001
70-74	0.004	-0.106	0.046	-0.060	0.025	-0.018	-0.020
75-79	-0.009	-0.045	-0.000	0.014	-0.044	-0.017	-0.014
80-84	-0.017	-0.062	0.002	0.039	-0.023	-0.012	-0.010
85-89	-0.006	0.008	-0.030	0.001	0.005	-0.005	-0.006
90-94	0.005	-0.003	-0.063	-0.021	0.042	-0.008	-0.015
OVER 94	0.070	0.151	-0.169	-0.024	0.050	0.016	0.009
TOTAL	0.008	-0.054	-0.002	0.015	-0.014	-0.009	-0.010

*Table 27C in 1997-98 Study

TABLE 24B*

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC WITH PROJECTION

!		Male Lives								
ļ !		Actual to Expected								
 ATTAINED AGE 	 1995	1996	1997 +	1998	1999	2000				
UNDER 55	4.55	4.64	5.22	4.07	6.54	6.12				
55-59	1.93	1.94	2.10	2.11	2.22	2.14				
60-64	1.42	1.47	1.44	1.47	1.37	1.47				
65-69	1.18	1.21	1.24	1.21	1.22	1.26				
70-74	1.17	1.18	1.20	1.22	1.24	1.26				
75-79	1.17	1.15	1.17	1.21	1.19	1.20				
80-84	1.15	1.11	1.14	1.17	1.18	1.15				
85-89	1.14	1.13	1.16	1.19	1.19	1.17				
90-94	1.10	1.04	1.07	1.13	1.15	1.11				
OVER 94	0.97	1.00	0.95	1.00	1.00	0.98				
TOTAL	1.17	1.15	1.17	1.20	1.20	1.19				

!!!		A/E IMPR	OVEMENT	FACTORS	ļ		
	1995	1996	1997	1998	1999		LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
UNDER 55	-0.019	-0.126	0.221	-0.606	0.064	-0.093	-0.067
i 55-59 i	-0.005	-0.082	-0.005	-0.051	0.035	-0.022	-0.027
60-64	-0.036	0.020	-0.014	0.064	-0.070	-0.007	0.001
65-69	-0.024	-0.031	0.029	-0.014	-0.026	-0.013	-0.010
70-74	-0.009	-0.017	-0.014	-0.014	-0.017	-0.014	-0.014
75-79	0.012	-0.011	-0.037	0.018	-0.005	-0.005	-0.007
80-84	0.031	-0.022	-0.030	-0.004	0.023	-0.000	-0.006
85-89	0.016	-0.029	-0.031	-0.000	0.019	-0.005	-0.009
90-94	0.054	-0.026	-0.056	-0.016	0.035	-0.002	-0.010
OVER 94	-0.027	0.053	-0.060	0.002	0.021	-0.002	-0.003
TOTAL	0.013	-0.018	-0.023	0.002	0.009	-0.004	-0.006

*Table 24D in 1997-98 Study

TABLE 25B*

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC WITH PROJECTION

.....

		Male Income								
	Actual to Expected									
 ATTAINED AGE 	 1995 	1996 +	1997 +	1998	1999	2000				
UNDER 55	2.69	2.89	3.60	3.02	3.32	2.93				
55-59	1.53	1.34	1.63	1.55	1.50	1.51				
60-64	1.13	1.14	1.21	1.18	1.07	1.11				
65-69	0.99	1.03	1.07	0.98	0.98	1.01				
70-74	1.01	1.04	1.08	1.03	1.02	1.06				
75-79	1.03	1.05	1.04	1.08	1.02	1.04				
80-84	1.05	1.05	1.09	1.08	1.07	1.02				
85-89	1.10	1.07	1.14	1.14	1.13	1.10				
90-94	1.06	1.01	1.03	1.09	1.12	1.07				
OVER 94	0.90	0.82	0.78	0.90	0.84	0.91				
TOTAL	1.05	1.06	1.09	1.08	1.05	1.05				

!!!		A/E IMPR	OVEMENT	FACTORS			
	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
UNDER 55	-0.071	-0.249	0.163	-0.102	0.118	-0.028	-0.019
55-59	0.122	-0.219	0.050	0.033	-0.004	-0.004	-0.007
60-64	-0.016	-0.059	0.025	0.094	-0.032	0.002	0.009
65-69	-0.044	-0.036	0.082	-0.000	-0.026	-0.005	0.004
70-74	-0.026	-0.040	0.045	0.007	-0.037	-0.010	-0.004
75-79	-0.023	0.013	-0.037	0.055	-0.024	-0.003	-0.000
80-84	-0.005	-0.038	0.011	0.012	0.049	0.006	0.004
85-89	0.024	-0.067	-0.003	0.016	0.019	-0.002	-0.005
90-94	0.052	-0.025	-0.058	-0.031	0.050	-0.002	-0.012
OVER 94	0.090	0.054	-0.158	0.065	-0.083	-0.007	-0.008
TOTAL	-0.009	-0.032	0.011	0.022	-0.000	-0.002	-0.001

*Table 25D in 1997-98 Study

TABLE 26B*

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC WITH PROJECTION

!		Female Lives								
	Actual to Expected									
ATTAINED AGE	1995	1996	1997	1998	1999	2000				
UNDER 55	2.12	4.12	4.67	3.82	5.20	4.56				
55-59	1.75	1.98	2.31	2.57	2.69	2.48				
60-64	1.33	1.37	1.62	1.48	1.64	1.58				
65-69	1.17	1.17	1.23	1.23	1.29	1.27				
70-74	1.15	1.17	1.24	1.18	1.35	1.36				
75-79	1.13	1.18	1.13	1.16	1.25	1.26				
80-84	1.09	1.11	1.13	1.16	1.24	1.22				
85-89	1.13	1.15	1.11	1.16	1.22	1.21				
90-94	1.09	1.10	1.08	1.17	1.22	1.19				
OVER 94	1.08	1.06	0.97	1.07	1.14	1.08				
TOTAL	1.13	1.15	1.15	1.17	1.25	1.23				

		A/E IMPR	OVEMENT	FACTORS			
	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
UNDER 55	-0.945	-0.131	0.182	-0.363	0.123	-0.227	-0.132
55-59	-0.134	-0.166	-0.112	-0.050	0.081	-0.076	-0.082
60-64	-0.029	-0.183	0.084	-0.101	0.033	-0.039	-0.038
65-69	-0.004	-0.050	0.002	-0.050	0.011	-0.018	-0.021
70-74	-0.019	-0.053	0.050	-0.147	-0.007	-0.035	-0.034
75-79	-0.044	0.042	-0.022	-0.075	-0.010	-0.022	-0.020
80-84	-0.011	-0.017	-0.027	-0.071	0.015	-0.022	-0.026
85-89	-0.016	0.032	-0.044	-0.054	0.014	-0.014	-0.016
90-94	-0.014	0.018	-0.077	-0.046	0.028	-0.018	-0.023
OVER 94	0.019	0.079	-0.101	-0.061	0.050	-0.003	-0.009
TOTAL	-0.018	0.001	-0.023	-0.067	0.015	-0.018	-0.021

*Table26D in 1997-98 Study

TABLE 27B*

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000

EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY BASIC WITH PROJECTION

	Female Income								
	Actual to Expected								
ATTAINED AGE	 1995	1996	1997	1998	1999 	2000			
UNDER 55	1.87	3.54	4.55	3.67	3.32	3.33			
55-59	1.66	1.94	1.94	2.52	2.34	2.46			
60-64	1.46	1.29	1.53	1.45	1.36	1.47			
65-69	1.13	1.04	1.19	1.16	1.04	1.18			
70-74	1.05	1.05	1.17	1.13	1.20	1.18			
75-79	1.04	1.06	1.11	1.12	1.12	1.17			
80-84	1.05	1.08	1.15	1.16	1.12	1.16			
85-89	1.09	1.10	1.10	1.14	1.14	1.14			
90-94	1.08	1.07	1.08	1.15	1.18	1.13			
OVER 94	1.11	1.03	0.88	1.03	1.06	1.00			
TOTAL	1.09	1.09	1.15	1.16	1.15	1.17			

!!!		A/E IMPR	OVEMENT	FACTORS			
	1995	1996	1997	1998	1999		LOGLINEAR
j j	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
			+				+
UNDER 55	-0.892	-0.284	0.193	0.096	-0.004	-0.178	-0.073
55-59	-0.170	-0.001	-0.299	0.071	-0.051	-0.090	-0.084
60-64	0.114	-0.183	0.052	0.059	-0.075	-0.007	-0.004
65-69	0.076	-0.139	0.023	0.101	-0.136	-0.015	-0.006
70-74	-0.002	-0.113	0.040	-0.067	0.019	-0.025	-0.027
75-79	-0.017	-0.053	-0.008	0.007	-0.052	-0.024	-0.022
80-84	-0.024	-0.069	-0.005	0.033	-0.030	-0.019	-0.017
85-89	-0.011	0.003	-0.035	-0.003	0.001	-0.009	-0.010
90-94	0.003	-0.006	-0.066	-0.024	0.039	-0.011	-0.017
OVER 94	0.069	0.149	-0.171	-0.026	0.049	0.014	0.008
TOTAL	0.002	-0.060	-0.008	0.010	-0.019	-0.015	-0.016

*Table 27D in 1997-98 Study

TABLE 24C*

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY STATIC

!		Male Lives							
	Actual to Expected								
ATTAINED AGE	1995	1996	1997	1998	1999	2000			
UNDER 55	4.81	4.80	5.31	4.07	6.38	5.86			
55-59	2.04	2.02	2.15	2.12	2.19	2.08			
60-64	1.51	1.54	1.49	1.49	1.37	1.45			
65-69	1.25	1.26	1.28	1.23	1.23	1.24			
70-74	1.24	1.23	1.23	1.23	1.23	1.23			
75-79	1.24	1.21	1.21	1.24	1.20	1.19			
80-84	1.22	1.18	1.19	1.22	1.21	1.18			
85-89	1.22	1.20	1.22	1.25	1.25	1.22			
90-94	1.18	1.11	1.14	1.20	1.21	1.17			
OVER 94	1.05	1.07	1.01	1.07	1.07	1.05			
TOTAL	1.24	1.21	1.22	1.24	1.23	1.21			

!!!	AN	NUAL IMP	ROVEMENT	FACTORS	;		
	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
UNDER 55	+ 0.001	-0.107	0.235	 0.569	0.082	-0.072	+ -0.046
55-59	0.012	-0.064	0.012	-0.033	0.051	-0.004	-0.009
60-64	-0.021	0.034	0.001	0.078	-0.055	0.007	0.016
65-69	-0.010	-0.017	0.042	-0.000	-0.012	0.001	0.004
70-74	0.007	-0.002	0.001	0.002	-0.002	0.001	0.001
75-79	0.024	0.001	-0.024	0.030	0.008	0.008	0.006
80-84	0.039	-0.014	-0.021	0.005	0.031	0.008	0.003
85-89	0.022	-0.022	-0.025	0.006	0.025	0.001	-0.003
90-94	0.057	-0.023	-0.052	-0.012	0.039	0.002	-0.007
OVER 94	-0.025	0.055	-0.058	0.003	0.022	-0.001	-0.001
TOTAL	0.023	-0.008	-0.013	0.010	0.017	0.006	0.003

*Table 24A in 1997-98 Study

TABLE 25C*

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY STATIC

	Male Income								
	Actual to Expected								
ATTAINED AGE	 1995	1996	1997	1998	1999	2000			
UNDER 55	2.84	2.98	3.66	3.00	3.24	2.80			
55-59	1.61	1.39	1.67	1.56	1.48	1.46			
60-64	1.19	1.20	1.25	1.20	1.07	1.09			
65-69	1.05	1.08	1.10	1.00	0.98	1.00			
70-74	1.07	1.08	1.11	1.04	1.02	1.04			
75-79	1.09	1.10	1.08	1.10	1.03	1.04			
80-84	1.12	1.11	1.15	1.12	1.10	1.04			
85-89	1.17	1.14	1.20	1.20	1.17	1.14			
90-94	1.14	1.07	1.10	1.15	1.19	1.12			
OVER 94	0.97	0.88	0.83	0.96	0.90	0.97			
TOTAL	1.11	1.11	1.13	1.11	1.07	1.06			

!!!	AN	NUAL IMP	ROVEMENT	FACTORS	;		
	1995	1996	1997	1998	1999		LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
	-0.050	-0.225	0.179	 0.079	0.135	-0.008	0.001
55-59	0.137	-0.198	0.066	0.049	0.012		0.010
60-64	-0.001	-0.044	0.040	0.107	-0.017	0.017	0.024
65-69	-0.030	-0.022	0.095	0.013	-0.012	0.009	0.018
70-74	-0.010	-0.024	0.060	0.021	-0.021	0.005	0.011
75-79	-0.010	0.026	-0.024	0.067	-0.011	0.010	0.013
80-84	0.003	-0.030	0.020	0.021	0.057	0.014	0.012
85-89	0.030	-0.060	0.003	0.022	0.025	0.004	0.001
90-94	0.056	-0.021	-0.054	-0.027	0.053	0.001	-0.008
OVER 94	0.091	0.055	-0.156	0.066	-0.082	-0.005	-0.006
TOTAL	0.002	-0.021	0.022	0.031	0.010	0.009	0.010

*Table 25A in 1997-98 Study

TABLE 26C*

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY STATIC

		Female Lives								
		Actual to Expected								
ATTAINED AGE	1995	1996	1997	1998	1999	2000				
UNDER 55	2.25	4.32	4.81	3.88	5.15	4.47				
55-59	1.87	2.11	2.44	2.70	2.82	2.58				
60-64	1.42	1.46	1.72	1.56	1.71	1.65				
65-69	1.25	1.25	1.30	1.29	1.35	1.33				
70-74	1.23	1.25	1.31	1.23	1.40	1.41				
75-79	1.21	1.25	1.19	1.21	1.29	1.29				
80-84	1.17	1.17	1.18	1.21	1.29	1.26				
85-89	1.21	1.22	1.18	1.23	1.29	1.26				
90-94	1.17	1.18	1.16	1.24	1.29	1.25				
OVER 94	1.16	1.13	1.04	1.14	1.21	1.15				
TOTAL	1.21	1.22	1.21	1.24	1.31	1.28				

!!!	AN	NUAL IMP	ROVEMENT	FACTORS			
	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
		+	+	+			·
UNDER 55	-0.921	-0.115	0.193	-0.327	0.134	-0.207	-0.113
55-59	-0.128	-0.159	-0.106	-0.044	0.086	-0.070	-0.077
60-64	-0.024	-0.177	0.088	-0.096	0.038	-0.034	-0.033
65-69	0.001	-0.045	0.007	-0.044	0.016	-0.013	-0.016
70-74	-0.012	-0.047	0.056	-0.140	-0.001	-0.029	-0.028
75-79	-0.037	0.049	-0.015	-0.068	-0.002	-0.014	-0.013
80-84	-0.004	-0.010	-0.020	-0.064	0.022	-0.015	-0.019
85-89	-0.012	0.036	-0.040	-0.049	0.018	-0.009	-0.012
90-94	-0.012	0.020	-0.074	-0.043	0.031	-0.015	-0.021
OVER 94	0.021	0.080	-0.099	-0.060	0.051	-0.001	-0.008
TOTAL	-0.013	0.006	-0.018	-0.062	0.020	-0.013	-0.016

*Table 26A in 1997-98 Study

TABLE 27C*

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY MORTALITY STATIC

		Female Income							
	Actual to Expected								
ATTAINED AGE	 1995 	1996	1997	1998	1999	2000			
UNDER 55	1.98	3.71	4.70	3.74	3.30	3.29			
55-59	1.77	2.06	2.05	2.65	2.45	2.56			
60-64	1.56	1.38	1.62	1.53	1.43	1.53			
65-69	1.21	1.11	1.26	1.22	1.09	1.24			
70-74	1.12	1.12	1.24	1.18	1.25	1.22			
75-79	1.11	1.12	1.17	1.17	1.16	1.21			
80-84	1.13	1.14	1.22	1.21	1.17	1.19			
85-89	1.17	1.18	1.17	1.20	1.20	1.19			
90-94	1.15	1.15	1.15	1.23	1.25	1.20			
OVER 94	1.19	1.11	0.94	1.10	1.13	1.07			
TOTAL	1.17	1.16	1.22	1.22	1.20	1.22			

!!!	AN	NUAL IMP	ROVEMENT	FACTORS			
	1995	1996	1997	1998	1999		LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
							·
UNDER 55	-0.870	-0.267	0.204	0.116	0.006	-0.162	-0.057
55-59	-0.164	0.004	-0.292	0.076	-0.046	-0.084	-0.078
60-64	0.118	-0.178	0.057	0.064	-0.070	-0.002	0.001
65-69	0.081	-0.133	0.027	0.106	-0.130	-0.010	-0.001
70-74	0.004	-0.106	0.046	-0.060	0.025	-0.018	-0.020
75-79	-0.009	-0.045	-0.000	0.014	-0.044	-0.017	-0.014
80-84	-0.017	-0.062	0.002	0.039	-0.023	-0.012	-0.010
85-89	-0.006	0.008	-0.030	0.001	0.005	-0.005	-0.006
90-94	0.005	-0.003	-0.063	-0.021	0.042	-0.008	-0.015
OVER 94	0.070	0.151	-0.169	-0.024	0.050	0.016	0.009
TOTAL	0.008	-0.054	-0.002	0.015	-0.014	-0.009	-0.010

*Table 27A in 1997-98 Study

TABLE 24D*

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE LIVES FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY RESERVING TABLE

	Male Lives								
	Actual to Expected								
 ATTAINED AGE	1995	1996	1997	1998	1999	2000			
UNDER 55	4.90	4.99	5.62	4.38	7.03	6.58			
55-59	2.08	2.09	2.26	2.27	2.38	2.30			
60-64	1.53	1.58	1.55	1.58	1.47	1.58			
65-69	1.27	1.30	1.34	1.30	1.32	1.35			
70-74	1.26	1.27	1.29	1.31	1.33	1.35			
75-79	1.26	1.24	1.26	1.30	1.28	1.29			
80-84	1.24	1.20	1.22	1.26	1.26	1.24			
85-89	1.23	1.21	1.25	1.28	1.28	1.26			
90-94	1.19	1.12	1.15	1.22	1.24	1.19			
OVER 94	1.05	1.08	1.02	1.08	1.08	1.06			
TOTAL	1.26	1.24	1.26	1.29	1.29	1.28			

A/E IMPROVEMENT FACTORS | | |

	A/E IMPR	OVEMENT	FACTORS			
1995	1996	1997	1998	1999		 LOGLINEAR
тој	тој	тој	тој	TO	ARITHMETIC	REGRESSION
1996	1997	1998	1999	2000	AVERAGE	SLOPE
+	+	+	+		+	+
-0.019	-0.126	0.221	-0.606	0.064	-0.093	-0.067
-0.005	-0.082	-0.005	-0.051	0.035	-0.022	-0.027
-0.036	0.020	-0.014	0.064	-0.070	-0.007	0.001
-0.024	-0.031	0.029	-0.014	-0.026	-0.013	-0.010
-0.009	-0.017	-0.014	-0.014	-0.017	-0.014	-0.014
0.012	-0.011	-0.037	0.018	-0.005	-0.005	-0.007
0.031	-0.022	-0.030	-0.004	0.023	-0.000	-0.006
0.016	-0.029	-0.031	-0.000	0.019	-0.005	-0.009
0.054	-0.026	-0.056	-0.016	0.035	-0.002	-0.010
-0.027	0.053	-0.060	0.002	0.021	-0.002	-0.003
0.013	-0.018	-0.023	0.002	0.009	-0.004	-0.006
	1995 TO 1996 -0.019 -0.036 -0.024 -0.009 0.012 0.031 0.016 0.054 -0.027	1995 1996 TO TO 1996 1997 -0.019 -0.126 -0.005 -0.082 -0.036 0.020 -0.024 -0.031 -0.009 -0.017 0.012 -0.011 0.031 -0.022 0.016 -0.029 0.054 -0.026 -0.027 0.053	1995 1996 1997 TO	TO TO TO TO 1998 1999 -0.019 -0.126 0.221 -0.606 -0.005 -0.051 -0.036 0.020 -0.014 -0.024 -0.031 0.029 -0.014 -0.014 -0.012 -0.011 -0.037 0.018 0.031 -0.022 -0.031 -0.004 -0.016 -0.029 -0.031 -0.000 0.054 -0.029 -0.031 -0.000 0.054 -0.026 -0.056 -0.016 -0.027 0.053 -0.060 0.002	1995 1996 1997 1998 1999 TO TO TO TO TO 1996 1997 1998 1999 2000 1996 1997 1998 1999 2000 1996 1997 1998 1999 2000 1996 1997 1998 1999 2000 1998 1999 2000 1998 1999 2000 1998 1999 2000 1998 1999 2000 1998 1999 2000 1998 1999	1995 1996 1997 1998 1999 TO

*Table 24B in 1997-98 Study

TABLE 25D*

SUMMARY OF MORTALITY IMPROVEMENT FOR MALE INCOME FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY RESERVING TABLE

	Male Income							
		Actual to Expected						
ATTAINED AGE	1995	1996	1997	1998	1999	2000		
UNDER 55	2.90	2 10	3.87	3.24	3.57	3.15		
UNDER 55 55-59	1.64	3.10 1.44	1.75	1.67		:		
60-64	1.21	1.23	1.30	1.27		1.62		
65-69	1.06	1.11	1.15	1.05				
70-74	1.09	1.12	1.16	1.11	1.10	:		
75-79	1.11	1.13	1.12	1.16	1.10			
80-84	1.13	1.13	1.18	1.16	1.15	:		
85-89	1.18	1.15	1.23	1.23	1.21	:		
90-94	1.14	1.08	1.11	1.17	1.21	1.15		
OVER 94	0.97	0.88	0.84	0.97		0.98		
TOTAL	1.13	1.14	1.17	1.16	1.13	1.13		

!		A/E IMPR					
	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
		+	+	+		·	·
UNDER 55	-0.071	-0.249	0.163	-0.102	0.118	-0.028	-0.019
55-59	0.122	-0.219	0.050	0.033	-0.004	-0.004	-0.007
60-64	-0.016	-0.059	0.025	0.094	-0.032	0.002	0.009
65-69	-0.044	-0.036	0.082	-0.000	-0.026	-0.005	0.004
70-74	-0.026	-0.040	0.045	0.007	-0.037	-0.010	-0.004
75-79	-0.023	0.013	-0.037	0.055	-0.024	-0.003	-0.000
80-84	-0.005	-0.038	0.011	0.012	0.049	0.006	0.004
85-89	0.024	-0.067	-0.003	0.016	0.019	-0.002	-0.005
90-94	0.052	-0.025	-0.058	-0.031	0.050	-0.002	-0.012
OVER 94	0.090	0.054	-0.158	0.065	-0.083	-0.007	-0.008
TOTAL	-0.009	-0.032	0.011	0.022	-0.000	-0.002	-0.001

*Table 25B in 1997-98 Study

TABLE 26D*

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE LIVES FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY RESERVING TABLE

ļ	Female Lives								
		Actual to Expected							
ATTAINED AGE	1995	1996	1997	1998	1999	2000			
UNDER 55	2.28	4.44	5.02	4.10	5.51	4.84			
55-59	1.88	2.13	2.48	2.76	2.90	2.66			
60-64	1.43	1.47	1.74	1.60	1.76	1.70			
65-69	1.26	1.26	1.32	1.32	1.39	1.37			
70-74	1.24	1.26	1.33	1.26	1.45	1.46			
75-79	1.22	1.27	1.22	1.25	1.34	1.35			
80-84	1.18	1.19	1.21	1.24	1.33	1.31			
85-89	1.21	1.23	1.20	1.25	1.32	1.30			
90-94	1.17	1.19	1.16	1.25	1.31	1.28			
OVER 94	1.16	1.13	1.05	1.15	1.22	1.16			
TOTAL	1.21	1.23	1.23	1.26	1.35	1.33			

		A/E IMPR					
	1995	1996	1997	1998	1999		LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
		+		+		·	
UNDER 55	-0.947	-0.131	0.182	-0.344	0.123	-0.223	-0.128
55-59	-0.134	-0.166	-0.112	-0.050	0.081	-0.076	-0.082
60-64	-0.029	-0.183	0.084	-0.101	0.033	-0.039	-0.038
65-69	-0.004	-0.050	0.002	-0.050	0.011	-0.018	-0.021
70-74	-0.019	-0.053	0.050	-0.147	-0.007	-0.035	-0.034
75-79	-0.044	0.042	-0.022	-0.075	-0.010	-0.022	-0.020
80-84	-0.011	-0.017	-0.027	-0.071	0.015	-0.022	-0.026
85-89	-0.016	0.032	-0.044	-0.054	0.014	-0.014	-0.016
90-94	-0.014	0.018	-0.077	-0.046	0.028	-0.018	-0.023
OVER 94	0.019	0.079	-0.101	-0.061	0.050	-0.003	-0.009
TOTAL	-0.018	0.001	-0.023	-0.067	0.015	-0.018	-0.021

*Table 26B in 1997-98 Study

TABLE 27D*

SUMMARY OF MORTALITY IMPROVEMENT FOR FEMALE INCOME FOR CALENDAR YEARS 1995 TO 2000 EXPECTED MORTALITY BASIS-1994 GROUP ANNUITY RESERVING TABLE

	Female Income								
		Actual to Expected							
 ATTAINED AGE 	 1995	1996	1997	1998	1999	2000			
UNDER 55	2.01	3.81	4.89	3.94	3.53	3.55			
55-59	1.78	2.08	2.09	2.71	2.52	2.65			
60-64	1.57	1.39	1.64	1.56	1.47	1.58			
65-69	1.21	1.12	1.28	1.25	1.12	1.27			
70-74	1.13	1.13	1.26	1.21	1.29	1.27			
75-79	1.12	1.14	1.20	1.21	1.20	1.26			
80-84	1.13	1.16	1.24	1.25	1.21	1.24			
85-89	1.17	1.19	1.18	1.22	1.23	1.23			
90-94	1.16	1.16	1.16	1.24	1.27	1.22			
OVER 94	1.19	1.11	0.95	1.11	1.14	1.08			
TOTAL	1.17	1.17	1.24	1.25	1.24	1.26			

!!!		A/E IMPR					
	1995	1996	1997	1998	1999		 LOGLINEAR
	TO	TO	TO	TO	TO	ARITHMETIC	REGRESSION
ATTAINED AGE	1996	1997	1998	1999	2000	AVERAGE	SLOPE
						·	+
UNDER 55	-0.894	-0.284	0.193	0.105	-0.006	-0.177	-0.071
55-59	-0.170	-0.001	-0.299	0.071	-0.051	-0.090	-0.084
60-64	0.114	-0.183	0.052	0.059	-0.075	-0.007	-0.004
65-69	0.076	-0.139	0.023	0.101	-0.136	-0.015	-0.006
70-74	-0.002	-0.113	0.040	-0.067	0.019	-0.025	-0.027
75-79	-0.017	-0.053	-0.008	0.007	-0.052	-0.024	-0.022
80-84	-0.024	-0.069	-0.005	0.033	-0.030	-0.019	-0.017
85-89	-0.011	0.003	-0.035	-0.003	0.001	-0.009	-0.010
90-94	0.003	-0.006	-0.066	-0.024	0.039	-0.011	-0.017
OVER 94	0.069	0.149	-0.171	-0.026	0.049	0.014	0.008
TOTAL	0.002	-0.060	-0.008	0.010	-0.019	-0.015	-0.016

*Table 27B in 1997-98 Study