

In using the **1994 GAR Table**, the mortality rate for a person age  $x$  in year  $(1994 + n)$  is calculated as follows:

$$q_x^{1994+n} = q_x^{1994}(1 - AA_x)^n$$

Where the  $q_x^{1994+n}$  and  $AA_x$  are as specified in the 1994 GAR Table.

In using the **2012 IAR Mortality Table**, the mortality rate for a person age  $x$  in year  $(2012 + n)$  is calculated as follows:

$$q_x^{2012+n} = q_x^{2012}(1 - G2_x)^n$$

The resulting  $q_x^{2012+n}$  is rounded to three (3) decimal places per one thousand (1,000), e.g., 0.741 deaths per one thousand (1,000). The rounding occurs according to this formula, starting at the 2012 IAM Period Table rate.

For example, for a male age 30,  $q_x^{2012} = 0.741$

$$q_x^{2012+1} = 0.741 \times (1 - 0.010)^1 = 0.73359, \text{ which is rounded to } 0.734.$$

$$q_x^{2012+2} = 0.741 \times (1 - 0.010)^2 = 0.7262541, \text{ which is rounded to } 0.726.$$

A method leading to incorrect rounding would be to calculate  $q_x^{2014}$  as  $q_x^{2013} \times (1 - 0.010)$ , or  $0.734 \times 0.99 = 0.727$ . It is incorrect to use the already rounded  $q_x^{2013}$  to calculate  $q_x^{2014}$ .

Mortality Table for Reserve Liabilities for Annuities

APPENDIX I

2012 IAM Period Table  
Female, Age Nearest Birthday

AGE	$1000 \cdot q_x^{2012}$	AGE	$1000 \cdot q_x^{2012}$	AGE	$1000 \cdot q_x^{2012}$	AGE	$1000 \cdot q_x^{2012}$
0	<b>1.621</b>	30	<b>0.300</b>	60	<b>3.460</b>	90	<b>88.377</b>
1	<b>0.405</b>	31	<b>0.321</b>	61	<b>3.916</b>	91	<b>97.491</b>
2	<b>0.259</b>	32	<b>0.338</b>	62	<b>4.409</b>	92	<b>107.269</b>
3	<b>0.179</b>	33	<b>0.351</b>	63	<b>4.933</b>	93	<b>118.201</b>
4	<b>0.137</b>	34	<b>0.365</b>	64	<b>5.507</b>	94	<b>130.969</b>
5	<b>0.125</b>	35	<b>0.381</b>	65	<b>6.146</b>	95	<b>146.449</b>
6	<b>0.117</b>	36	<b>0.402</b>	66	<b>6.551</b>	96	<b>163.908</b>
7	<b>0.110</b>	37	<b>0.429</b>	67	<b>7.039</b>	97	<b>179.695</b>
8	<b>0.095</b>	38	<b>0.463</b>	68	<b>7.628</b>	98	<b>196.151</b>
9	<b>0.088</b>	39	<b>0.504</b>	69	<b>8.311</b>	99	<b>213.150</b>
10	<b>0.085</b>	40	<b>0.552</b>	70	<b>9.074</b>	100	<b>230.722</b>
11	<b>0.086</b>	41	<b>0.600</b>	71	<b>9.910</b>	101	<b>251.505</b>
12	<b>0.094</b>	42	<b>0.650</b>	72	<b>10.827</b>	102	<b>273.007</b>
13	<b>0.108</b>	43	<b>0.697</b>	73	<b>11.839</b>	103	<b>295.086</b>
14	<b>0.131</b>	44	<b>0.740</b>	74	<b>12.974</b>	104	<b>317.591</b>
15	<b>0.156</b>	45	<b>0.780</b>	75	<b>14.282</b>	105	<b>340.362</b>
16	<b>0.179</b>	46	<b>0.825</b>	76	<b>15.799</b>	106	<b>362.371</b>
17	<b>0.198</b>	47	<b>0.885</b>	77	<b>17.550</b>	107	<b>384.113</b>
18	<b>0.211</b>	48	<b>0.964</b>	78	<b>19.582</b>	108	<b>400.000</b>
19	<b>0.221</b>	49	<b>1.051</b>	79	<b>21.970</b>	109	<b>400.000</b>
20	<b>0.228</b>	50	<b>1.161</b>	80	<b>24.821</b>	110	<b>400.000</b>
21	<b>0.234</b>	51	<b>1.308</b>	81	<b>28.351</b>	111	<b>400.000</b>
22	<b>0.240</b>	52	<b>1.460</b>	82	<b>32.509</b>	112	<b>400.000</b>
23	<b>0.245</b>	53	<b>1.613</b>	83	<b>37.329</b>	113	<b>400.000</b>
24	<b>0.247</b>	54	<b>1.774</b>	84	<b>42.830</b>	114	<b>400.000</b>
25	<b>0.250</b>	55	<b>1.950</b>	85	<b>48.997</b>	115	<b>400.000</b>
26	<b>0.256</b>	56	<b>2.154</b>	86	<b>55.774</b>	116	<b>400.000</b>
27	<b>0.261</b>	57	<b>2.399</b>	87	<b>63.140</b>	117	<b>400.000</b>
28	<b>0.270</b>	58	<b>2.700</b>	88	<b>71.066</b>	118	<b>400.000</b>
29	<b>0.281</b>	59	<b>3.054</b>	89	<b>79.502</b>	119	<b>400.000</b>
						120	<b>1000.000</b>

APPENDIX II

2012 IAM Period Table  
Male, Age Nearest Birthday

AGE	$1000 \cdot q_x^{2012}$	AGE	$1000 \cdot q_x^{2012}$	AGE	$1000 \cdot q_x^{2012}$	AGE	$1000 \cdot q_x^{2012}$
0	1.605	30	0.741	60	5.096	90	109.993
1	0.401	31	0.751	61	5.614	91	123.119
2	0.275	32	0.754	62	6.169	92	137.168
3	0.229	33	0.756	63	6.759	93	152.171
4	0.174	34	0.756	64	7.398	94	168.194
5	0.168	35	0.756	65	8.106	95	185.260
6	0.165	36	0.756	66	8.548	96	197.322
7	0.159	37	0.756	67	9.076	97	214.751
8	0.143	38	0.756	68	9.708	98	232.507
9	0.129	39	0.800	69	10.463	99	250.397
10	0.113	40	0.859	70	11.357	100	268.607
11	0.111	41	0.926	71	12.418	101	290.016
12	0.132	42	0.999	72	13.675	102	311.849
13	0.169	43	1.069	73	15.150	103	333.962
14	0.213	44	1.142	74	16.860	104	356.207
15	0.254	45	1.219	75	18.815	105	380.000
16	0.293	46	1.318	76	21.031	106	400.000
17	0.328	47	1.454	77	23.540	107	400.000
18	0.359	48	1.627	78	26.375	108	400.000
19	0.387	49	1.829	79	29.572	109	400.000
20	0.414	50	2.057	80	33.234	110	400.000
21	0.443	51	2.302	81	37.533	111	400.000
22	0.473	52	2.545	82	42.261	112	400.000
23	0.513	53	2.779	83	47.441	113	400.000
24	0.554	54	3.011	84	53.233	114	400.000
25	0.602	55	3.254	85	59.855	115	400.000
26	0.655	56	3.529	86	67.514	116	400.000
27	0.688	57	3.845	87	76.340	117	400.000
28	0.710	58	4.213	88	86.388	118	400.000
29	0.727	59	4.631	89	97.634	119	400.000
						120	1000.000

APPENDIX III

Projection Scale G2  
Female, Age Nearest Birthday

AGE	$G2_x$	AGE	$G2_x$	AGE	$G2_x$	AGE	$G2_x$
0	<b>0.010</b>	30	<b>0.010</b>	60	<b>0.013</b>	90	<b>0.006</b>
1	<b>0.010</b>	31	<b>0.010</b>	61	<b>0.013</b>	91	<b>0.006</b>
2	<b>0.010</b>	32	<b>0.010</b>	62	<b>0.013</b>	92	<b>0.005</b>
3	<b>0.010</b>	33	<b>0.010</b>	63	<b>0.013</b>	93	<b>0.005</b>
4	<b>0.010</b>	34	<b>0.010</b>	64	<b>0.013</b>	94	<b>0.004</b>
5	<b>0.010</b>	35	<b>0.010</b>	65	<b>0.013</b>	95	<b>0.004</b>
6	<b>0.010</b>	36	<b>0.010</b>	66	<b>0.013</b>	96	<b>0.004</b>
7	<b>0.010</b>	37	<b>0.010</b>	67	<b>0.013</b>	97	<b>0.003</b>
8	<b>0.010</b>	38	<b>0.010</b>	68	<b>0.013</b>	98	<b>0.003</b>
9	<b>0.010</b>	39	<b>0.010</b>	69	<b>0.013</b>	99	<b>0.002</b>
10	<b>0.010</b>	40	<b>0.010</b>	70	<b>0.013</b>	100	<b>0.002</b>
11	<b>0.010</b>	41	<b>0.010</b>	71	<b>0.013</b>	101	<b>0.002</b>
12	<b>0.010</b>	42	<b>0.010</b>	72	<b>0.013</b>	102	<b>0.001</b>
13	<b>0.010</b>	43	<b>0.010</b>	73	<b>0.013</b>	103	<b>0.001</b>
14	<b>0.010</b>	44	<b>0.010</b>	74	<b>0.013</b>	104	<b>0.000</b>
15	<b>0.010</b>	45	<b>0.010</b>	75	<b>0.013</b>	105	<b>0.000</b>
16	<b>0.010</b>	46	<b>0.010</b>	76	<b>0.013</b>	106	<b>0.000</b>
17	<b>0.010</b>	47	<b>0.010</b>	77	<b>0.013</b>	107	<b>0.000</b>
18	<b>0.010</b>	48	<b>0.010</b>	78	<b>0.013</b>	108	<b>0.000</b>
19	<b>0.010</b>	49	<b>0.010</b>	79	<b>0.013</b>	109	<b>0.000</b>
20	<b>0.010</b>	50	<b>0.010</b>	80	<b>0.013</b>	110	<b>0.000</b>
21	<b>0.010</b>	51	<b>0.010</b>	81	<b>0.012</b>	111	<b>0.000</b>
22	<b>0.010</b>	52	<b>0.011</b>	82	<b>0.012</b>	112	<b>0.000</b>
23	<b>0.010</b>	53	<b>0.011</b>	83	<b>0.011</b>	113	<b>0.000</b>
24	<b>0.010</b>	54	<b>0.011</b>	84	<b>0.010</b>	114	<b>0.000</b>
25	<b>0.010</b>	55	<b>0.012</b>	85	<b>0.010</b>	115	<b>0.000</b>
26	<b>0.010</b>	56	<b>0.012</b>	86	<b>0.009</b>	116	<b>0.000</b>
27	<b>0.010</b>	57	<b>0.012</b>	87	<b>0.008</b>	117	<b>0.000</b>
28	<b>0.010</b>	58	<b>0.012</b>	88	<b>0.007</b>	118	<b>0.000</b>
29	<b>0.010</b>	59	<b>0.013</b>	89	<b>0.007</b>	119	<b>0.000</b>
						120	<b>0.000</b>

APPENDIX IV

Projection Scale G2  
Male, Age Nearest Birthday

AGE	$G2_x$	AGE	$G2_x$	AGE	$G2_x$	AGE	$G2_x$
0	<b>0.010</b>	30	<b>0.010</b>	60	<b>0.015</b>	90	<b>0.007</b>
1	<b>0.010</b>	31	<b>0.010</b>	61	<b>0.015</b>	91	<b>0.007</b>
2	<b>0.010</b>	32	<b>0.010</b>	62	<b>0.015</b>	92	<b>0.006</b>
3	<b>0.010</b>	33	<b>0.010</b>	63	<b>0.015</b>	93	<b>0.005</b>
4	<b>0.010</b>	34	<b>0.010</b>	64	<b>0.015</b>	94	<b>0.005</b>
5	<b>0.010</b>	35	<b>0.010</b>	65	<b>0.015</b>	95	<b>0.004</b>
6	<b>0.010</b>	36	<b>0.010</b>	66	<b>0.015</b>	96	<b>0.004</b>
7	<b>0.010</b>	37	<b>0.010</b>	67	<b>0.015</b>	97	<b>0.003</b>
8	<b>0.010</b>	38	<b>0.010</b>	68	<b>0.015</b>	98	<b>0.003</b>
9	<b>0.010</b>	39	<b>0.010</b>	69	<b>0.015</b>	99	<b>0.002</b>
10	<b>0.010</b>	40	<b>0.010</b>	70	<b>0.015</b>	100	<b>0.002</b>
11	<b>0.010</b>	41	<b>0.010</b>	71	<b>0.015</b>	101	<b>0.002</b>
12	<b>0.010</b>	42	<b>0.010</b>	72	<b>0.015</b>	102	<b>0.001</b>
13	<b>0.010</b>	43	<b>0.010</b>	73	<b>0.015</b>	103	<b>0.001</b>
14	<b>0.010</b>	44	<b>0.010</b>	74	<b>0.015</b>	104	<b>0.000</b>
15	<b>0.010</b>	45	<b>0.010</b>	75	<b>0.015</b>	105	<b>0.000</b>
16	<b>0.010</b>	46	<b>0.010</b>	76	<b>0.015</b>	106	<b>0.000</b>
17	<b>0.010</b>	47	<b>0.010</b>	77	<b>0.015</b>	107	<b>0.000</b>
18	<b>0.010</b>	48	<b>0.010</b>	78	<b>0.015</b>	108	<b>0.000</b>
19	<b>0.010</b>	49	<b>0.010</b>	79	<b>0.015</b>	109	<b>0.000</b>
20	<b>0.010</b>	50	<b>0.010</b>	80	<b>0.015</b>	110	<b>0.000</b>
21	<b>0.010</b>	51	<b>0.011</b>	81	<b>0.014</b>	111	<b>0.000</b>
22	<b>0.010</b>	52	<b>0.011</b>	82	<b>0.013</b>	112	<b>0.000</b>
23	<b>0.010</b>	53	<b>0.012</b>	83	<b>0.013</b>	113	<b>0.000</b>
24	<b>0.010</b>	54	<b>0.012</b>	84	<b>0.012</b>	114	<b>0.000</b>
25	<b>0.010</b>	55	<b>0.013</b>	85	<b>0.011</b>	115	<b>0.000</b>
26	<b>0.010</b>	56	<b>0.013</b>	86	<b>0.010</b>	116	<b>0.000</b>
27	<b>0.010</b>	57	<b>0.014</b>	87	<b>0.009</b>	117	<b>0.000</b>
28	<b>0.010</b>	58	<b>0.014</b>	88	<b>0.009</b>	118	<b>0.000</b>
29	<b>0.010</b>	59	<b>0.015</b>	89	<b>0.008</b>	119	<b>0.000</b>
						120	<b>0.000</b>