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Date: April 25, 2001
To: Readers of the RP-2000 Mortality Tables Report
From: Julie Rogers, Research Assistant
Subject: Revised Pages

The following file contains revised pages for the RP-2000 Mortality Tables Report dated July 2000. These revised and additional pages provide comparisons of annuities calculated using both the RP-2000 Combined Healthy table and the RP-2000 split Employee and Healthy Annuitant tables. The original pages only had values related to the Combined Healthy table.

Chapter 8 - Comparison of RP-2000 to Other Tables

Comparison to GAM-83 and UP-94 Tables

Tables 8-1 through 8-3 compare annuity values at ten-year age intervals from age 30 to age 90, and at age 65, for the GAM-83, UP-94 without projection, UP-94 projected to 2000, and the RP-2000 with and without projection. Tables 8-1A through 8-3A use the RP2000 combined healthy table. Tables 8-1B through 8-3B use the RP-2000 employee table for ages below 65 and the healthy annuitant tables for ages 65 and older. The lower section of each table gives the percentage change in the annuity values if the mortality assumption for non-disabled lives was changed to the RP-2000 table without projection. Comparisons are also made between the RP-2000 without projection and the RP-2000 with generational projection. The annuities in the table are annuities due, paid monthly. Before age 65, the annuities are deferred to age 65. At and above age 65, the annuities are immediate. Values are presented at 5, 7, and 9 percent interest rates.

In general, the RP-2000 values are between 2 and 11 percent higher for males and between 3 and 5 percent lower for females than the GAM-83 values. The RP-2000 values for males under age 80 are within 4 percent of the values based on the UP-94 table projected to 2000. For males at ages 80 and 90 the RP-2000 values are substantially lower than the projected UP-94 values. For females the RP-2000 values are lower than the projected UP-94 values by about 2 to 4 percent. On average, the male mortality experience used to develop the RP-2000 Table is similar to that of the UP-94 table with projection Scale AA. The female mortality is higher than the projected UP-94 table. This suggests that the mortality improvement predicted by Scale AA between the mid-point of the two female tables did not occur.

The GAM-83 table included a 10 percent margin for mortality improvement so the differences between GAM-83 and RP-2000 are lower than would be produced by applying the full mortality improvement for the 17 years between the two tables. Also, the GAM-83 female mortality rates were estimated based on relatively little actual experience so these are not as comparable to the RP-2000 tables as are the male rates.

Table 8-1A**Comparison of GAM-83, UP-94, UP-94 Projected to 2000, and
Combined Healthy RP-2000 Annuity Values****5% Interest****Monthly Annuity Due, Deferred to Age 65**

Age	GAM-83	UP-94	UP-94 Projected to 2000	RP-2000 Combined Healthy	RP-2000 Generational Combined Healthy
Males					
30	1.6719	1.7381	1.7945	1.8200	2.1210
40	2.7461	2.8578	2.9496	2.9865	3.3639
50	4.5723	4.7355	4.8813	4.9376	5.3588
60	7.9085	8.0932	8.3013	8.3474	8.7291
65	10.6849	10.9212	11.1488	11.1405	11.4608
70	9.0686	9.3717	9.5971	9.4778	9.7162
80	5.9748	6.2075	6.3437	6.0918	6.1763
90	3.6941	3.6067	3.6564	3.3759	3.3914
Females					
30	2.1306	2.0757	2.0996	2.0270	2.1835
40	3.4866	3.3986	3.4365	3.3168	3.5108
50	5.7373	5.5942	5.6511	5.4623	5.6820
60	9.5875	9.3480	9.4312	9.1490	9.3672
65	12.5635	12.3187	12.4164	12.0795	12.2786
70	10.9401	10.7937	10.9026	10.5153	10.6821
80	7.5385	7.3818	7.4803	7.2304	7.3054
90	4.5369	4.2686	4.3079	4.3052	4.3213

Percent Change in Monthly Annuity Due

Age	From GAM-83 to RP-2000	From UP-94 to RP-2000	From UP-94 Projected to 2000 to RP-2000	From RP-2000 to RP-2000 Generational
Males				
30	8.86%	4.71%	1.42%	16.54%
40	8.75%	4.50%	1.25%	12.64%
50	7.99%	4.27%	1.15%	8.53%
60	5.55%	3.14%	0.56%	4.57%
65	4.26%	2.01%	-0.07%	2.88%
70	4.51%	1.13%	-1.24%	2.52%
80	1.96%	-1.86%	-3.97%	1.39%
90	-8.61%	-6.40%	-7.67%	0.46%
Females				
30	-4.86%	-2.35%	-3.46%	7.72%
40	-4.87%	-2.41%	-3.48%	5.85%
50	-4.79%	-2.36%	-3.34%	4.02%
60	-4.57%	-2.13%	-2.99%	2.38%
65	-3.85%	-1.94%	-2.71%	1.65%
70	-3.88%	-2.58%	-3.55%	1.59%
80	-4.09%	-2.05%	-3.34%	1.04%
90	-5.11%	0.86%	-0.06%	0.37%

Table 8-1B**Comparison of GAM-83, UP-94, UP-94 Projected to 2000, and Employee/Healthy Annuitant RP-2000 Annuity Values****5% Interest****Monthly Annuity Due, Deferred to Age 65**

Age	GAM-83	UP-94	UP-94 Projected to 2000	RP2000 Employee/Healthy Annuitant	RP-2000 Generational Employee/Healthy Annuitant
Males					
30	1.6719	1.7381	1.7945	1.8560	2.1470
40	2.7461	2.8578	2.9496	3.0455	3.4123
50	4.5723	4.7355	4.8813	5.0350	5.4491
60	7.9085	8.0932	8.3013	8.4575	8.8410
65	10.6849	10.9212	11.1488	11.1203	11.4403
70	9.0686	9.3717	9.5971	9.4778	9.7162
80	5.9748	6.2075	6.3437	6.0918	6.1763
90	3.6941	3.6067	3.6564	3.3759	3.3914
Females					
30	2.1306	2.0757	2.0996	2.0504	2.2049
40	3.4866	3.3986	3.4365	3.3551	3.5472
50	5.7373	5.5942	5.6511	5.5253	5.7439
60	9.5875	9.3480	9.4312	9.2292	9.4485
65	12.5635	12.3187	12.4164	12.0578	12.2567
70	10.9401	10.7937	10.9026	10.5153	10.6821
80	7.5385	7.3818	7.4803	7.2304	7.3054
90	4.5369	4.2686	4.3079	4.3052	4.3213

Percent Change in Monthly Annuity Due

Age	From GAM-83 to RP-2000	From UP-94 to RP-2000	From UP-94 Projected to 2000 to RP-2000	From RP-2000 to RP-2000 Generational
Males				
30	11.01%	6.78%	3.43%	15.68%
40	10.90%	6.57%	3.25%	12.04%
50	10.12%	6.33%	3.15%	8.22%
60	6.94%	4.50%	1.88%	4.53%
65	4.08%	1.82%	-0.26%	2.88%
70	4.51%	1.13%	-1.24%	2.52%
80	1.96%	-1.86%	-3.97%	1.39%
90	-8.61%	-6.40%	-7.67%	0.46%
Females				
30	-3.76%	-1.22%	-2.34%	7.53%
40	-3.77%	-1.28%	-2.37%	5.72%
50	-3.70%	-1.23%	-2.23%	3.96%
60	-3.74%	-1.27%	-2.14%	2.38%
65	-4.02%	-2.12%	-2.89%	1.65%
70	-3.88%	-2.58%	-3.55%	1.59%
80	-4.09%	-2.05%	-3.34%	1.04%
90	-5.11%	0.86%	-0.06%	0.37%

Table 8-2A**Comparison of GAM-83, UP-94, UP-94 Projected to 2000, and
Combined Healthy RP-2000 Annuity Values****7% Interest****Monthly Annuity Due, Deferred to Age 65**

Age	GAM-83	UP-94	UP-94 Projected to 2000	RP-2000 Combined Healthy	RP-2000 Generational Combined Healthy
Males					
30	0.7471	0.7740	0.7971	0.8100	0.9280
40	1.4820	1.5370	1.5823	1.6052	1.7830
50	2.9800	3.0757	3.1622	3.2049	3.4410
60	6.2247	6.3481	6.4946	6.5434	6.7940
65	9.2421	9.4138	9.5853	9.5968	9.8220
70	8.0059	8.2450	8.4238	8.3430	8.5210
80	5.4804	5.6845	5.8012	5.5945	5.6640
90	3.4933	3.4179	3.4631	3.2074	3.2210
Females					
30	0.9307	0.9088	0.9181	0.8899	0.9483
40	1.8394	1.7969	1.8147	1.7585	1.8451
50	3.6554	3.5720	3.6037	3.4973	3.6136
60	7.3769	7.2084	7.2632	7.0742	7.2100
65	10.6232	10.4390	10.5083	10.2643	10.3974
70	9.4502	9.3420	9.4243	9.1227	9.2420
80	6.7936	6.6724	6.7551	6.5402	6.6000
90	4.2524	4.0113	4.0465	4.0321	4.0459

Percent Change in Monthly Annuity Due

Age	From GAM-83 to RP-2000	From UP-94 to RP-2000	From UP-94 Projected to 2000 to RP-2000	From RP-2000 to RP-2000 Generational
Males				
30	8.42%	4.65%	1.62%	14.57%
40	8.31%	4.44%	1.45%	11.08%
50	7.55%	4.20%	1.35%	7.37%
60	5.12%	3.08%	0.75%	3.83%
65	3.84%	1.94%	0.12%	2.35%
70	4.21%	1.19%	-0.96%	2.13%
80	2.08%	-1.58%	-3.56%	1.24%
90	-8.18%	-6.16%	-7.38%	0.42%
Females				
30	-4.38%	-2.08%	-3.07%	6.56%
40	-4.40%	-2.14%	-3.10%	4.92%
50	-4.33%	-2.09%	-2.95%	3.33%
60	-4.10%	-1.86%	-2.60%	1.92%
65	-3.38%	-1.67%	-2.32%	1.30%
70	-3.47%	-2.35%	-3.20%	1.31%
80	-3.73%	-1.98%	-3.18%	0.91%
90	-5.18%	0.52%	-0.36%	0.34%

Table 8-2B

Comparison of GAM-83, UP-94, UP-94 Projected to 2000, and Employee/Healthy Annuitant RP-2000 Annuity Values

7% Interest

Monthly Annuity Due, Deferred to Age 65

Age	GAM-83	UP-94	UP-94 Projected to 2000	RP2000 Employee/Healthy Annuitant	RP-2000 Generational Employee/Healthy Annuitant
Males					
30	0.7471	0.7740	0.7971	0.8261	0.9392
40	1.4820	1.5370	1.5823	1.6370	1.8084
50	2.9800	3.0757	3.1622	3.2684	3.4994
60	6.2247	6.3481	6.4946	6.6300	6.8818
65	9.2421	9.4138	9.5853	9.5799	9.8049
70	8.0059	8.2450	8.4238	8.3430	8.5210
80	5.4804	5.6845	5.8012	5.5945	5.6640
90	3.4933	3.4179	3.4631	3.2074	3.2210
Females					
30	0.9307	0.9088	0.9181	0.9002	0.9576
40	1.8394	1.7969	1.8147	1.7789	1.8642
50	3.6554	3.5720	3.6037	3.5379	3.6532
60	7.3769	7.2084	7.2632	7.1366	7.2730
65	10.6232	10.4390	10.5083	10.2464	10.3795
70	9.4502	9.3420	9.4243	9.1227	9.2420
80	6.7936	6.6724	6.7551	6.5402	6.6000
90	4.2524	4.0113	4.0465	4.0321	4.0459

Percent Change in Monthly Annuity Due

Age	From GAM-83 to RP-2000	From UP-94 to RP-2000	From UP-94 Projected to 2000 to RP-2000	From RP-2000 to RP-2000 Generational
Males				
30	10.57%	6.73%	3.63%	13.69%
40	10.46%	6.50%	3.45%	10.47%
50	9.68%	6.26%	3.36%	7.07%
60	6.51%	4.44%	2.08%	3.80%
65	3.65%	1.76%	-0.06%	2.35%
70	4.21%	1.19%	-0.96%	2.13%
80	2.08%	-1.58%	-3.56%	1.24%
90	-8.18%	-6.16%	-7.38%	0.42%
Females				
30	-3.28%	-0.95%	-1.95%	6.38%
40	-3.29%	-1.00%	-1.97%	4.80%
50	-3.22%	-0.96%	-1.83%	3.26%
60	-3.26%	-1.00%	-1.74%	1.91%
65	-3.55%	-1.85%	-2.49%	1.30%
70	-3.47%	-2.35%	-3.20%	1.31%
80	-3.73%	-1.98%	-3.18%	0.91%
90	-5.18%	0.52%	-0.36%	0.34%

Table 8-3A**Comparison of GAM-83, UP-94, UP-94 Projected to 2000, and
Combined Healthy RP-2000 Annuity Values****9% Interest****Monthly Annuity Due, Deferred to Age 65**

Age	GAM-83	UP-94	UP-94 Projected to 2000	RP-2000 Combined Healthy	RP-2000 Generational Combined Healthy
Males					
30	0.3432	0.3546	0.3644	0.3708	0.4187
40	0.8194	0.8473	0.8705	0.8842	0.9707
50	1.9829	2.0407	2.0936	2.1247	2.2613
60	4.9846	5.0688	5.1745	5.2204	5.3896
65	8.1189	8.2458	8.3779	8.3993	8.5609
70	7.1532	7.3445	7.4889	7.4338	7.5685
80	5.0608	5.2410	5.3420	5.1706	5.2277
90	3.3148	3.2495	3.2908	3.0567	3.0688
Females					
30	0.4197	0.4105	0.4144	0.4029	0.4257
40	0.9983	0.9769	0.9856	0.9583	0.9984
50	2.3875	2.3371	2.3554	2.2936	2.3573
60	5.7986	5.6759	5.7131	5.5833	5.6702
65	9.1603	9.0171	9.0675	8.8870	8.9782
70	8.2903	8.2076	8.2710	8.0323	8.1192
80	6.1758	6.0813	6.1515	5.9658	6.0141
90	4.0020	3.7844	3.8162	3.7936	3.8056

Percent Change in Monthly Annuity Due

Age	From GAM-83 to RP-2000	From UP-94 to RP-2000	From UP-94 Projected to 2000 to RP-2000	From RP-2000 to RP-2000 Generational
Males				
30	8.04%	4.57%	1.76%	12.92%
40	7.91%	4.36%	1.57%	9.78%
50	7.15%	4.12%	1.49%	6.43%
60	4.73%	2.99%	0.89%	3.24%
65	3.45%	1.86%	0.26%	1.92%
70	3.92%	1.22%	-0.74%	1.81%
80	2.17%	-1.34%	-3.21%	1.10%
90	-7.79%	-5.93%	-7.11%	0.40%
Females				
30	-4.00%	-1.85%	-2.78%	5.66%
40	-4.01%	-1.90%	-2.77%	4.18%
50	-3.93%	-1.86%	-2.62%	2.78%
60	-3.71%	-1.63%	-2.27%	1.56%
65	-2.98%	-1.44%	-1.99%	1.03%
70	-3.11%	-2.14%	-2.89%	1.08%
80	-3.40%	-1.90%	-3.02%	0.81%
90	-5.21%	0.24%	-0.59%	0.32%

Table 8-3B**Comparison of GAM-83, UP-94, UP-94 Projected to 2000, and
Employee/Healthy Annuitant RP-2000 Annuity Values****9% Interest****Monthly Annuity Due, Deferred to Age 65**

Age	GAM-83	UP-94	UP-94 Projected to 2000	RP2000 Employee/ Healthy Annuitant	RP-2000 Generational Employee/ Healthy Annuitant
Males					
30	0.3432	0.3546	0.3644	0.3781	0.4238
40	0.8194	0.8473	0.8705	0.9018	0.9847
50	1.9829	2.0407	2.0936	2.1669	2.2996
60	4.9846	5.0688	5.1745	5.2898	5.4592
65	8.1189	8.2458	8.3779	8.3850	8.5465
70	7.1532	7.3445	7.4889	7.4338	7.5685
80	5.0608	5.2410	5.3420	5.1706	5.2277
90	3.3148	3.2495	3.2908	3.0567	3.0688
Females					
30	0.4197	0.4105	0.4144	0.4076	0.4299
40	0.9983	0.9769	0.9856	0.9694	1.0089
50	2.3875	2.3371	2.3554	2.3203	2.3833
60	5.7986	5.6759	5.7131	5.6328	5.7199
65	9.1603	9.0171	9.0675	8.8720	8.9631
70	8.2903	8.2076	8.2710	8.0323	8.1192
80	6.1758	6.0813	6.1515	5.9658	6.0141
90	4.0020	3.7844	3.8162	3.7936	3.8056

Percent Change in Monthly Annuity Due

Age	From GAM-83 to RP-2000	From UP-94 to RP-2000	From UP-94 Projected to 2000 to RP-2000	From RP-2000 to RP-2000 Generational
Males				
30	10.18%	6.64%	3.77%	12.08%
40	10.06%	6.43%	3.60%	9.19%
50	9.28%	6.18%	3.50%	6.13%
60	6.12%	4.36%	2.23%	3.20%
65	3.28%	1.69%	0.08%	1.93%
70	3.92%	1.22%	-0.74%	1.81%
80	2.17%	-1.34%	-3.21%	1.10%
90	-7.79%	-5.93%	-7.11%	0.40%
Females				
30	-2.87%	-0.69%	-1.63%	5.46%
40	-2.89%	-0.76%	-1.64%	4.07%
50	-2.81%	-0.72%	-1.49%	2.71%
60	-2.86%	-0.76%	-1.40%	1.55%
65	-3.15%	-1.61%	-2.16%	1.03%
70	-3.11%	-2.14%	-2.89%	1.08%
80	-3.40%	-1.90%	-3.02%	0.81%
90	-5.21%	0.24%	-0.59%	0.32%