

2012 Individual Annuity Mortality Tables and Draft Model Regulation

Society of Actuaries & American Academy of Actuaries
Joint Project Oversight Group

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2012 Individual Annuity Mortality Basic, Period and Reserve Tables



2012 Individual Mortality Tables

- LATF voted to expose 2012 IAM Basic table, Projection Scale G2 and margin along with written report on October 4, 2011 with 6-month exposure period.
- Exposure period ended in April 2012.
- Received limited number of comments and questions.

Comments and Resolutions

1. Labeling issue for some of graphs in the written report

Outcome: Clarified labeling in report.

2. Suggestion to take into consideration apparent selection exhibited in the data (as lower A/E ratios) for non-refund experience, especially for higher income levels.

Outcome: No changes made. Subcommittee considered this during development and discussed with LATF. Note that this change could defeat purpose as individuals would likely purchase two annuities at lower cost rather than just one larger annuity. Subcommittee report recognizes the anti-selection for life-only annuities as well as the lower mortality at the higher income levels. Report recommends actuaries take this into consideration when setting their assumptions (e.g., for cash flow testing).



Comments and Resolutions

3. Suggestion for modifying the approach to labeling the tables to minimize confusion.

Outcome: Subcommittee did not accept recommendation as believed labeling was currently sufficient, consistent with GAM table nomenclature and did not feel recommendation added clarity.

4. Suggestion to introduce selection factors to the 2012 IAM table, especially for higher income and non-refund annuities.

Outcome: Subcommittee did consider introducing select factors to underlying table during development. Did not proceed with this recommendation for the following:

- i. Was immaterial to overall reserves
- ii. Had no impact on certain and life reserves
- iii. Simplicity and administrative system considerations

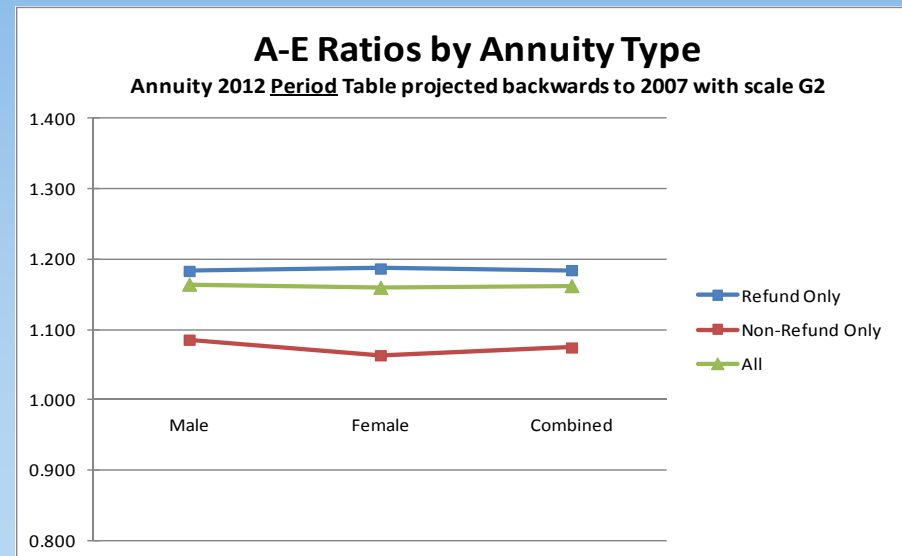
New 2005-2008 Experience

- Due to limited number of contributors to the underlying data, Subcommittee wanted to compare results to the new data from the 2005-2008 data call.
- Previously presented a comparison based on preliminary data.
- That data is still being analyzed and one additional contributor, which is also a common company from 2000-2004 study, still being processed.
- Tested the exposed tables through back-casting to 2007 (mid-point of study) using Scale G2.

Comparative to 2005-2008 Experience By Payout Type

A/E Ratio by Amount (2005-08 Experience)			
Annuity 2012 <u>Basic</u> Table projected backwards to 2007 with Scale G2			
	Male	Female	Combined
Refund Only	1.065	1.068	1.066
Non-Refund Only	0.977	0.957	0.967
All	1.048	1.044	1.046

A/E Ratio by Amount (2005-08 Experience)			
Annuity 2012 <u>Period</u> Table projected backwards to 2007 with Scale G2			
	Male	Female	Combined
Refund Only	1.183	1.187	1.184
Non-Refund Only	1.086	1.063	1.074
All	1.164	1.160	1.162

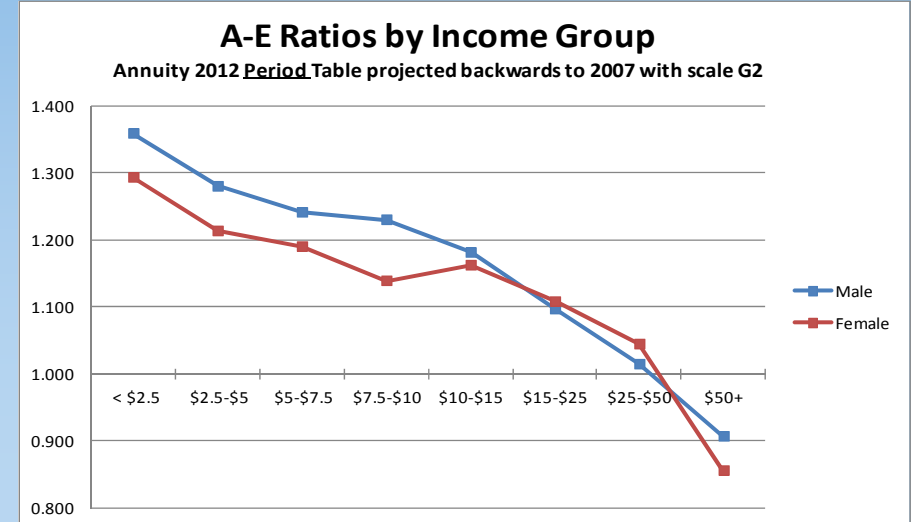
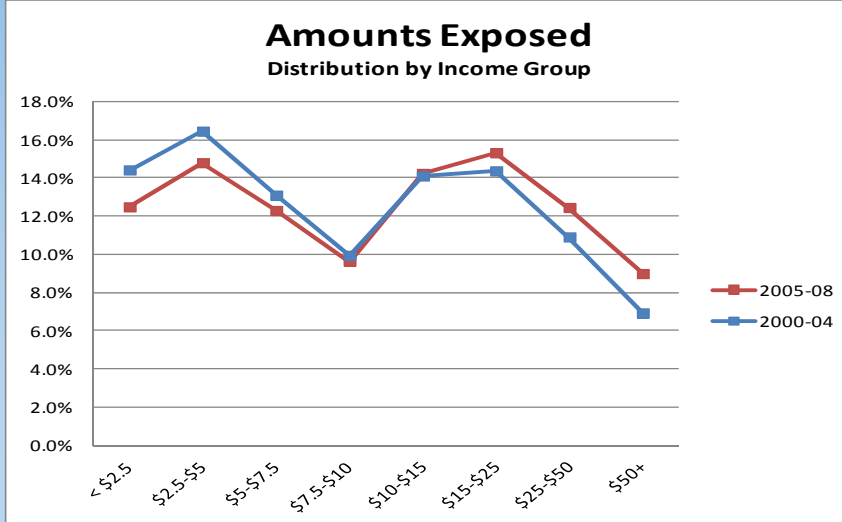


Source: Society of Actuaries Individual Annuity Experience Committee for the American Academy of Actuaries Life Experience Subcommittee

Comparative to 2005-2008 Experience By Income Group

A/E Ratio by Amount (2005-08 Experience)			
Annuity 2012 Basic Table projected backwards to 2007 with Scale G2			
Annual Income (,000)	Male	Female	Combined
< \$2.5	1.223	1.164	1.191
\$2.5-\$5	1.152	1.092	1.122
\$5-\$7.5	1.117	1.071	1.095
\$7.5-\$10	1.107	1.025	1.070
\$10-\$15	1.063	1.046	1.056
\$15-\$25	0.987	0.997	0.991
\$25-\$50	0.913	0.940	0.922
\$50+	0.816	0.770	0.800

A/E Ratio by Amount (2005-08 Experience)			
Annuity 2012 Period Table projected backwards to 2007 with Scale G2			
Annual Income (,000)	Male	Female	Combined
< \$2.5	1.359	1.293	1.323
\$2.5-\$5	1.280	1.213	1.247
\$5-\$7.5	1.241	1.190	1.217
\$7.5-\$10	1.230	1.139	1.189
\$10-\$15	1.181	1.162	1.173
\$15-\$25	1.097	1.108	1.101
\$25-\$50	1.014	1.044	1.024
\$50+	0.907	0.856	0.889



Source: Society of Actuaries Individual Annuity Experience Committee for the American Academy of Actuaries Life Experience Subcommittee

Comparative to 2005-2008 Experience By Age Group

2005-08 Study	Attained Age Grp2												Grand Total
	<50	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+	
Annuity 2012 <u>Period</u> Table projected backwards to 2007	615.2%	277.7%	214.2%	132.3%	108.4%	116.0%	114.2%	116.4%	113.2%	119.6%	116.9%	112.7%	116.3%
Annuity 2012 <u>Basic</u> Table projected backwards to 2007	553.7%	249.9%	192.8%	119.1%	97.6%	104.4%	102.8%	104.8%	101.8%	107.7%	105.2%	101.4%	104.6%
Amount Exposed (in millions)	\$399.2	\$126.6	\$225.6	\$579.0	\$1,315.4	\$2,009.8	\$2,585.7	\$2,530.1	\$1,647.8	\$592.2	\$127.0	\$16.4	\$12,154.8

Source: Society of Actuaries Individual Annuity Experience Committee for the American Academy of Actuaries Life Experience Subcommittee

Conclusion

- No changes to table resulting from comments received.
- New, emerging experience does not exhibit evidence that the table as exposed is in need of modification.

2012 Individual Annuity Draft Model Regulation

- LATF voted to expose 2012 Individual Annuity Model Regulation in October 2011 with 6-month exposure period.
- Exposure period ended in April 2012.
- No comments or questions were submitted.

Model Regulation

- Purpose is to recognize the 2012 Individual Annuity Reserving Table (2012 IAR Table) for reserving purposes.
- Defines 2012 Annuity Mortality Period Table
 - Table of mortality rates for a given year, e.g., q_x^{2012}
 - Based on Individual Annuity Mortality Basic Table and improvement factors to 2012 (2012 IAM Basic Table) with margin
- Defines 2012 IAR Table, which is a generational mortality table
 - Table of mortality rates is determined by applying a combination of a Period table and Projection Scale (e.g., q_x^{2012+n} where $n = \#$ years from 2012)
 - Results in a table where, for a given age, the mortality rate decreases from year to year

Model Regulation

- Prescribes rounding rules.
- Prescribes the method for determining the generational mortality.
- Prescribes the use of projection factors, Scale G2.
- Prescribes the 2012 IAR Table as the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after effective date.
- Recommends an effective date of January 1, 2013.

Discussion