

Society of Actuaries

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Annuity Experience Report

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MORTALITY EXPERIENCE UNDER INDIVIDUAL PAYOUT ANNUITIES FOR CALENDAR YEARS 2000 THROUGH 2004

I. OVERVIEW OF THE STUDY

The Individual Annuity Experience Committee of the Society of Actuaries has conducted an experience study of individual payout annuities, covering calendar years 2000 through 2004. The intent of this study is to provide recent annuitant mortality experience which can be compared to the Annuity 2000 Mortality Table, and provide a basis for a possible revision to that table. Sixteen companies contributed data to the study.

The study includes immediate annuities, annuitizations, and life settlement options of life insurance and annuity death claims. The request for data that went out to companies included substandard annuities, but the results were excluded from the study as insufficient data on substandard annuities was provided by the participating companies. Data for variable payout annuities was not requested as part of this study. Structured settlement annuities are excluded from this report, as the mortality experience on this specialized block is being compiled and studied separately.

This study provides the most comprehensive review of intercompany mortality for individual payout annuities since the data underlying the 1983 Individual Annuitant Mortality Table was compiled. Note that the Annuity 2000 Mortality Table was not based on updated intercompany experience, but rather drew upon general population data to bring forward the 1983 IAM Table (a.k.a. 1983 Table *a*) based on 100% of male Scale G and 50% of female Scale G. As such, it was intended to be used only as an interim table, awaiting the results of a more robust intercompany annuitant study. The 1983 IAM Table was based on an intercompany experience study covering the years 1971 through 1976. There was another mortality study conducted covering 1976 through 1986, in which only eight companies participated. This latter study was reported in the Transactions of Society of Actuaries 1991-92 Reports, and served to validate the adequacy of the 1983 IAM Table at that time.

The study is based on attained ages using a calendar year approach, with the exposure split into contract year (duration) categories to allow analysis of the effect of selection over time. The results of the study are reported through Actual to Expected (A/E) ratios, with expected deaths based on the Annuity 2000 Basic Mortality Table and the 1983 Individual Annuity Mortality Basic Table. Note that as “basic” tables, these two tables exclude the loading of 10% that was deducted from the mortality rates of the basic tables to develop their respective corresponding valuation tables. The 10% loading in the 1971, 1983, and 2000 tables was not intended to provide for any future improvement in mortality but rather to provide a safety margin to allow for the fact that some companies experience lower than average annuitant mortality.

One participating company provided a disproportionately high contribution of data, so that company's experience was weighted 50% in the combined-company results. After reflecting this adjustment, the exposure encompasses over 1.8 million contract-years, almost \$7.5 billion in annual income-years, and over 82,000 deaths.

The experience data was analyzed considering many significant dimensions in addition to age and gender including contract year (as previously mentioned), contract type, benefit class, tax class, and income band. Contract type refers to the previously-mentioned immediate annuities, annuitizations, and life settlement options. The life settlement options are further distinguished by source, i.e., death benefit or surrender/maturity benefit, annuity or life insurance death claim. Benefit class refers to whether the annuity is on a single life or on joint lives and whether the annuity contract has a refund feature, such as a period certain, cash refund or installment refund. Another classification, annuity type, simply consolidates the benefit classes into broader non refund and refund categories. The income bands were based on annual payout amounts, and the inclusion of this perspective allows analysis by size of the payout.

Of the sixteen participating companies, ten companies contributed data for the full five year experience period. Thus, it is important to keep in mind when viewing the results by calendar year that not all participating companies are represented for each of the five calendar years, and that could impact attempts to discern trends in mortality experience.

Disclaimer

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The following sixteen companies participated in this study:

Allstate	Nationwide
Aviva	New York Life
AXA MONY	Northwestern Mutual
Genworth	Prudential
Hartford Life	State Farm
Jefferson Pilot	Symetra
Lincoln National	Thrivent
Minnesota Mutual	TIAA-CREF

II. TABLES OF ACTUAL-TO-EXPECTED MORTALITY RATIOS

Several actual-to-expected tables of interest have been included in the Appendix. A description of these tables is given below. Each table includes actual-to-expected mortality ratios based on contract count and annual income amount. Each table shows actual-to-expected mortality ratios using the Annuity 2000 Basic Mortality Table as the expected basis. In addition, Tables 1a, 1b, 1c, 1d, and 1e show actual-to-expected mortality ratios using the 1983 IAM Basic Table as the expected basis.

Actual-to-expected mortality ratios are only shown for cells that contain at least 35 contracts terminated by death. Cells with at least 400 deaths are also noted. Caution should be used when comparing results from various cells within the tables as the credibility of each cell will be different.

Table 1a: Nonrefund Annuities by Attained Age, Contract Year, and Gender

This table shows results for annuities with no certain period or refund feature (nonrefund). A-to-E ratios are shown by gender, attained age, and contract year, based on both the Annuity 2000 Basic Table and the 1983 IAM Basic Table.

Table 1b: Refund Annuities by Attained Age, Contract Year, and Gender

This table shows results for annuities with a certain period or refund feature (refund). A-to-E ratios are shown by gender, attained age, and contract year, based on both the Annuity 2000 Basic Table and the 1983 IAM Basic Table.

Table 1c: Overall Results (Refund plus Nonrefund Annuities) by Attained Age, Contract Year, and Gender

This table shows combined results for refund and non-refund annuities. A-to-E ratios are shown by gender, attained age, and contract year, based on both the Annuity 2000 Basic Table and the 1983 IAM Basic Table.

Table 1d: Nonrefund Annuities by Contract Type, Contract Year, and Gender

This table shows results for annuities with no certain period or refund feature (nonrefund). A-to-E ratios are shown by gender, contract type, and contract year, based on both the Annuity 2000 Basic Table and the 1983 IAM Basic Table.

Table 1e: Refund Annuities by Contract Type, Contract Year, and Gender

This table shows results for annuities with a certain period or refund feature (refund). A-to-E ratios are shown by gender, contract type, and contract year, based on both the Annuity 2000 Basic Table and the 1983 IAM Basic Table.

Table 2a: Nonrefund and Refund Annuities by Annual Income, Contract Year, and Gender

This table shows results for both refund and nonrefund annuities. A-to-E ratios are shown by gender, annual income amount (in 8 income bands), and contract year, based on the Annuity 2000 Basic Table.

Table 2b1: Nonrefund and Refund Annuities by Annual Income, Contract Year, and Contract Type

This table shows results for both refund and nonrefund annuities. A-to-E ratios are shown by contract type (immediate annuities vs. annuitizations vs. settlement options), annual income amount (in 3 income bands), and contract year, based on the annuity 2000 Basic Table.

Table 2b2: Qualified Nonrefund and Refund Annuities by Annual Income, Contract Year, and Contract Type

This table shows results for both refund and nonrefund annuities for tax qualified contracts only. A-to-E ratios are shown by contract type (immediate annuities vs. annuitizations vs. settlement options), annual income amount (in 3 income bands), and contract year, based on the Annuity 2000 Basic Table.

Table 2b3: Nonqualified Nonrefund and Refund Annuities by Annual Income, Contract Year, and Contract Type

This table shows results for both refund and nonrefund annuities for nonqualified contracts only. A-to-E ratios are shown by contract type (immediate annuities vs. annuitizations vs. settlement options), annual income amount (in 3 income bands), and contract year, based on the Annuity 2000 Basic Table.

Table 3a: Nonrefund and Refund Immediate Annuities by Attained Age, Contract Year, and Gender

This table shows results for both refund and nonrefund annuities for immediate annuity contracts only. A-to-E ratios are shown by gender, attained age, and contract year, based on the Annuity 2000 Basic Table.

Table 3b: Nonrefund and Refund Annuitizations by Attained Age, Contract Year, and Gender

This table shows results for both refund and nonrefund annuities for annuitized contracts only. A-to-E ratios are shown by gender, attained age, and contract year, based on the Annuity 2000 Basic Table.

Table 3c: Nonrefund and Refund Settlement Options by Attained Age, Contract Year, and Gender

This table shows results for both refund and nonrefund annuities for settlement option contracts only. A-to-E ratios are shown by gender, attained age, and contract year, based on the Annuity 2000 Basic Table.

Table 4: Nonrefund and Refund Annuities by Single Life vs. Joint Life, Contract Type, Contract Year, and Gender

This table gives results for both refund and nonrefund annuities. The results are broken down by gender, single life vs. joint life income options, contract type, and contract year, based on the Annuity 2000 Basic Table. For joint life options, if both annuitants were alive at the beginning of the calendar year of study, the reported experience is for the primary annuitant only. If only one annuitant was alive at the beginning of the calendar year of study, the reported experience is for the surviving annuitant.

Table 5: Nonrefund and Refund Annuities by Attained Age, Study Year, and Gender

This table gives results for both refund and nonrefund annuities. The results are shown by gender, attained age, and study year (2000-2004) for the ten companies that contributed experience for all five calendar years of the study, based on the Annuity 2000 Basic Table.

III. PRINCIPAL OBSERVATIONS

This study provides a measure of the overall adequacy of the Annuity 2000 table as a basis for valuing reserves for individual payout annuity contracts. With expected mortality based on the Annuity 2000 Basic table, the overall income-weighted A/E ratios (combining all companies, study years, contract years, attained ages, benefit classes, annuity types, income groups, underwriting classes, tax classes, contract types) are 0.929 for males and 0.977 for females, which suggests that annuitants are living longer than would be implied by the Annuity 2000 Basic table. These overall results are shown in Table 1c.

Note that the Annuity 2000 table contains a 10% loading deducted from the Annuity 2000 Basic table (primarily to account for potential mortality fluctuations between companies and from year to year), so an A/E ratio of 1.00 on the Annuity 2000 Basic table is equivalent to an A/E ratio of 1.11 based on the Annuity 2000 valuation table. Thus, with expected mortality based on the Annuity 2000 valuation table, the overall income-weighted A/E ratios for this study are 1.032 for males and 1.086 for females.

Another trend that can be observed in the results of this study is that A/E ratios for non-refund annuities are generally lower than those for refund annuities, possibly indicating “self-selection” by annuitants with respect to their health status. Tables 1a and 1b show A/E ratios for non-refund annuities and refund annuities, respectively. Generally, the income-weighted A/E ratios for non-refund annuities tend to be lower than those for refund annuities. The relatively low A/E ratios for non-refund annuities provide evidence that the Annuity 2000 table may no longer be adequate for reserving these types of annuities. For example, for non-refund annuities the overall income-weighted A/E ratios based on the Annuity 2000 Basic table are 0.789 for males and 0.819 for females. Interestingly, the Committee Report on the 1976-86 study (8 companies) noted that the mortality ratios under refund annuities were generally lower than those under non-refund annuities, a finding that was “counter to expectations and prior trends.”

Additional insight could be gained by examining tables 2b2 and 2b3, showing experience for qualified and non-qualified business, respectively. For example, when comparing these two tables we find that differences in A/E ratios between non-refund and refund annuities are far more pronounced for non-qualified business than for qualified business. This suggests that factors other than health self-selection may play a role in the annuity type chosen. In fact, within the qualified business, A/E ratios for annuitizations and settlements are actually higher for non-refund business than for refund business.

Since the Annuity 2000 table does not incorporate an explicit provision for future mortality improvement (i.e., a mortality improvement projection scale), the adequacy of the table as a reserve standard will deteriorate over time if mortality continues to improve. Implications of the results of this study with respect to the adequacy of the Annuity 2000 valuation table will be addressed by a subsequent committee.

Table 5 shows results for each calendar year of the study for the ten companies that contributed experience data to all five study years. There appears to be a general trend of declining overall mortality ratios over the five year study period for both refund and non-refund annuities. For example, linear regressions of the successive calendar year income-weighted mortality ratios for all ages combined have negative slopes (-.050 for male non-refund annuities, -.033 for female refund non-annuities, -.010 for male refund annuities, and -.032 for female refund annuities). The corresponding linear regression line slopes for ratios based on unweighted numbers of contracts are also negative (-.005 for male non-refund annuities, -.018 for female refund non-annuities, -.012 for male refund annuities, and -.017 for female refund annuities). Of course, caution should be taken in interpreting any specific observed trends, as they may or may not be statistically significant.

Tables 1a, 1b, 1c, 1d, and 1e also show A/E ratios based on the 1983 IAM Basic mortality table. And in Tables 1d and 1e, the A/E ratios based on the 1983 IAM Basic table are shown by contract type in order to provide a basis for comparison with the results of the previously published 1976-86 mortality experience of eight large life insurance companies for similar product categories (Transactions of Society of Actuaries, 1991-92 Reports). While caution should be used in making comparisons between the results of these two studies (due to, for example, differences in contributing companies, mix of business, etc.), there are some striking trends. For example, A/E ratios for immediate annuities are observed to have decreased significantly over the 21-year period from the midpoint of the prior study to the midpoint of the current study, particularly for non-refund annuities. For males, the overall income weighted A/E ratio dropped from 1.21 to 0.48 for non-refund immediate annuities (an average annual improvement rate of 4.31%). For females, the overall ratio dropped from 1.20 to 0.60 for non-refund immediate annuities (an average annual improvement rate of 3.25%). For refund immediate annuities the overall A/E ratio dropped from 1.04 to 0.87 for males and from 1.03 to 0.92 for females.

The study results also show a strong indication of “self-selection” by annuity income levels, with significantly lower A/E ratios for the higher income bands. As shown in the following table, for male lives, overall A/E ratios decrease monotonically with increasing income bands from a high of 1.17 for annual annuity incomes less than \$2,500 to a low of 0.59 for annual incomes of \$50,000 and above. Except for the \$50,000 and over income band, the same trend of decreasing A/E ratios with increasing income bands is observed for female lives.

Overall Mortality Ratios by Annual Income And Gender
Based on Annuity 2000 Basic Table
For Experience Years 2000 through 2004

Income Band	Based on Number of Contracts		Based on Amounts of Annual Income	
	Male	Female	Male	Female
Less Than \$2500	1.217	1.166	1.170	1.108
\$2500-\$4999	1.049	1.029	1.046	1.027
\$5000-\$7499	0.995	0.968	0.996	0.962
\$7500-\$9999	0.968	0.964	0.966	0.964
\$10000-\$14999	0.928	0.941	0.926	0.939
\$15000-\$24999	0.867	0.931	0.863	0.932
\$25000-\$49999	0.805	0.853	0.798	0.849
\$50000 and over	0.628	0.729	0.590	0.888
All.....	1.113	1.104	0.929	0.977

Ratios in **bold** have at least 400 deaths.

Similar trends can be seen in Table 2a, which shows A/E ratios based on the Annuity 2000 Basic Table by income bands and by contract duration for non-refund and refund annuities. This “self-selection” effect is most noticeable on immediate annuities (both qualified and non-qualified) written on male lives, and in the earlier contract years, as can be seen in Tables 2b1, 2b2, and 2b3.

IV. PIVOT TABLES

In addition to the tables of Actual to Expected (A/E) mortality ratios presented in the Appendix of this report, the results of this study are also presented in Excel pivot table format. Following is a description each of the pivot tables that are provided and the pivot table fields and data elements underlying the pivot tables.

Pivot Table Fields

Study Year

Calendar year of experience (2000, 2001, 2002, 2003, 2004).

Contract Years

Number of years since contract issue (immediate annuities) or since annuitization or election of a settlement option.

Attained Age

Ages under 50; five year age groups from 50 to 99; ages 100 and over.

Gender

Male, Female.

Benefit Class

Form of annuity (e.g., single life or joint life, with or without a period certain or other refund feature, and temporary life).

Annuity Type

Benefit Classes are categorized as Refund (i.e., including a period certain or other refund feature), and NonRefund.

Income Group

Annual annuity income amount grouped into bands: < \$2,500, \$2,500 - \$4,999, \$5,000-\$7,499, \$7,500-\$9,999, \$10,000-\$14,999, \$15,000-\$24,999, \$25,000-\$49,999, \$50,000 and over.

Underwriting Class

Underwritten as Standard or not underwritten.

(Note: contracts underwritten as Substandard were excluded from the study because the amount of data collected for these contracts was not sufficient to be credible)

Tax Class

Annuities are classified as Non-Qualified, Qualified (other than Pension Trust), Pension Trust, IRA, or Unknown tax class. Life Insurance Settlement Options are assumed to be nontaxable.

Contract Type

Immediate annuities, annuitizations of deferred annuities, life settlement options from annuities and life insurance contracts

Amount Indicator

0 or 1: 0 indicates that no annual income amount was provided for the contract (thus these contracts are not reflected in the results by amount).

Pivot Table Tabs

The first five tabs of the Excel file contain pivot tables constructed to illustrate how the mortality experience results vary by Gender, Income Group, Tax Class, Annuity Type, Contract Type, and Contract Year. Each pivot table contains the actual number of deaths, the number of contracts exposed, amount of annual income exposed, A/E ratios by contract and A/E ratios weighted by annual income with expected deaths based on the Annuity 2000 Basic Table. These pivot tables show results by:

Tax Class by Income Group
Gender by Income Group
Annuity Type
Contract Type
Income Group by Contract Year

The sixth tab labeled “**All Fields**” is provided for users who want to construct their own pivot tables using any combination of the Pivot Table Fields. This pivot table contains the following data elements:

Contracts Exposed

Exposure by number of contracts.

Amount Exposed

Exposure weighted by annual annuity income amount.

Deaths

Number of actual deaths.

Death Amount

Actual deaths weighted by annual income amount.

Qx by Contract

Actual death rate by number of contracts.

Qx by Amount

Actual death rate weighted by annual income amount.

Expected Death by Contract Annuity 2000 Basic Table

Number of expected deaths based on the Annuity 2000 Basic Table.

Expected Death by Contract 1983 IAM Basic Table

Number of expected deaths based on the 1983 IAM Basic Table.

Expected Death by Amount Annuity 2000 Basic Table

Expected deaths based on the Annuity 2000 Basic Table, weighted by annual income amount.

Expected Death by Amount 1983 IAM Basic Table

Expected deaths based on the 1983 IAM Basic Table, weighted by annual income amount.

A/E Ratio by Contract Annuity 2000 Basic Table

Ratio of actual deaths to expected deaths with expected deaths based on the Annuity 2000 Basic Table.

A/E Ratio by Contract 1983 IAM Basic Table

Ratio of actual deaths to expected deaths with expected deaths based on the 1983 IAM Basic Table.

A/E Ratio by Amount Annuity 2000 Basic Table

Ratio of actual deaths to expected deaths weighted by annual income amount with expected deaths based on the Annuity 2000 Basic Table.

A/E Ratio by Amount 1983 IAM Basic Table

Ratio of actual deaths to expected deaths weighted by annual income amount with expected deaths based on the 1983 IAM Basic Table.

For those unfamiliar with pivot tables, an introduction to creating and using pivot tables can be found in the Microsoft Excel Online Help by searching on “Create Pivot Tables”. In addition, there are many popular Microsoft Excel books such as the *Microsoft Excel Bible*, *Mr. Excel on Excel*, *Excel PivotTables and PivotCharts*, and *Excel for Dummies* that contain excellent reference guides for using pivot tables.

V. ACKNOWLEDGEMENTS

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APPENDIX: TABLES OF ACTUAL-TO-EXPECTED MORTALITY RATIOS

TABLE 1a
NonRefund Annuity Mortality Ratios by Attained Age, Contract-Year Group, And Gender
 Based on Annuity 2000 and 1983 IAM Basic Tables, For Experience Years 2000 through 2004

Attained Age	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Based on Annuity 2000 Basic Mortality Table										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	1.597	*	*	*	*	1.313
60-64.....	*	*	*	*	1.499	*	*	*	*	1.075
65-69.....	0.780	1.111	1.353	1.638	1.215	0.538	1.015	1.114	0.845	0.903
70-74.....	0.757	0.841	1.013	1.248	1.033	0.555	0.568	0.840	1.149	0.805
75-79.....	0.535	0.726	0.890	1.073	0.976	0.322	0.449	0.678	0.894	0.709
80-84.....	0.760	0.873	0.982	1.101	1.056	0.343	0.609	0.790	0.952	0.777
85-89.....	0.696	0.973	1.041	1.236	1.164	0.255	0.719	0.614	1.080	0.740
90-94.....	0.906	0.990	0.865	1.336	1.242	0.212	0.825	0.650	1.111	0.793
95-99.....	*	*	1.298	1.366	1.382	*	*	0.806	1.330	1.102
100 and Over..	*	*	*	1.608	1.610	*	*	*	1.573	1.530
All.....	0.804	0.964	1.006	1.206	1.125	0.386	0.705	0.746	1.017	0.789
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	1.510	*	*	*	*	1.195
65-69.....	*	1.015	1.360	1.804	1.246	*	0.880	1.415	1.025	0.962
70-74.....	*	1.003	1.046	1.338	1.124	*	0.756	0.887	1.225	0.911
75-79.....	*	0.850	0.971	1.181	1.077	*	0.513	0.740	1.076	0.818
80-84.....	0.677	0.747	0.975	1.131	1.067	1.327	0.584	0.772	1.029	0.985
85-89.....	0.604	0.807	0.958	1.129	1.066	0.351	0.682	0.645	1.052	0.741
90-94.....	0.781	1.132	0.965	1.160	1.123	0.352	0.489	0.637	1.098	0.676
95-99.....	1.364	1.144	1.150	1.259	1.248	0.725	0.970	0.848	1.036	0.945
100 and Over..	*	*	*	1.257	1.282	*	*	*	1.008	1.132
All.....	0.742	0.957	1.030	1.176	1.120	0.595	0.611	0.759	1.063	0.819
Based on 1983 IAM Basic Table										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	1.223	*	*	*	*	1.007
60-64.....	*	*	*	*	1.159	*	*	*	*	0.831
65-69.....	0.606	0.867	1.057	1.278	0.948	0.419	0.792	0.871	0.660	0.705
70-74.....	0.607	0.675	0.813	1.003	0.829	0.445	0.456	0.674	0.923	0.646
75-79.....	0.432	0.587	0.720	0.868	0.789	0.261	0.363	0.549	0.723	0.573
80-84.....	0.613	0.704	0.793	0.889	0.852	0.276	0.492	0.637	0.769	0.627
85-89.....	0.564	0.789	0.844	1.001	0.943	0.207	0.583	0.499	0.875	0.599
90-94.....	0.759	0.831	0.727	1.123	1.044	0.178	0.691	0.546	0.934	0.666
95-99.....	*	*	1.097	1.153	1.167	*	*	0.680	1.123	0.930
100 and Over..	*	*	*	1.345	1.346	*	*	*	1.312	1.275
All.....	0.647	0.776	0.814	0.984	0.914	0.312	0.570	0.606	0.827	0.640
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	1.301	*	*	*	*	1.030
65-69.....	*	0.863	1.157	1.534	1.060	*	0.749	1.203	0.872	0.818
70-74.....	*	0.868	0.905	1.160	0.973	*	0.655	0.768	1.063	0.789
75-79.....	*	0.745	0.850	1.035	0.944	*	0.449	0.648	0.942	0.716
80-84.....	0.596	0.657	0.857	0.995	0.938	1.168	0.514	0.679	0.905	0.866
85-89.....	0.536	0.717	0.850	1.003	0.947	0.312	0.606	0.573	0.934	0.658
90-94.....	0.702	1.017	0.867	1.042	1.009	0.316	0.439	0.572	0.986	0.607
95-99.....	1.227	1.029	1.034	1.132	1.123	0.653	0.873	0.763	0.932	0.850
100 and Over..	*	*	*	1.138	1.160	*	*	*	0.911	1.025
All.....	0.654	0.843	0.908	1.045	0.993	0.527	0.543	0.672	0.943	0.726

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 1b
Refund Annuity Mortality Ratios by Attained Age, Contract-Year Group, And Gender
 Based on Annuity 2000 and 1983 IAM Basic Tables, For Experience Years 2000 through 2004

Attained Age	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Based on Annuity 2000 Basic Mortality Table										
Male										
Under 50.....	*	*	*	*	3.691	*	*	*	*	4.981
50-54.....	*	*	*	1.349	1.895	*	*	*	1.764	1.958
55-59.....	*	*	2.270	1.460	1.601	*	*	1.812	2.552	1.493
60-64.....	1.187	1.370	1.610	1.347	1.355	0.804	1.156	1.671	1.013	1.079
65-69.....	0.989	0.990	1.104	1.423	1.086	0.758	0.892	0.999	1.128	0.909
70-74.....	0.837	0.879	0.979	1.099	0.973	0.657	0.683	0.875	0.969	0.811
75-79.....	0.957	0.881	0.918	1.071	0.999	0.887	0.850	0.821	0.914	0.869
80-84.....	1.052	1.070	1.073	1.077	1.075	1.026	0.919	0.942	0.933	0.940
85-89.....	1.195	1.319	1.215	1.198	1.209	1.141	1.285	1.170	1.069	1.120
90-94.....	1.457	1.256	1.295	1.355	1.342	1.548	1.219	1.191	1.285	1.288
95-99.....	1.747	1.559	1.346	1.464	1.462	1.368	1.857	1.491	1.318	1.439
100 and Over..	*	*	*	1.120	1.142	*	*	*	1.186	1.552
All.....	1.080	1.051	1.039	1.148	1.109	0.989	0.955	0.939	0.994	0.973
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	2.405	*	*	*	*	4.820
55-59.....	*	*	*	2.161	2.216	*	*	*	2.362	1.770
60-64.....	1.469	1.336	1.769	1.840	1.575	1.129	1.054	1.271	1.620	1.210
65-69.....	1.103	1.189	1.289	1.574	1.273	1.375	1.168	1.105	1.323	1.217
70-74.....	0.906	1.006	1.196	1.280	1.152	0.869	0.838	1.167	1.238	1.062
75-79.....	0.794	0.932	0.978	1.112	1.036	0.747	0.801	0.942	0.999	0.930
80-84.....	0.774	0.985	1.047	1.024	1.009	0.795	0.929	0.989	0.921	0.919
85-89.....	0.968	0.997	1.048	1.108	1.075	0.949	0.997	1.374	1.053	1.097
90-94.....	1.099	1.057	1.071	1.191	1.145	1.006	1.129	1.092	1.085	1.082
95-99.....	1.220	1.133	1.122	1.300	1.246	0.907	1.517	1.033	1.056	1.131
100 and Over..	*	*	1.081	1.303	1.236	*	*	1.315	1.552	1.417
All.....	0.970	1.027	1.078	1.127	1.094	0.926	1.033	1.112	1.034	1.038
Based on 1983 IAM Basic Table										
Male										
Under 50.....	*	*	*	*	2.728	*	*	*	*	3.720
50-54.....	*	*	*	1.004	1.410	*	*	*	1.312	1.458
55-59.....	*	*	1.739	1.117	1.227	*	*	1.389	1.955	1.144
60-64.....	0.917	1.058	1.244	1.041	1.047	0.621	0.893	1.292	0.783	0.834
65-69.....	0.769	0.773	0.864	1.111	0.848	0.590	0.697	0.781	0.881	0.710
70-74.....	0.670	0.706	0.786	0.883	0.781	0.526	0.548	0.702	0.779	0.651
75-79.....	0.774	0.712	0.743	0.866	0.808	0.718	0.687	0.664	0.739	0.703
80-84.....	0.849	0.863	0.866	0.869	0.868	0.828	0.741	0.761	0.753	0.759
85-89.....	0.966	1.070	0.984	0.970	0.978	0.924	1.043	0.947	0.864	0.907
90-94.....	1.220	1.056	1.087	1.137	1.126	1.296	1.024	1.001	1.077	1.080
95-99.....	1.477	1.318	1.139	1.237	1.236	1.159	1.571	1.261	1.114	1.217
100 and Over..	*	*	*	0.934	0.952	*	*	*	0.987	1.292
All.....	0.868	0.847	0.839	0.931	0.897	0.797	0.771	0.759	0.805	0.787
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	2.024	*	*	*	*	4.057
55-59.....	*	*	*	1.852	1.901	*	*	*	2.026	1.518
60-64.....	1.267	1.150	1.525	1.588	1.357	0.974	0.908	1.096	1.397	1.043
65-69.....	0.938	1.011	1.096	1.339	1.083	1.169	0.994	0.939	1.125	1.035
70-74.....	0.782	0.872	1.036	1.109	0.998	0.751	0.726	1.011	1.073	0.919
75-79.....	0.696	0.816	0.857	0.974	0.908	0.654	0.702	0.826	0.875	0.814
80-84.....	0.681	0.866	0.921	0.901	0.887	0.699	0.817	0.870	0.810	0.808
85-89.....	0.859	0.885	0.930	0.983	0.954	0.842	0.885	1.220	0.935	0.973
90-94.....	0.987	0.950	0.961	1.070	1.028	0.903	1.014	0.981	0.974	0.972
95-99.....	1.097	1.019	1.009	1.170	1.121	0.816	1.364	0.929	0.950	1.017
100 and Over..	*	*	0.979	1.177	1.117	*	*	1.193	1.400	1.281
All.....	0.854	0.905	0.949	0.998	0.966	0.818	0.914	0.982	0.914	0.917

* Fewer than 35 contracts terminated by death. Ratios in bold have at least 400 deaths.

TABLE 1c
Refund and NonRefund Annuity Mortality Ratios by Attained Age, Contract-Year Group, And Gender
 Based on Annuity 2000 and 1983 IAM Basic Tables, For Experience Years 2000 through 2004

Attained Age	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Based on Annuity 2000 Basic Mortality Table										
Male										
Under 50.....	*	*	*	*	3.353	*	*	*	*	4.944
50-54.....	*	*	*	*	1.920	*	*	*	*	3.781
55-59.....	*	1.957	2.166	1.395	1.605	*	1.261	1.654	2.454	1.437
60-64.....	1.224	1.408	1.583	1.428	1.391	0.875	1.129	1.505	1.024	1.075
65-69.....	0.973	1.022	1.149	1.464	1.117	0.716	0.913	1.020	1.057	0.907
70-74.....	0.831	0.870	0.983	1.125	0.981	0.645	0.662	0.866	1.004	0.808
75-79.....	0.863	0.859	0.912	1.069	0.993	0.703	0.770	0.796	0.907	0.837
80-84.....	0.989	1.042	1.056	1.078	1.069	0.760	0.829	0.907	0.932	0.903
85-89.....	1.091	1.237	1.178	1.214	1.204	0.779	1.060	1.011	1.064	1.012
90-94.....	1.353	1.199	1.198	1.342	1.308	1.098	1.106	1.013	1.220	1.130
95-99.....	1.713	1.639	1.301	1.411	1.417	1.063	1.631	1.185	1.307	1.284
100 and Over..	*	*	*	1.344	1.348	*	*	*	1.365	1.535
All.....	1.026	1.037	1.032	1.162	1.113	0.798	0.891	0.898	0.994	0.929
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	2.543	*	*	*	*	4.268
55-59.....	*	*	*	2.267	2.254	*	*	*	2.160	1.655
60-64.....	1.417	1.270	1.835	1.853	1.559	1.101	0.963	1.520	1.666	1.228
65-69.....	1.035	1.147	1.309	1.602	1.261	1.165	1.097	1.161	1.238	1.152
70-74.....	0.902	1.000	1.162	1.288	1.144	0.814	0.831	1.098	1.233	1.029
75-79.....	0.747	0.922	0.977	1.131	1.047	0.635	0.737	0.917	1.010	0.906
80-84.....	0.760	0.940	1.033	1.054	1.024	0.960	0.844	0.938	0.943	0.930
85-89.....	0.908	0.975	1.031	1.116	1.075	0.748	0.903	1.183	1.042	0.989
90-94.....	1.043	1.071	1.055	1.180	1.140	0.796	0.865	0.955	1.077	0.942
95-99.....	1.252	1.131	1.131	1.278	1.247	0.852	1.386	1.032	1.038	1.083
100 and Over..	*	*	1.252	1.281	1.268	*	*	1.418	1.284	1.306
All.....	0.930	1.014	1.069	1.146	1.104	0.825	0.910	1.031	1.035	0.977
Based on 1983 IAM Basic Table										
Male										
Under 50.....	*	*	*	*	2.476	*	*	*	*	3.686
50-54.....	*	*	*	*	1.429	*	*	*	*	2.815
55-59.....	*	1.500	1.660	1.068	1.229	*	0.967	1.268	1.880	1.101
60-64.....	0.946	1.088	1.224	1.104	1.075	0.676	0.872	1.163	0.791	0.831
65-69.....	0.757	0.798	0.898	1.142	0.872	0.558	0.713	0.797	0.826	0.708
70-74.....	0.665	0.699	0.789	0.904	0.787	0.517	0.532	0.695	0.807	0.649
75-79.....	0.698	0.694	0.738	0.865	0.803	0.569	0.622	0.644	0.734	0.677
80-84.....	0.798	0.841	0.853	0.870	0.863	0.613	0.669	0.732	0.752	0.728
85-89.....	0.883	1.003	0.954	0.983	0.975	0.631	0.860	0.819	0.861	0.819
90-94.....	1.133	1.007	1.006	1.126	1.098	0.920	0.929	0.851	1.024	0.948
95-99.....	1.447	1.385	1.100	1.192	1.197	0.900	1.378	1.001	1.104	1.085
100 and Over..	*	*	*	1.123	1.126	*	*	*	1.138	1.278
All.....	0.825	0.835	0.834	0.944	0.902	0.643	0.719	0.726	0.806	0.752
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	2.141	*	*	*	*	3.593
55-59.....	*	*	*	1.943	1.934	*	*	*	1.853	1.420
60-64.....	1.222	1.093	1.582	1.598	1.344	0.950	0.829	1.310	1.436	1.059
65-69.....	0.880	0.975	1.113	1.363	1.072	0.990	0.933	0.988	1.053	0.979
70-74.....	0.779	0.866	1.006	1.117	0.991	0.704	0.720	0.951	1.069	0.891
75-79.....	0.655	0.807	0.856	0.991	0.917	0.556	0.646	0.803	0.884	0.794
80-84.....	0.669	0.827	0.909	0.927	0.901	0.845	0.742	0.825	0.830	0.818
85-89.....	0.806	0.866	0.915	0.991	0.955	0.664	0.802	1.050	0.925	0.878
90-94.....	0.936	0.962	0.947	1.060	1.024	0.715	0.777	0.857	0.967	0.846
95-99.....	1.126	1.017	1.017	1.149	1.122	0.766	1.246	0.928	0.933	0.974
100 and Over..	*	*	1.134	1.158	1.147	*	*	1.290	1.159	1.181
All.....	0.819	0.893	0.942	1.016	0.976	0.730	0.806	0.911	0.915	0.864

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 1d
NonRefund Annuity Mortality Ratios by Contract Type, Contract-Year Group, And Gender
 Based on Annuity 2000 and 1983 IAM Basic Tables, For Experience Years 2000 through 2004

Contract Type	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Based on Annuity 2000 Basic Mortality Table										
Male										
Immediate Annuity	0.685	0.964	1.068	1.225	1.048	0.297	0.649	0.669	0.859	0.593
Annuitization of a Deferred Annuity	0.949	0.974	1.006	1.151	1.097	0.691	0.804	0.810	1.032	0.912
Settlement Option of Annuity Death Claim	*	*	*	*	*	*	*	*	*	*
Settlement Option of Life Insurance Death Claim	*	*	*	1.124	1.161	*	*	*	1.268	1.313
Settlement Option of Life Insurance Maturity or Surrender	*	*	*	1.698	1.666	*	*	*	1.876	1.586
Settlement Option (Unknown Source)	*	*	0.664	1.283	1.243	*	*	0.692	1.139	1.075
All.....	0.804	0.964	1.006	1.206	1.125	0.386	0.705	0.746	1.017	0.789
Female										
Immediate Annuity	0.569	0.917	0.985	1.195	1.002	0.566	0.560	0.644	1.033	0.677
Annuitization of a Deferred Annuity	1.062	1.014	1.076	1.174	1.147	0.746	0.824	0.959	1.091	0.997
Settlement Option of Annuity Death Claim	*	*	*	1.289	1.270	*	*	*	1.151	1.219
Settlement Option of Life Insurance Death Claim	*	*	*	1.297	1.268	*	*	*	1.258	1.192
Settlement Option of Life Insurance Maturity or Surrender	*	*	*	*	*	*	*	*	*	*
Settlement Option (Unknown Source)	*	*	1.080	1.165	1.154	*	*	0.754	1.038	0.975
All.....	0.742	0.957	1.030	1.176	1.120	0.595	0.611	0.759	1.063	0.819
Based on 1983 IAM Basic Table										
Male										
Immediate Annuity	0.555	0.783	0.872	0.998	0.853	0.241	0.527	0.548	0.700	0.483
Annuitization of a Deferred Annuity	0.757	0.779	0.810	0.935	0.888	0.552	0.645	0.654	0.837	0.737
Settlement Option of Annuity Death Claim	*	*	*	*	*	*	*	*	*	*
Settlement Option of Life Insurance Death Claim	*	*	*	0.927	0.955	*	*	*	1.041	1.073
Settlement Option of Life Insurance Maturity or Surrender	*	*	*	1.386	1.356	*	*	*	1.532	1.288
Settlement Option (Unknown Source)	*	*	0.537	1.053	1.019	*	*	0.560	0.929	0.876
All.....	0.647	0.776	0.814	0.984	0.914	0.312	0.570	0.606	0.827	0.640
Female										
Immediate Annuity	0.503	0.813	0.874	1.062	0.889	0.503	0.499	0.573	0.919	0.602
Annuitization of a Deferred Annuity	0.931	0.887	0.941	1.040	1.013	0.656	0.724	0.843	0.964	0.879
Settlement Option of Annuity Death Claim	*	*	*	1.144	1.124	*	*	*	1.018	1.075
Settlement Option of Life Insurance Death Claim	*	*	*	1.158	1.132	*	*	*	1.121	1.060
Settlement Option of Life Insurance Maturity or Surrender	*	*	*	*	*	*	*	*	*	*
Settlement Option (Unknown Source)	*	*	0.953	1.040	1.029	*	*	0.667	0.924	0.867
All.....	0.654	0.843	0.908	1.045	0.993	0.527	0.543	0.672	0.943	0.726

* Fewer than 35 contracts terminated by death. Ratios in bold have at least 400 deaths.

TABLE 1e
Refund Annuity Mortality Ratios by Contract Type, Contract-Year Group, And Gender
 Based on Annuity 2000 and 1983 IAM Basic Tables, For Experience Years 2000 through 2004

Contract Type	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Based on Annuity 2000 Basic Mortality Table										
Male										
Immediate Annuity	1.066	1.127	1.182	1.185	1.164	1.062	1.049	1.105	1.055	1.068
Annuitization of a Deferred Annuity	1.143	0.992	0.964	1.127	1.085	0.901	0.862	0.842	0.973	0.921
Settlement Option of Annuity Death Claim	*	*	*	1.057	1.057	*	*	*	0.838	0.838
Settlement Option of Life Insurance Death Claim	*	*	*	1.449	1.422	*	*	*	1.399	1.391
Settlement Option of Life Insurance Maturity or Surrender	*	*	1.182	1.260	1.168	*	*	1.160	1.280	1.145
Settlement Option (Unknown Source)	0.967	1.063	0.983	1.091	1.032	0.963	1.019	1.028	0.945	0.995
All.....	1.080	1.051	1.039	1.148	1.109	0.989	0.955	0.939	0.994	0.973
Female										
Immediate Annuity	0.870	1.038	1.098	1.116	1.071	0.905	1.077	1.075	1.036	1.033
Annuitization of a Deferred Annuity	1.162	1.077	1.094	1.127	1.120	0.993	0.992	1.227	1.032	1.064
Settlement Option of Annuity Death Claim	*	*	*	1.013	1.018	*	*	*	0.974	0.901
Settlement Option of Life Insurance Death Claim	*	*	*	1.364	1.351	*	*	*	1.350	1.394
Settlement Option of Life Insurance Maturity or Surrender	*	*	*	*	*	*	*	*	*	*
Settlement Option (Unknown Source)	0.870	0.898	0.952	1.036	0.960	0.893	0.915	0.967	0.967	0.938
All.....	0.970	1.027	1.078	1.127	1.094	0.926	1.033	1.112	1.034	1.038
Based on 1983 IAM Basic Table										
Male										
Immediate Annuity	0.861	0.912	0.959	0.962	0.944	0.859	0.851	0.898	0.856	0.866
Annuitization of a Deferred Annuity	0.915	0.795	0.776	0.914	0.877	0.721	0.692	0.678	0.787	0.744
Settlement Option of Annuity Death Claim	*	*	*	0.855	0.855	*	*	*	0.675	0.675
Settlement Option of Life Insurance Death Claim	*	*	*	1.183	1.159	*	*	*	1.139	1.131
Settlement Option of Life Insurance Maturity or Surrender	*	*	0.950	1.018	0.940	*	*	0.933	1.035	0.921
Settlement Option (Unknown Source)	0.780	0.858	0.795	0.886	0.835	0.778	0.823	0.833	0.766	0.806
All.....	0.868	0.847	0.839	0.931	0.897	0.797	0.771	0.759	0.805	0.787
Female										
Immediate Annuity	0.767	0.917	0.972	0.989	0.948	0.800	0.955	0.954	0.918	0.916
Annuitization of a Deferred Annuity	1.023	0.944	0.957	0.997	0.988	0.876	0.873	1.077	0.911	0.938
Settlement Option of Annuity Death Claim	*	*	*	0.894	0.897	*	*	*	0.857	0.790
Settlement Option of Life Insurance Death Claim	*	*	*	1.215	1.202	*	*	*	1.199	1.236
Settlement Option of Life Insurance Maturity or Surrender	*	*	*	*	*	*	*	*	*	*
Settlement Option (Unknown Source)	0.766	0.791	0.839	0.919	0.848	0.788	0.808	0.855	0.856	0.829
All.....	0.854	0.905	0.949	0.998	0.966	0.818	0.914	0.982	0.914	0.917

* Fewer than 35 contracts terminated by death. Ratios in bold have at least 400 deaths.

TABLE 2a
Nonrefund and Refund Annuity Mortality Ratios by Annual Income, Contract-Year Group, And Gender
Based on Annuity 2000 Basic Table, For Experience Years 2000 through 2004

Income Band	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Nonrefund										
Male										
Less Than \$2500	1.368	1.239	1.212	1.290	1.279	1.166	1.105	1.139	1.262	1.229
\$2500-\$4999	0.813	1.008	0.917	1.119	1.044	0.797	0.995	0.907	1.117	1.037
\$5000-\$7499	0.592	0.855	0.962	0.988	0.929	0.558	0.861	0.973	0.990	0.929
\$7500-\$9999	*	0.911	0.912	1.008	0.916	*	0.897	0.915	1.015	0.916
\$10000-\$14999	*	0.778	0.743	0.909	0.782	*	0.757	0.734	0.895	0.769
\$15000-\$24999	*	0.642	0.643	0.900	0.729	*	0.644	0.640	0.916	0.729
\$25000-\$49999	*	*	*	*	0.627	*	*	*	*	0.637
\$50000 and over	*	*	*	*	*	*	*	*	*	*
All.....	0.804	0.964	1.006	1.206	1.125	0.386	0.705	0.746	1.017	0.789
Female										
Less Than \$2500	1.254	1.270	1.240	1.208	1.214	1.064	1.196	1.139	1.169	1.163
\$2500-\$4999	0.712	0.978	0.935	1.051	0.996	0.703	0.937	0.928	1.041	0.982
\$5000-\$7499	0.647	0.738	0.797	1.084	0.921	0.624	0.711	0.795	1.078	0.910
\$7500-\$9999	*	0.834	0.840	1.013	0.876	*	0.827	0.853	1.012	0.878
\$10000-\$14999	*	0.647	0.902	1.130	0.830	*	0.647	0.914	1.118	0.828
\$15000-\$24999	*	0.771	0.850	0.923	0.762	*	0.764	0.872	0.943	0.771
\$25000-\$49999	*	*	*	*	0.565	*	*	*	*	0.565
\$50000 and over	*	*	*	*	*	*	*	*	*	*
All.....	0.742	0.957	1.030	1.176	1.120	0.595	0.611	0.759	1.063	0.819
Refund										
Male										
Less Than \$2500	1.125	1.137	1.095	1.238	1.198	1.074	1.111	1.080	1.210	1.166
\$2500-\$4999	1.107	1.029	1.039	1.059	1.054	1.108	1.035	1.034	1.055	1.052
\$5000-\$7499	1.071	1.030	1.010	1.007	1.017	1.070	1.032	1.010	1.006	1.017
\$7500-\$9999	1.015	1.063	0.981	0.960	0.986	1.013	1.063	0.976	0.958	0.983
\$10000-\$14999	1.148	0.953	0.982	0.918	0.966	1.145	0.948	0.992	0.914	0.966
\$15000-\$24999	0.991	0.951	0.818	0.932	0.909	0.984	0.945	0.805	0.934	0.904
\$25000-\$49999	0.774	0.874	0.873	0.883	0.863	0.780	0.871	0.851	0.872	0.852
\$50000 and over	*	*	*	*	0.745	*	*	*	*	0.757
All.....	1.080	1.051	1.039	1.148	1.109	0.989	0.955	0.939	0.994	0.973
Female										
Less Than \$2500	1.022	1.088	1.094	1.164	1.141	1.004	1.069	1.055	1.129	1.100
\$2500-\$4999	0.946	0.977	1.090	1.058	1.044	0.944	0.977	1.093	1.058	1.044
\$5000-\$7499	0.969	0.942	1.039	0.974	0.987	0.958	0.939	1.038	0.967	0.982
\$7500-\$9999	0.924	1.104	0.973	1.013	1.005	0.923	1.111	0.965	1.014	1.005
\$10000-\$14999	0.903	0.998	1.065	0.922	0.973	0.911	1.000	1.057	0.916	0.971
\$15000-\$24999	0.965	0.973	1.061	0.981	0.995	0.960	0.973	1.058	0.983	0.994
\$25000-\$49999	0.959	1.029	0.937	0.994	0.979	0.968	0.993	0.921	1.024	0.976
\$50000 and over	*	*	*	*	0.994	*	*	*	*	1.396
All.....	0.970	1.027	1.078	1.127	1.094	0.926	1.033	1.112	1.034	1.038

* Fewer than 35 contracts terminated by death. Ratios in bold have at least 400 deaths.

TABLE 2b1
Nonrefund and Refund Annuity Mortality Ratios by Annual Income, Contract-Year Group, And Contract Type
Based on Annuity 2000 Basic Table, For Experience Years 2000 through 2004

Income Band	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Nonrefund										
Immediate										
Less Than \$2500	1.404	1.579	1.452	1.430	1.449	1.122	1.234	1.245	1.348	1.286
\$2500-\$7499	0.664	0.973	0.882	1.096	0.954	0.616	0.912	0.852	1.091	0.923
\$7500 and over	0.328	0.640	0.708	0.867	0.634	0.399	0.550	0.550	0.790	0.539
All.....	0.628	0.939	1.021	1.208	1.023	0.427	0.598	0.655	0.943	0.637
Annuitizations										
Less Than \$2500	1.249	1.134	1.158	1.207	1.199	1.168	1.102	1.107	1.183	1.166
\$2500-\$7499	0.843	0.853	0.958	1.052	1.000	0.813	0.843	0.976	1.039	0.992
\$7500 and over	0.734	0.879	0.830	1.001	0.906	0.650	0.773	0.771	0.995	0.848
All.....	1.003	0.991	1.035	1.164	1.123	0.714	0.811	0.862	1.057	0.945
Settlements										
Less Than \$2500	*	*	0.956	1.244	1.236	*	*	0.905	1.196	1.181
\$2500-\$7499	*	*	0.743	1.077	1.022	*	*	0.683	1.064	0.998
\$7500 and over	*	*	*	1.039	0.973	*	*	*	0.996	0.916
All.....	0.849	0.896	0.862	1.216	1.194	0.756	0.649	0.751	1.100	1.038
Refund										
Immediate										
Less Than \$2500	0.910	1.094	1.146	1.213	1.167	0.908	1.063	1.099	1.184	1.128
\$2500-\$7499	0.952	1.049	1.122	1.060	1.065	0.950	1.047	1.120	1.047	1.059
\$7500 and over	1.001	1.097	1.129	1.040	1.070	0.993	1.071	1.064	0.976	1.028
All.....	0.959	1.077	1.134	1.151	1.115	0.980	1.065	1.089	1.046	1.050
Annuitizations										
Less Than \$2500	1.232	1.174	1.098	1.190	1.177	1.217	1.164	1.072	1.164	1.150
\$2500-\$7499	1.222	0.949	0.992	1.033	1.028	1.229	0.939	0.980	1.024	1.019
\$7500 and over	0.919	0.864	0.836	0.911	0.886	0.809	0.863	0.912	0.905	0.892
All.....	1.152	1.027	1.013	1.127	1.101	0.939	0.904	0.946	0.991	0.966
Settlements										
Less Than \$2500	0.961	0.986	0.953	1.226	1.128	0.938	0.990	0.967	1.170	1.075
\$2500-\$7499	0.838	0.945	0.990	1.009	0.960	0.816	0.962	0.990	1.000	0.956
\$7500 and over	0.969	0.987	1.032	0.921	0.987	0.986	0.963	1.022	0.868	0.973
All.....	0.910	0.970	0.975	1.185	1.070	0.920	0.966	0.999	1.041	0.989

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 2b2
Qualified Nonrefund and Refund Annuity Mortality Ratios by Annual Income, Contract-Year Group, And Contract Type
Based on Annuity 2000 Basic Table, For Experience Years 2000 through 2004

Income Band	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Nonrefund										
Immediate										
Less Than \$2500	*	1.561	1.420	1.534	1.492	*	1.087	1.296	1.399	1.310
\$2500-\$7499	*	1.214	0.865	1.094	1.000	*	1.188	0.778	1.105	0.978
\$7500 and over	*	*	*	0.863	0.755	*	*	*	0.770	0.632
All.....	0.623	1.191	1.113	1.264	1.168	0.336	0.795	0.694	0.938	0.780
Annuitizations										
Less Than \$2500	1.077	1.099	1.137	1.203	1.189	1.114	1.064	1.094	1.190	1.168
\$2500-\$7499	0.866	0.839	0.951	1.067	1.019	0.831	0.826	0.974	1.052	1.011
\$7500 and over	0.706	0.853	0.825	0.975	0.902	0.722	0.799	0.768	0.977	0.873
All.....	0.926	0.972	1.027	1.162	1.125	0.775	0.829	0.859	1.054	0.970
Settlements										
Less Than \$2500	*	*	*	1.224	1.216	*	*	*	1.173	1.159
\$2500-\$7499	*	*	*	1.067	1.031	*	*	*	1.056	1.010
\$7500 and over	*	*	*	1.032	0.980	*	*	*	1.015	0.972
All.....	*	*	0.775	1.186	1.169	*	*	0.584	1.079	1.041
Refund										
Immediate										
Less Than \$2500	0.717	0.956	1.168	1.162	1.136	0.763	0.963	1.141	1.144	1.116
\$2500-\$7499	1.039	0.839	1.014	1.028	1.005	1.071	0.810	0.992	1.015	0.991
\$7500 and over	0.759	0.930	1.075	1.008	0.980	0.782	0.718	1.001	0.905	0.880
All.....	0.860	0.905	1.104	1.107	1.075	0.853	0.767	1.023	0.991	0.956
Annuitizations										
Less Than \$2500	1.173	1.153	1.097	1.167	1.157	1.148	1.127	1.076	1.146	1.134
\$2500-\$7499	1.017	0.917	0.974	1.022	1.005	1.012	0.911	0.958	1.013	0.995
\$7500 and over	0.743	0.760	0.786	0.902	0.850	0.624	0.716	0.762	0.890	0.821
All.....	1.011	0.986	0.995	1.107	1.079	0.735	0.789	0.838	0.974	0.915
Settlements										
Less Than \$2500	1.240	0.943	0.881	1.050	0.999	1.150	0.909	0.887	1.004	0.965
\$2500-\$7499	0.690	0.727	0.856	0.940	0.855	0.651	0.718	0.854	0.930	0.844
\$7500 and over	*	*	0.843	0.773	0.759	*	*	0.888	0.765	0.756
All.....	0.924	0.797	0.868	1.004	0.930	0.695	0.672	0.874	0.901	0.834

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 2b3
Nonqualified Nonrefund and Refund Annuity Mortality Ratios by Annual Income, Contract-Year Group, And Contract Type
Based on Annuity 2000 Basic Table, For Experience Years 2000 through 2004

Income Band	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Nonrefund										
Immediate										
Less Than \$2500	1.399	1.681	1.487	1.383	1.446	1.139	1.367	1.237	1.308	1.276
\$2500-\$7499	0.675	0.893	0.892	1.076	0.925	0.631	0.831	0.872	1.063	0.893
\$7500 and over	0.300	0.623	0.683	0.840	0.595	0.402	0.533	0.553	0.778	0.523
All.....	0.594	0.882	1.000	1.168	0.966	0.430	0.571	0.652	0.926	0.607
Annuitizations										
Less Than \$2500	1.425	1.094	1.242	1.284	1.268	1.276	0.927	1.092	1.207	1.159
\$2500-\$7499	*	0.718	0.927	0.964	0.890	*	0.772	0.941	0.972	0.903
\$7500 and over	*	0.808	0.761	1.338	0.880	*	0.696	0.710	1.279	0.761
All.....	1.101	0.910	1.023	1.229	1.117	0.634	0.721	0.811	1.155	0.849
Settlements										
Less Than \$2500	*	*	0.956	1.261	1.252	*	*	0.954	1.212	1.197
\$2500-\$7499	*	*	*	1.093	1.010	*	*	*	1.069	0.975
\$7500 and over	*	*	*	1.028	0.940	*	*	*	0.890	0.806
All.....	*	0.929	0.903	1.240	1.213	*	0.692	0.847	1.115	1.019
Refund										
Immediate										
Less Than \$2500	0.913	1.109	1.137	1.256	1.182	0.878	1.079	1.083	1.224	1.133
\$2500-\$7499	0.878	1.095	1.151	1.086	1.084	0.875	1.096	1.154	1.072	1.079
\$7500 and over	0.996	1.135	1.137	1.057	1.088	0.987	1.085	1.036	1.028	1.037
All.....	0.929	1.111	1.143	1.189	1.129	0.959	1.087	1.085	1.090	1.061
Annuitizations										
Less Than \$2500	1.302	1.231	1.106	1.401	1.310	1.315	1.249	1.077	1.322	1.254
\$2500-\$7499	1.342	1.076	1.045	1.118	1.132	1.353	1.073	1.037	1.094	1.124
\$7500 and over	1.192	1.115	1.156	0.916	1.117	1.165	1.221	1.222	0.922	1.167
All.....	1.292	1.151	1.091	1.329	1.237	1.232	1.182	1.132	1.130	1.168
Settlements										
Less Than \$2500	0.881	1.014	0.998	1.302	1.189	0.885	1.030	1.011	1.259	1.132
\$2500-\$7499	0.881	1.035	1.064	1.064	1.015	0.864	1.060	1.066	1.054	1.015
\$7500 and over	1.012	1.127	1.133	1.179	1.099	1.061	1.094	1.090	1.059	1.080
All.....	0.910	1.043	1.039	1.279	1.139	0.976	1.074	1.067	1.172	1.069

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 3a
Immediate Annuity Mortality Ratios by Attained Age, Contract-Year Group, And Gender
 Based on Annuity 2000 Basic Table, For Experience Years 2000 through 2004

Attained Age	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Nonrefund										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	*	*	*	*	*	*
65-69.....	*	*	*	*	1.129	*	*	*	*	0.731
70-74.....	*	*	1.425	1.083	1.080	*	*	0.915	1.111	0.682
75-79.....	*	*	0.852	1.177	0.931	*	*	0.454	0.685	0.485
80-84.....	0.821	0.978	1.256	1.203	1.111	0.321	0.662	0.941	0.794	0.619
85-89.....	0.515	0.815	1.095	1.191	0.966	0.180	0.572	0.450	0.902	0.461
90-94.....	*	0.948	0.752	1.319	0.995	*	0.795	0.633	0.943	0.626
95-99.....	*	*	1.345	1.366	1.407	*	*	0.859	1.257	0.983
100 and Over..	*	*	*	*	*	*	*	*	*	*
All.....	0.685	0.964	1.068	1.225	1.048	0.297	0.649	0.669	0.859	0.593
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	*	*	*	*	*	*
65-69.....	*	*	*	*	*	*	*	*	*	*
70-74.....	*	*	*	*	0.898	*	*	*	*	0.525
75-79.....	*	*	0.793	1.530	1.062	*	*	0.339	1.330	0.558
80-84.....	*	0.705	0.918	1.226	0.945	*	0.536	0.688	1.026	1.001
85-89.....	*	0.713	1.049	1.130	0.929	*	0.711	0.661	1.096	0.635
90-94.....	*	1.142	0.922	1.167	1.019	*	0.441	0.574	1.031	0.519
95-99.....	*	*	1.144	0.970	1.058	*	*	0.788	0.825	0.825
100 and Over..	*	*	*	1.213	1.302	*	*	*	1.141	1.256
All.....	0.569	0.917	0.985	1.195	1.002	0.566	0.560	0.644	1.033	0.677
Refund										
Male										
Under 50.....	*	*	*	*	*	2.614	3.487	7.382	3.609	4.230
50-54.....	*	*	*	*	*	3.023	0.779	3.930	1.282	2.214
55-59.....	*	*	*	*	*	0.953	0.380	2.180	4.453	1.299
60-64.....	*	*	*	*	1.347	0.716	1.383	1.326	0.583	0.974
65-69.....	1.104	1.020	1.197	*	1.136	0.949	0.890	1.329	0.694	0.983
70-74.....	0.809	0.874	1.175	1.280	1.065	0.789	0.651	1.172	0.992	0.909
75-79.....	0.912	1.047	1.041	1.118	1.063	1.029	1.006	0.996	0.974	0.994
80-84.....	1.058	1.042	1.206	1.123	1.126	1.058	0.907	1.068	0.986	1.001
85-89.....	1.106	1.320	1.211	1.213	1.216	0.907	1.281	1.096	1.109	1.100
90-94.....	1.642	1.266	1.303	1.371	1.358	1.861	1.203	1.171	1.333	1.329
95-99.....	*	*	1.465	1.320	1.406	1.056	2.092	1.361	1.282	1.360
100 and Over..	*	*	*	*	*	4.004	2.382	1.066	0.956	1.571
All.....	1.066	1.127	1.182	1.185	1.164	1.062	1.049	1.105	1.055	1.068
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	1.568	*	*	*	*	1.217
65-69.....	*	1.214	1.755	*	1.359	*	1.527	1.417	*	1.530
70-74.....	0.915	1.051	1.264	1.329	1.160	0.998	0.889	1.304	1.291	1.113
75-79.....	0.765	0.939	1.094	1.180	1.064	0.721	0.763	1.069	0.924	0.904
80-84.....	0.789	0.973	1.076	0.988	0.986	0.841	0.948	0.938	0.907	0.911
85-89.....	0.810	1.084	1.066	1.110	1.058	0.871	1.108	1.081	0.992	1.020
90-94.....	1.055	1.033	1.042	1.169	1.095	1.109	0.993	1.093	1.092	1.071
95-99.....	*	1.171	1.164	1.223	1.188	*	1.707	1.048	1.011	1.159
100 and Over..	*	*	*	1.116	1.043	*	*	*	1.849	1.516
All.....	0.870	1.038	1.098	1.116	1.071	0.905	1.077	1.075	1.036	1.033

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 3b
Annuitizations Mortality Ratios by Attained Age, Contract-Year Group, And Gender
Based on Annuity 2000 Basic Table, For Experience Years 2000 through 2004

Attained Age	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Nonrefund										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	1.743	*	*	*	*	2.480
60-64.....	*	*	*	*	1.532	*	*	*	*	1.338
65-69.....	*	1.111	1.283	1.618	1.195	*	0.949	1.109	1.185	0.902
70-74.....	*	0.787	0.942	1.310	1.017	*	0.653	0.823	1.167	0.845
75-79.....	*	0.746	0.947	1.049	0.990	*	0.487	0.758	0.947	0.812
80-84.....	*	*	0.907	1.042	1.006	*	*	0.722	0.949	0.865
85-89.....	*	*	1.098	1.167	1.165	*	*	0.978	1.100	1.103
90-94.....	*	*	1.112	1.320	1.289	*	*	0.619	1.194	0.992
95-99.....	*	*	*	1.426	1.440	*	*	*	1.324	1.144
100 and Over..	*	*	*	*	*	*	*	*	*	*
All.....	0.949	0.974	1.006	1.151	1.097	0.691	0.804	0.810	1.032	0.912
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	1.600	*	*	*	*	1.441
65-69.....	*	0.946	1.318	1.630	1.174	*	0.980	1.515	1.024	1.072
70-74.....	*	1.012	1.079	1.375	1.166	*	0.964	0.948	1.435	1.054
75-79.....	*	*	1.003	1.126	1.066	*	*	0.889	1.055	0.967
80-84.....	*	*	1.041	1.089	1.076	*	*	0.962	1.023	0.969
85-89.....	*	1.189	0.824	1.141	1.120	*	0.654	0.558	1.077	0.904
90-94.....	*	1.105	1.077	1.216	1.201	*	0.848	0.963	1.204	1.050
95-99.....	*	*	*	1.312	1.300	*	*	*	1.121	1.092
100 and Over..	*	*	*	1.214	1.244	*	*	*	0.827	1.051
All.....	1.062	1.014	1.076	1.174	1.147	0.746	0.824	0.959	1.091	0.997
Refund										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	1.858	*	*	*	*	1.952
55-59.....	*	*	*	1.435	1.638	*	*	*	1.771	1.667
60-64.....	1.373	1.273	1.623	1.377	1.399	0.900	1.040	1.819	1.289	1.153
65-69.....	0.992	0.985	1.081	1.419	1.088	0.694	0.902	0.925	1.307	0.893
70-74.....	0.847	0.885	0.955	1.075	0.966	0.588	0.699	0.817	0.959	0.788
75-79.....	0.974	0.751	0.888	1.049	0.981	0.696	0.717	0.763	0.894	0.823
80-84.....	1.158	1.113	0.942	1.059	1.051	0.920	0.825	0.816	0.917	0.904
85-89.....	1.426	1.390	1.130	1.183	1.195	1.662	1.418	1.300	1.052	1.119
90-94.....	1.436	1.150	1.135	1.322	1.304	1.364	1.126	1.060	1.256	1.225
95-99.....	*	*	*	1.467	1.434	*	*	*	1.296	1.532
100 and Over..	*	*	*	1.195	1.147	*	*	*	1.317	1.174
All.....	1.143	0.992	0.964	1.127	1.085	0.901	0.862	0.842	0.973	0.921
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	2.212	*	*	*	*	2.059
60-64.....	1.538	1.257	1.920	1.858	1.619	1.427	1.020	1.166	1.571	1.260
65-69.....	1.258	1.255	1.234	1.574	1.309	1.266	1.064	1.069	1.277	1.134
70-74.....	0.934	1.100	1.220	1.330	1.219	0.826	0.901	1.147	1.276	1.105
75-79.....	0.944	0.900	0.943	1.097	1.045	0.852	0.911	0.867	1.031	0.966
80-84.....	0.881	1.055	0.984	1.042	1.034	0.796	0.760	1.084	0.925	0.927
85-89.....	1.232	0.847	1.073	1.092	1.087	1.116	0.675	2.641	1.081	1.240
90-94.....	1.165	1.135	1.132	1.201	1.186	0.866	1.425	1.081	1.078	1.101
95-99.....	1.351	1.077	1.028	1.309	1.271	1.431	0.702	0.946	1.054	1.029
100 and Over..	*	*	*	1.328	1.319	*	*	*	1.140	1.166
All.....	1.162	1.077	1.094	1.127	1.120	0.993	0.992	1.227	1.032	1.064

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 3c
Settlements Mortality Ratios by Attained Age, Contract-Year Group, And Gender
 Based on Annuity 2000 Basic Table, For Experience Years 2000 through 2004

Attained Age	Based on Number of Contracts					Based on Amounts of Annual Income				
	Contract Years					Contract Years				
	1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
Nonrefund										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	*	*	*	*	*	*
65-69.....	*	*	*	*	*	*	*	*	*	*
70-74.....	*	*	*	*	1.088	*	*	*	*	0.869
75-79.....	*	*	*	1.075	0.973	*	*	*	0.999	0.838
80-84.....	*	*	*	1.167	1.111	*	*	*	1.112	0.977
85-89.....	*	*	*	1.331	1.314	*	*	*	1.192	1.235
90-94.....	*	*	*	1.350	1.346	*	*	*	1.186	1.196
95-99.....	*	*	*	1.338	1.342	*	*	*	1.402	1.411
100 and Over..	*	*	*	1.841	1.841	*	*	*	1.873	1.873
All.....	*	*	0.736	1.279	1.243	*	*	0.705	1.151	1.087
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	*	*	*	*	*	*
65-69.....	*	*	*	*	*	*	*	*	*	*
70-74.....	*	*	*	*	1.185	*	*	*	*	0.968
75-79.....	*	*	*	1.164	1.140	*	*	*	0.895	0.866
80-84.....	*	*	*	1.186	1.162	*	*	*	1.046	0.971
85-89.....	*	*	*	1.115	1.093	*	*	*	0.983	0.911
90-94.....	*	*	*	1.116	1.113	*	*	*	1.072	1.035
95-99.....	*	*	*	1.293	1.294	*	*	*	1.281	1.249
100 and Over..	*	*	*	1.297	1.302	*	*	*	1.021	1.044
All.....	*	0.922	1.016	1.174	1.161	*	0.571	0.804	1.047	0.988
Refund										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	*	*	*	*	*	*
65-69.....	*	0.982	1.175	*	0.996	*	0.805	1.191	*	0.889
70-74.....	0.856	0.858	0.838	0.905	0.854	0.689	0.635	0.929	1.059	0.802
75-79.....	1.057	0.826	0.814	1.160	0.959	0.678	0.911	0.882	1.010	0.896
80-84.....	0.935	1.107	1.011	1.092	1.063	0.980	1.111	0.912	0.948	0.968
85-89.....	1.089	1.244	1.360	1.284	1.261	1.380	1.119	1.319	1.118	1.228
90-94.....	*	1.685	1.477	1.539	1.488	*	1.890	1.489	1.355	1.397
95-99.....	*	*	*	1.715	1.720	*	*	*	1.763	1.546
100 and Over..	*	*	*	*	*	*	*	*	*	*
All.....	0.970	1.052	0.984	1.226	1.102	0.961	1.015	1.025	1.048	1.018
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	*	*	*	*	*	*
65-69.....	*	*	*	*	0.908	*	*	*	*	0.930
70-74.....	0.817	0.650	0.951	0.729	0.804	0.610	0.533	0.992	0.744	0.733
75-79.....	0.743	0.958	0.835	1.091	0.934	0.739	0.761	0.889	0.922	0.852
80-84.....	0.644	0.955	1.065	0.988	0.961	0.599	1.038	1.025	0.936	0.916
85-89.....	0.959	0.895	0.940	1.199	1.079	1.050	0.958	0.880	1.136	1.005
90-94.....	0.976	0.931	1.139	1.196	1.145	1.083	1.060	1.108	1.075	1.083
95-99.....	*	*	1.014	1.407	1.327	*	*	1.090	1.375	1.194
100 and Over..	*	*	*	1.557	1.497	*	*	*	1.492	1.270
All.....	0.855	0.893	0.966	1.153	1.042	0.883	0.918	0.971	1.035	0.961

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 4
Single Life and Joint Life Annuity Mortality Ratios by Contract Type, Contract-Year Group, And Gender
 Based on Annuity 2000 Basic Table, For Experience Years 2000 through 2004

Contract Type		Based on Number of Contracts					Based on Amounts of Annual Income				
		Contract Years					Contract Years				
		1-2	3-5	6-10	11 and Over	All Contract Years	1-2	3-5	6-10	11 and Over	All Contract Years
NonRefund											
Male Single	Immediate	0.652	0.954	1.026	1.216	1.017	0.210	0.709	0.657	0.889	0.551
	Annuityzations	1.037	0.920	1.114	1.246	1.192	0.641	0.588	0.906	1.143	0.965
	Settlements	*	*	0.636	1.294	1.258	*	*	0.751	1.167	1.103
	All Single	0.811	0.944	1.034	1.261	1.173	0.285	0.682	0.764	1.086	0.762
Joint	Immediate	0.738	0.981	1.141	1.234	1.093	0.552	0.536	0.695	0.831	0.671
	Annuityzations	0.871	1.022	0.925	1.021	0.989	0.733	0.982	0.745	0.935	0.870
	Settlements	*	*	*	1.250	1.215	*	*	*	1.134	1.067
	All Joint	0.794	0.988	0.976	1.123	1.059	0.612	0.736	0.726	0.953	0.823
All Male		0.804	0.964	1.006	1.206	1.125	0.386	0.705	0.746	1.017	0.789
Female Single	Immediate	0.545	0.899	0.978	1.196	0.980	0.567	0.558	0.623	1.057	0.660
	Annuityzations	1.017	1.041	1.066	1.179	1.150	0.713	0.792	0.962	1.114	0.995
	Settlements	*	*	1.060	1.177	1.163	*	*	0.863	1.081	1.009
	All Single	0.704	0.959	1.023	1.180	1.116	0.590	0.600	0.742	1.089	0.800
Joint	Immediate	*	*	1.039	1.191	1.132	*	*	0.816	0.959	0.836
	Annuityzations	*	*	1.117	1.147	1.134	*	*	0.948	1.017	1.005
	Settlements	*	*	*	1.161	1.150	*	*	*	0.965	0.927
	All Joint	1.150	0.945	1.069	1.159	1.139	0.690	0.782	0.862	0.985	0.928
All Female		0.742	0.957	1.030	1.176	1.120	0.595	0.611	0.759	1.063	0.819
Refund											
Male Single	Immediate	1.094	1.136	1.192	1.193	1.175	1.110	1.116	1.172	1.087	1.120
	Annuityzations	1.313	1.136	1.120	1.248	1.214	1.232	1.072	1.024	1.087	1.083
	Settlements	1.091	1.140	1.009	1.259	1.165	1.096	1.147	1.025	1.050	1.068
	All Single	1.172	1.137	1.137	1.229	1.190	1.143	1.105	1.096	1.084	1.100
Joint	Immediate	0.980	1.085	1.134	1.153	1.117	0.947	0.852	0.910	0.981	0.934
	Annuityzations	0.889	0.849	0.861	1.065	1.007	0.622	0.727	0.765	0.936	0.856
	Settlements	0.771	0.882	0.932	0.943	0.895	0.746	0.809	1.026	1.038	0.914
	All Joint	0.894	0.896	0.904	1.070	1.014	0.756	0.765	0.803	0.942	0.871
All Male		1.080	1.051	1.039	1.148	1.109	0.989	0.955	0.939	0.994	0.973
Female Single	Immediate	0.854	1.039	1.090	1.126	1.070	0.897	1.085	1.069	1.068	1.040
	Annuityzations	1.162	1.081	1.139	1.170	1.155	1.002	0.988	1.368	1.056	1.115
	Settlements	0.853	0.892	0.997	1.171	1.063	0.888	0.914	0.997	1.078	0.981
	All Single	0.960	1.029	1.093	1.156	1.105	0.925	1.038	1.144	1.064	1.056
Joint	Immediate	1.324	1.011	1.221	1.024	1.090	1.091	0.912	1.165	0.834	0.953
	Annuityzations	1.161	1.052	0.951	1.080	1.069	0.865	1.020	0.830	1.013	0.985
	Settlements	*	0.901	0.744	0.685	0.779	*	0.956	0.781	0.496	0.769
	All Joint	1.120	1.012	0.980	1.071	1.059	0.948	0.969	0.909	0.984	0.968
All Female		0.970	1.027	1.078	1.127	1.094	0.926	1.033	1.112	1.034	1.038

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.

TABLE 5
NonRefund and Refund Annuity Mortality Ratios by Attained Age, Study Year, And Gender
Based on Annuity 2000 Basic Table, For 10 Companies Contributing Experience to All Years 2000 through 2004

Attained Age	Based on Number of Contracts					Based on Amounts of Annual Income				
	Study Years					Study Years				
	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
Nonrefund										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	*	*	*	*	*	*
65-69.....	1.265	1.043	1.349	1.323	1.000	0.811	0.713	0.920	1.339	0.772
70-74.....	1.152	0.959	1.071	1.088	0.924	0.986	0.664	0.731	0.762	0.807
75-79.....	1.046	0.962	1.021	0.958	0.888	0.903	0.690	0.756	0.615	0.589
80-84.....	1.081	1.096	0.982	1.009	1.092	1.012	0.772	0.761	0.682	0.774
85-89.....	1.176	1.115	1.231	1.148	1.139	0.769	0.803	1.093	0.593	0.479
90-94.....	1.005	1.149	1.619	1.265	1.249	0.881	0.963	0.916	0.752	0.640
95-99.....	1.403	1.597	1.100	1.495	1.246	0.771	1.072	0.769	1.383	1.345
100 and Over..	*	*	*	*	*	*	*	*	*	*
All.....	1.131	1.097	1.178	1.128	1.091	0.896	0.780	0.856	0.733	0.669
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	*	*	*	*	*	*	*	*	*	*
65-69.....	1.244	1.483	1.218	*	*	1.092	1.083	0.593	*	*
70-74.....	1.235	1.149	0.911	1.237	1.071	1.180	0.861	0.712	0.914	0.692
75-79.....	1.135	1.003	1.078	1.088	1.116	0.868	0.898	0.764	0.721	0.859
80-84.....	1.096	1.113	1.137	1.041	1.023	0.918	0.716	0.760	1.911	0.680
85-89.....	1.092	1.139	1.055	1.010	1.021	0.752	0.829	0.810	0.556	0.789
90-94.....	1.144	1.165	1.146	1.068	1.014	0.818	0.807	0.648	0.524	0.586
95-99.....	1.230	1.331	1.219	1.151	1.364	1.126	1.029	1.166	0.609	0.901
100 and Over..	1.117	1.134	1.439	1.490	1.294	1.568	1.122	1.300	1.148	1.012
All.....	1.143	1.161	1.122	1.088	1.089	0.900	0.846	0.774	0.857	0.730
Refund										
Male										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	1.247	1.344	1.319	1.237	1.439	1.010	1.003	1.054	0.980	1.053
65-69.....	1.148	1.058	1.195	1.041	0.921	0.998	0.825	1.019	0.854	0.779
70-74.....	0.973	0.952	0.970	0.947	0.855	0.780	0.834	0.799	0.773	0.749
75-79.....	0.986	0.975	0.993	0.930	0.967	0.821	0.852	0.831	0.870	0.863
80-84.....	1.040	1.101	1.106	1.015	0.992	0.928	0.931	0.997	0.901	0.857
85-89.....	1.173	1.291	1.112	1.186	1.101	1.104	1.209	0.970	1.197	0.980
90-94.....	1.303	1.145	1.403	1.333	1.233	1.432	1.077	1.287	1.301	1.012
95-99.....	1.495	1.474	1.515	1.347	1.422	2.489	1.310	1.454	1.499	1.265
100 and Over..	*	*	*	*	*	*	*	*	*	*
All.....	1.078	1.097	1.104	1.067	1.035	0.952	0.946	0.950	0.972	0.891
Female										
Under 50.....	*	*	*	*	*	*	*	*	*	*
50-54.....	*	*	*	*	*	*	*	*	*	*
55-59.....	*	*	*	*	*	*	*	*	*	*
60-64.....	1.734	1.224	1.733	1.324	1.801	1.724	1.027	1.378	1.015	0.991
65-69.....	1.403	1.191	1.302	1.293	1.140	1.205	0.991	1.567	1.226	1.075
70-74.....	1.137	1.038	1.134	1.134	1.152	1.054	0.866	0.953	1.024	1.028
75-79.....	1.047	1.035	1.048	1.012	0.982	0.937	0.852	0.871	0.914	0.933
80-84.....	0.990	1.056	1.021	0.985	0.891	0.944	0.973	0.920	0.853	0.817
85-89.....	1.050	1.039	1.103	1.068	1.028	1.416	0.986	1.084	1.156	0.958
90-94.....	1.155	1.142	1.207	1.048	1.073	1.090	1.138	1.113	0.906	1.070
95-99.....	1.177	1.138	1.217	1.165	1.124	1.542	0.846	0.963	0.969	1.228
100 and Over..	1.421	1.136	1.190	1.193	0.932	1.214	1.194	1.051	2.248	0.846
All.....	1.094	1.076	1.114	1.056	1.017	1.153	0.970	1.016	1.000	0.976

* Fewer than 35 contracts terminated by death. Ratios in **bold** have at least 400 deaths.