

TABULATION OF THE 1941 CSO MORTALITY TABLE
ON THE BASIS OF AGE LAST BIRTHDAY

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AS OF January 1, 1960, our Company introduced a new series of Ordinary policies designed to be issued on the basis of age last birthday of the insured.

By established common usage, a person's age is determined by his last birthday. The custom of writing Ordinary life insurance on the basis of age nearest birthday is a potential source of confusion and misunderstanding on the part of policyholders. The removal of this unnecessary technical complication from the life insurance contract seems to us a desirable simplification in the public interest.

The laws of many states still require the use of the 1941 CSO Table for Ordinary policies. A great number of special subsidiary functions have been published for the 1941 CSO, in order to properly reflect the various practices and policy provisions. However, there have existed no generally available monetary values tabulated according to age last birthday. Hence, in order to reflect Metropolitan's new practice of issuing policies on the basis of age last birthday, it was decided to compute and publish the required functions for the 1941 CSO.

In developing the required functions on an age last birthday basis for the 1941 CSO, we followed classic theory and assumptions. In its classic form, a mortality table shows the number living at each exact age and the number of deaths that occur between successive exact ages. In practice, when business is written on a nearest birthday basis, the number tabulated as living at an exact age is used as representing the average number for that age. A uniform distribution of deaths over the year of age is generally assumed, whenever required, to obtain the number dying over any subinterval of a year of age. For business written on an age last birthday basis, the number living halfway between an exact age and the next is therefore used as representing the average number for that age.

The elementary functions were thus tabulated directly from those already available by simple interpolation on the $l_{(x)}$ column, as illustrated

in the accompanying table. In this table the tabulation bases are distinguished by using the symbol (x) to denote age x nearest birthday and \underline{x} to denote age x last birthday (*TASA XLVI*, 18). In order to avoid decimals without introducing biased rounding, the values for $l_{\underline{x}}$ were taken to the nearest even integer in cases where the value would otherwise have terminated with the decimal fraction .5.

We used this straightforward translation formula at all ages including age zero. Careful consideration was given to the possibility of using a more elaborate technique at age zero to allow for the skewed distribution of issue at this age and the steep slope of the mortality curve in the period

Age	$l_{(x)}$ (Tabulated According to Age Nearest Birthday)	$d_{(x)}$ $=l_{(x)}-l_{(x+1)}$	$l_{\underline{x}}$ (Tabulated According to Age Last Birthday) $=\frac{1}{2}[l_{(x)}+l_{(x+1)}]$	$d_{\underline{x}}$ $=l_{\underline{x}}-l_{\underline{x+1}}$
30	924,609	3,292	922,963	3,365
31	921,317	3,437	919,598	3,517
32	917,880	3,598	916,081	3,683
33	914,282	3,767	912,398	3,864
34	910,515	3,961	908,534	4,060

immediately following birth. Any such technique would have resulted in a value for q_{0j} larger than the one resulting from the simple interpolation method. This in turn would have produced lower reserves and lower legal minimum nonforfeiture values for policies issued at age zero. Since such a larger value for q_{0j} would thus have resulted in a less conservative basis for reserves and lower nonforfeiture values, we decided to use the simple interpolation method at age zero as well as at the other ages.

The resulting mortality functions and other values have been published by Metropolitan Life Insurance Company in a volume entitled "Actuarial Tables—Commissioners 1941 Standard Ordinary Mortality Table—Age Last Birthday Basis—Immediate Payment of Death Benefits—2½%—(Basic Values, Net Premiums and Terminal Reserves)." The commutation columns that reflect the practice of immediate payment of claims were developed in the customary manner, by the use of the constant factor i/δ , without any attempt at greater theoretical refinement.

Following are the elementary mortality functions and commutation columns at 2½% for the 1941 CSO Table, tabulated according to age last birthday.

MORTALITY TABLE
1941 CSO—AGE LAST BIRTHDAY BASIS

Age Last Birthday x	l_x	d_x	$1,000q_x$	Age Last Birthday x	l_x	d_x	$1,000q_x$
0	1011551	14436	14.27	50	805905	10309	12.79
1	997115	4943	4.96	51	795596	10964	13.78
2	992172	3732	3.76	52	784632	11661	14.86
3	988440	3148	3.18	53	772971	12395	16.04
4	985292	2832	2.87	54	760576	13165	17.31
5	982460	2638	2.69	55	747411	13975	18.70
6	979822	2490	2.54	56	733436	14820	20.21
7	977332	2336	2.39	57	718616	15700	21.85
8	974996	2160	2.22	58	702916	16609	23.63
9	972836	1989	2.04	59	686307	17547	25.57
10	970847	1883	1.94	60	668760	18505	27.67
11	968964	1856	1.92	61	650255	19483	29.96
12	967108	1886	1.95	62	630772	20469	32.45
13	965222	1954	2.02	63	610303	21450	35.15
14	963268	2032	2.11	64	588853	22425	38.08
15	961236	2086	2.17	65	566428	23374	41.27
16	959150	2130	2.22	66	543054	24286	44.72
17	957020	2178	2.28	67	518768	25142	48.46
18	954842	2229	2.33	68	493626	25927	52.52
19	952613	2286	2.40	69	467699	26629	56.94
20	950327	2347	2.47	70	441070	27218	61.71
21	947980	2417	2.55	71	413852	27676	66.87
22	945563	2491	2.63	72	386176	27988	72.47
23	943072	2570	2.73	73	358188	28129	78.53
24	940502	2658	2.83	74	330059	28081	85.08
25	937844	2752	2.93	75	301978	27830	92.16
26	935092	2852	3.05	76	274148	27362	99.81
27	932240	2964	3.18	77	246786	26666	108.05
28	929276	3090	3.33	78	220120	25743	116.95
29	926186	3223	3.48	79	194377	24595	126.53
30	922963	3365	3.65	80	169782	23234	136.85
31	919598	3517	3.82	81	146548	21680	147.94
32	916081	3683	4.02	82	124868	19959	159.84
33	912398	3864	4.23	83	104909	18109	172.62
34	908534	4060	4.47	84	86800	16172	186.31
35	904474	4274	4.73	85	70628	14191	200.93
36	900200	4506	5.01	86	56437	12221	216.54
37	895694	4751	5.30	87	44216	10312	233.22
38	890943	5020	5.63	88	33904	8508	250.94
39	885923	5311	5.99	89	25396	6850	269.73
40	880612	5622	6.38	90	18546	5372	289.66
41	874990	5958	6.81	91	13174	4094	310.76
42	869032	6316	7.27	92	9080	3023	332.93
43	862716	6707	7.77	93	6057	2158	356.28
44	856009	7125	8.32	94	3899	1485	380.87
45	848884	7570	8.92	95	2414	1002	415.08
46	841314	8050	9.57	96	1412	682	483.00
47	833264	8561	10.27	97	730	440	602.74
48	824703	9107	11.04	98	290	228	786.21
49	815596	9691	11.88	99	62	62	1000.00

COMMUTATION COLUMNS
1941 CSO 2½%—AGE LAST BIRTHDAY BASIS

Age Last Birthday <i>x</i>	<i>D_x</i>	<i>N_x</i>	<i>C_x</i>	<i>M_x</i>
0.....	1011551.000	31242066.610	14083.9024	249549.3751
1.....	972795.122	30230515.610	4704.8186	235465.4727
2.....	944363.593	29257720.488	3465.5330	230760.6541
3.....	917864.802	28313356.895	2851.9326	227295.1211
4.....	892625.923	27395492.093	2503.0753	224443.1885
5.....	868351.483	26502866.170	2274.7391	221940.1132
6.....	844897.440	25634514.687	2094.7504	219665.3741
7.....	822195.435	24789617.247	1917.2640	217570.6237
8.....	800224.624	23967421.812	1729.5733	215653.3597
9.....	778977.377	23167197.188	1553.8036	213923.7864
10.....	758424.125	22388219.811	1435.1186	212369.9828
11.....	738490.857	21629795.686	1380.0397	210934.8642
12.....	719098.845	20891304.829	1368.1428	209554.8245
13.....	700191.706	20172205.984	1382.8989	208186.6817
14.....	681730.960	19472014.278	1403.0260	206803.7828
15.....	663700.350	18790283.318	1405.1816	205400.7568
16.....	646107.355	18126582.968	1399.8255	203995.5752
17.....	628948.813	17480475.613	1396.4594	202595.7497
18.....	612212.139	16851526.800	1394.3013	201199.2903
19.....	595885.834	16239314.661	1395.0794	199804.9890
20.....	579956.954	15643428.827	1397.3716	198409.9096
21.....	564414.291	15063471.873	1403.9499	197012.5380
22.....	549244.139	14499057.582	1411.6428	195608.5881
23.....	534436.298	13949813.443	1420.8897	194196.9453
24.....	519980.376	13415377.145	1433.7002	192776.0556
25.....	505864.228	12895396.769	1448.1980	191342.3554
26.....	492077.878	12389532.541	1464.2160	189894.1574
27.....	478611.763	11897454.663	1484.6018	188429.9414
28.....	465453.703	11418842.900	1509.9633	186945.3396
29.....	452591.211	10953389.197	1536.5417	185435.3763
30.....	440015.859	10500797.986	1565.1114	183898.8346
31.....	427718.653	10060782.127	1595.9110	182333.7232
32.....	415690.580	9633063.474	1630.4751	180737.8122
33.....	403921.310	9217372.894	1668.8822	179107.3371
34.....	392400.689	8813451.584	1710.7665	177438.4549
35.....	381119.174	8421050.895	1757.0146	175727.6884
36.....	370066.570	8039931.721	1807.2081	173970.6738
37.....	359233.348	7669865.151	1858.9947	172163.4657
38.....	348612.564	7310631.803	1916.3418	170304.4710
39.....	338193.477	6962019.239	1977.9790	168388.1292
40.....	327966.876	6623825.762	2042.7366	166410.1502
41.....	317924.948	6295858.886	2112.0206	164367.4136
42.....	308058.660	5977933.938	2184.3182	162255.3930
43.....	298360.716	5669875.278	2262.9670	160071.0748
44.....	288820.658	5371514.562	2345.3676	157808.1078
45.....	279430.884	5082693.904	2431.0734	155462.7402
46.....	270184.424	4803263.020	2522.1691	153031.6668
47.....	261072.390	4533078.596	2616.8508	150509.4977
48.....	252087.920	4272006.206	2715.8510	147892.6469
49.....	243223.584	4019918.286	2819.5209	145176.7959

COMMUTATION COLUMNS
1941 CSO 2½%—AGE LAST BIRTHDAY BASIS

Age Last Birthday x	D_x	N_x	C_x	M_x
50.....	234471.780	3776694.702	2926.1690	142357.2750
51.....	225826.787	3542222.922	3036.1836	139431.1060
52.....	217282.633	3316396.135	3150.4379	136394.9224
53.....	208832.619	3099113.502	3267.0652	133244.4845
54.....	200472.075	2890280.883	3385.3866	129977.4193
55.....	192197.126	2689808.808	3506.0278	126592.0327
56.....	184003.363	2497611.682	3627.3368	123086.0049
57.....	175888.139	2313608.319	3749.0002	119458.6681
58.....	167849.185	2137720.180	3869.3269	115709.6679
59.....	159885.975	1969870.995	3988.1451	111840.3410
60.....	151998.172	1809985.020	4103.3003	107852.1959
61.....	144187.599	1657986.848	4214.7923	103748.8956
62.....	136456.036	1513799.249	4320.0931	99534.1033
63.....	128807.747	1377343.213	4416.7204	95214.0102
64.....	121249.374	1248535.466	4504.8590	90797.2898
65.....	113787.214	1127286.092	4580.9750	86292.4308
66.....	106430.941	1013498.878	4643.6236	81711.4558
67.....	99191.441	907067.937	4690.0446	77067.8322
68.....	92082.092	807876.496	4718.5173	72377.7876
69.....	85117.670	715794.404	4728.0742	67659.2703
70.....	78313.556	630676.734	4714.7836	62931.1961
71.....	71688.685	552363.178	4677.1900	58216.4125
72.....	65262.991	480674.493	4614.5536	53539.2225
73.....	59056.657	415411.502	4524.6840	48924.6689
74.....	53091.567	356354.845	4406.7931	44399.9849
75.....	47389.857	303263.278	4260.8813	39993.1918
76.....	41973.126	255873.421	4087.0524	35732.3105
77.....	36862.339	213900.295	3885.9425	31645.2581
78.....	32077.315	177037.956	3659.9385	27759.3156
79.....	27635.003	144960.641	3411.4389	24099.3771
80.....	23549.539	117325.638	3144.0605	20687.9382
81.....	19831.100	93776.099	2862.2154	17543.8777
82.....	16485.199	73944.999	2570.7388	14681.6623
83.....	13512.382	57459.800	2275.5678	12110.9235
84.....	10907.244	43947.418	1982.6003	9835.3557
85.....	8658.613	33040.174	1697.3077	7852.7554
86.....	6750.120	24381.561	1426.0359	6155.4477
87.....	5159.447	17631.441	1173.9315	4729.4118
88.....	3859.675	12471.994	944.9383	3555.4803
89.....	2820.599	8612.319	742.2371	2610.5420
90.....	2009.566	5791.720	567.8900	1868.3049
91.....	1392.663	3782.154	422.2330	1300.4149
92.....	936.462	2389.491	304.1716	878.1819
93.....	609.450	1453.029	211.8401	574.0103
94.....	382.745	843.579	142.2195	362.1702
95.....	231.191	460.834	93.6217	219.9507
96.....	131.930	229.643	62.1684	126.3290
97.....	66.544	97.713	39.1304	64.1606
98.....	25.790	31.169	19.7821	25.0302
99.....	5.379	5.379	5.2481	5.2481

COMMUTATION COLUMNS

1941 CSO 2½%—AGE LAST BIRTHDAY BASIS—
IMMEDIATE PAYMENT OF DEATH BENEFITS

Age Last Birthday *	C _x	M _x	R _x	S _x
0	14259 2267	252655 9050	12409578 1033	778387887 228
1	4763 3868	238396 6783	12156922 1983	747145820 618
2	3508 6739	233633 2915	11918525 5200	716915305 008
3	2887 4350	230124 6176	11684892 2285	687657584 520
4	2534 2350	227237 1826	11454767 6109	659344227 625
5	2303 0563	224702 9476	11227530 4283	631948735 532
6	2120 8270	222399 8913	11002827 4807	605445869 362
7	1941 1312	220279 0643	10780427 5894	579811354 675
8	1751 1040	218337 9331	10560148 5251	555021737 428
9	1573 1462	216586 8291	10341810 5920	531054315 616
10	1452 9838	215013 6829	10125223 7629	507887118 428
11	1397 2192	213560 6991	9910210 0800	485498898 617
12	1385 1742	212163 4799	9696649 3809	463869102 931
13	1400 1140	210778 3057	9484485 9010	442977798 102
14	1420 4916	209378 1917	9273707 5953	422805592 118
15	1422 6741	207957 7001	9064329 4036	403333577 840
16	1417 2513	206535 0260	8856371 7035	384543294 522
17	1413 8433	205117 7747	8649836 6775	366416711 554
18	1411 6583	203703 9314	8444718 9028	348936235 941
19	1412 4461	202292 2731	8241014 9714	332084709 141
20	1414 7669	200879 8270	8038722 6983	315845394 480
21	1421 4271	199465 0601	7837842 8713	300201965 653
22	1429 2157	198043 6330	7638377 8112	285138493 780
23	1438 5777	196614 4173	7440334 1782	270639436 198
24	1451 5477	195175 8396	7243719 7609	256689622 755
25	1466 2260	193724 2919	7048543 9213	243274245 610
26	1482 4434	192258 0659	6854819 6294	230378848 841
27	1503 0830	190775 6225	6662561 5635	217989316 300
28	1528 7602	189272 5395	6471785 9410	206091861 637
29	1555 6694	187743 7793	6282513 4015	194673018 737
30	1584 5948	186188 1099	6094769 6222	183719629 540
31	1615 7778	184603 5151	5908581 5123	173218831 554
32	1650 7722	182987 7373	5723977 9972	163158049 427
33	1689 6574	181336 9651	5540990 2599	153524985 953
34	1732 0631	179647 3077	5359653 2948	144307613 059
35	1778 8869	177915 2446	5180005 9871	135494161 475
36	1829 7052	176136 3577	5002090 7425	127073110 580
37	1882 1365	174306 6525	4825954 3848	119033178 859
38	1940 1975	172424 5160	4651647 7323	111363313 708
39	2002 6020	170484 3185	4479223 2163	104052681 905
40	2068 1657	168481 7165	4308738 8978	97090662 666
41	2138 3122	166413 5508	4140257 1813	90466836 904
42	2211 5098	164275 2386	3973843 6305	84170978 018
43	2291 1377	162063 7288	3809568 3919	78193044 080
44	2374 5640	159772 5911	3647504 6631	72523168 802
45	2461 3368	157398 0271	3487732 0720	67151654 240
46	2553 5665	154936 6903	3330334 0449	62068960 336
47	2649 4268	152383 1238	3175397 3546	57265697 316
48	2749 6594	149733 6970	3023014 2308	52732618 720
49	2854 6199	146984 0376	2873280 5338	48460612 514

COMMUTATION COLUMNS
 1941 CSO $2\frac{1}{2}\%$ —AGE LAST BIRTHDAY BASIS—
 IMMEDIATE PAYMENT OF DEATH BENEFITS

Age Last Birthday x	C_x	\bar{N}_x	R_x	S_x
50.....	2962.5956	144129.4177	2726296.4962	44440694.228
51.....	3073.9797	141166.8221	2582167.0785	40663999.526
52.....	3189.6563	138092.8424	2441000.2564	37121776.604
53.....	3307.7354	134903.1861	2302907.4140	33805380.469
54.....	3427.5298	131595.4507	2168004.2279	30706266.967
55.....	3549.6728	128167.9209	2036408.7772	27815986.084
56.....	3672.4919	124618.2481	1908240.8563	25126177.276
57.....	3795.6698	120945.7562	1783622.6082	22628565.594
58.....	3917.4944	117150.0864	1662676.8520	20314957.275
59.....	4037.7918	113232.5920	1545526.7656	18177237.095
60.....	4154.3805	109194.8002	1432294.1736	16207366.100
61.....	4267.2604	105040.4197	1323099.3734	14397381.080
62.....	4373.8720	100773.1593	1218058.9537	12739394.232
63.....	4471.7022	96399.2873	1117285.7944	11225594.983
64.....	4560.9380	91927.5851	1020886.5071	9848251.770
65.....	4638.0015	87366.6471	928958.9220	8599716.304
66.....	4701.4300	82728.6456	841592.2749	7472430.212
67.....	4748.4289	78027.2156	758863.6293	6458931.334
68.....	4777.2560	73278.7867	680836.4137	5551863.397
69.....	4786.9319	68501.5307	607557.6270	4743986.901
70.....	4773.4759	63714.5988	539056.0963	4028192.497
71.....	4735.4143	58941.1229	475341.4975	3397515.763
72.....	4671.9981	54205.7086	416400.3746	2845152.585
73.....	4581.0098	49533.7105	362194.6660	2364478.092
74.....	4461.6513	44952.7007	312660.9555	1949066.590
75.....	4313.9231	40491.0494	267708.2548	1592711.745
76.....	4137.9303	36177.1263	227217.2054	1289448.467
77.....	3934.3169	32039.1960	191040.0791	1033575.046
78.....	3705.4995	28104.8791	159000.8831	819674.751
79.....	3453.9064	24399.3796	130896.0040	642636.795
80.....	3183.1995	20945.4732	106496.6244	497676.154
81.....	2897.8459	17762.2737	85551.1512	380350.516
82.....	2602.7408	14864.4278	67788.8775	286574.417
83.....	2303.8953	12261.6870	52924.4497	212629.418
84.....	2007.2808	9957.7917	40662.7627	155169.618
85.....	1718.4367	7950.5109	30704.9710	111222.200
86.....	1443.7880	6232.0742	22754.4601	78182.026
87.....	1188.5453	4788.2862	16522.3859	53800.465
88.....	956.7014	3599.7409	11734.0997	36169.024
89.....	751.4769	2643.0395	8134.3588	23697.030
90.....	574.9594	1891.5626	5491.3193	15084.711
91.....	427.4892	1316.6032	3599.7567	9292.991
92.....	307.9581	889.1140	2283.1535	5510.837
93.....	214.4772	581.1559	1394.0395	3121.346
94.....	143.9899	366.6787	812.8836	1668.317
95.....	94.7872	222.6888	446.2049	824.738
96.....	62.9423	127.9016	223.5161	363.904
97.....	39.6175	64.9593	95.6145	134.261
98.....	20.0284	25.3418	30.6552	36.548
99.....	5.3134	5.3134	5.3134	5.379

DISCUSSION OF PRECEDING PAPER

IRWIN T. VANDERHOOF:

Standard Security Life of New York was interested in following the pattern set by the Metropolitan and has therefore filed forms based on the 1958 CSO tables on the basis of age last birthday. The *l*'s and *d*'s used were those presented by Mr. Winter at the March meeting. I am presenting, in Tables 1 to 4 (pp. 330-45), commutation columns on the 1958 CSO and CET Mortality Tables at $2\frac{1}{2}\%$ and 3% interest.

ROBERT C. BAILEY:

It is certainly most encouraging to have Mr. Greeley submit his actuarial note outlining the basis by which the 1941 CSO Table was translated to an age last birthday basis. To me the ideas appear entirely logical and, after the event, it makes me wonder why it was not done a long time ago. It is probably one of those things which many actuaries have thought about during the course of their formal studies and also when working with premium rates and policy forms for their companies or clients. Probably the answer is that a number of us have thought of this development but in the press of current business we have not found time to develop it, as we have assumed that there would be many difficulties in adopting such an idea. From the point of view of the public it certainly seems a logical development to have their insurance based on their chronological age which is almost always expressed as age last birthday. Why the life insurance industry makes it necessary for agents to stop and figure the insurance age on a nearest birthday basis, or even an age next birthday basis, is a question to which those better versed in life insurance history may have an answer.

The mathematics involved is quite simple and it certainly would be a very easy matter for any of us to adapt the principles used in this note to any other mortality table.

The real question raised in my mind is neither the question of definition of age nor the mathematics involved but rather the statutory limitations, if any exist. Those of us who came to the United States from elsewhere are always immediately impressed with the apparent rigidity of the valuation and nonforfeiture statutes and practices. I say "apparent" because it very well may be that the uniform statutes do not call for the rigidity that has been read into them by those of us who have not studied the philosophy behind the statutes too deeply. I am sure that many of

TABLE 1a
1958 CSO TABLE (MALE)—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS—INTEREST AT 2½%

Age x	D_x	N_x	C_x	M_x
0.....	9,964,600.00	323,785,728.22	43,061.463	2,067,387.078
1.....	9,678,499.51	313,821,128.22	15,486.020	2,024,325.615
2.....	9,426,952.53	304,142,628.71	13,704.270	2,008,839.595
3.....	9,183,322.59	294,715,676.18	12,811.954	1,995,135.325
4.....	8,946,527.15	285,532,353.59	12,000.974	1,982,323.371
5.....	8,716,318.20	276,585,826.44	11,267.633	1,970,322.397
6.....	8,492,457.44	267,869,508.24	10,605.831	1,959,054.764
7.....	8,274,718.50	259,377,050.80	10,050.863	1,948,448.933
8.....	8,062,845.23	251,102,332.30	9,595.929	1,938,398.070
9.....	7,856,594.54	243,039,487.07	9,274.387	1,928,802.141
10.....	7,655,695.90	235,182,892.53	9,112.203	1,919,527.754
11.....	7,459,859.40	227,527,196.63	9,060.972	1,910,415.551
12.....	7,268,850.64	220,067,337.23	9,148.276	1,901,354.579
13.....	7,082,413.32	212,798,486.59	9,362.523	1,892,206.303
14.....	6,900,309.01	205,716,073.27	9,593.328	1,882,843.780
15.....	6,722,415.46	198,815,764.26	9,837.619	1,873,250.452
16.....	6,548,616.49	192,093,348.80	10,094.516	1,863,412.833
17.....	6,378,799.62	185,544,732.31	10,299.048	1,853,318.317
18.....	6,212,920.09	179,165,932.69	9,362.523	1,843,019.269
19.....	6,050,990.44	172,953,012.60	10,419.156	1,832,624.249
20.....	5,892,986.15	166,902,022.16	10,406.161	1,822,205.093
21.....	5,738,848.62	161,009,036.01	10,329.516	1,811,798.932
22.....	5,588,547.18	155,270,187.39	10,222.651	1,801,469.416
23.....	5,442,018.50	149,681,640.21	10,087.764	1,791,246.765
24.....	5,299,198.58	144,239,621.71	9,925.866	1,781,159.001
25.....	5,160,023.97	138,940,423.13	9,791.649	1,771,233.135
26.....	5,024,378.07	133,780,399.16	9,681.179	1,761,441.486
27.....	4,892,151.09	128,756,021.09	9,592.811	1,751,760.307
28.....	4,763,237.52	123,863,870.00	9,549.418	1,742,167.496
29.....	4,637,511.57	119,100,632.48	9,523.412	1,732,618.078
30.....	4,514,878.12	114,463,120.91	9,514.389	1,723,094.666
31.....	4,395,244.76	109,948,242.79	9,519.199	1,713,580.277
32.....	4,278,524.47	105,552,998.03	9,538.036	1,704,061.078
33.....	4,164,632.17	101,274,473.56	9,588.730	1,694,523.042
34.....	4,053,467.05	97,109,841.39	9,707.968	1,684,934.312
35.....	3,944,894.03	93,056,374.34	9,910.236	1,675,226.344
36.....	3,838,766.87	89,111,480.31	10,186.301	1,665,316.108
37.....	3,734,952.10	85,272,713.44	10,585.040	1,655,129.807
38.....	3,633,270.67	81,537,761.34	11,093.786	1,644,544.767
39.....	3,533,560.53	77,904,490.67	11,685.756	1,633,450.981
40.....	3,435,690.37	74,370,930.14	12,350.889	1,621,765.225
41.....	3,339,542.15	70,935,239.77	13,047.878	1,609,414.336
42.....	3,245,042.03	67,595,697.62	13,770.266	1,596,366.458
43.....	3,152,124.39	64,350,655.59	14,528.943	1,582,596.192
44.....	3,060,714.37	61,198,531.20	15,331.956	1,568,067.249
45.....	2,970,730.84	58,137,816.83	16,199.555	1,552,735.293
46.....	2,882,074.44	55,167,085.99	17,135.398	1,536,535.738
47.....	2,794,644.54	52,285,011.55	18,142.194	1,519,400.340
48.....	2,708,340.28	49,490,367.01	19,219.708	1,501,258.146
49.....	2,623,063.49	46,782,026.73	20,366.827	1,482,038.438

TABLE 1a—Continued

Age x	D_x	N_x	C_x	M_x
50.....	2,538,719.51	44,158,963.24	21,581.099	1,461,671.611
51.....	2,455,218.42	41,620,243.73	22,834.792	1,440,090.512
52.....	2,372,500.25	39,165,025.31	24,124.720	1,417,255.720
53.....	2,290,509.67	36,792,525.06	25,457.541	1,393,131.000
54.....	2,209,186.04	34,502,015.39	26,826.456	1,367,673.459
55.....	2,128,477.00	32,292,829.35	28,243.406	1,340,847.003
56.....	2,048,319.52	30,164,352.35	29,716.259	1,312,603.597
57.....	1,968,644.25	28,116,032.83	31,237.529	1,282,887.338
58.....	1,889,391.00	26,147,388.58	32,789.220	1,251,649.809
59.....	1,810,519.08	24,257,997.58	34,367.778	1,218,860.589
60.....	1,731,992.30	22,447,478.50	35,958.259	1,184,492.811
61.....	1,653,790.32	20,715,486.20	37,534.431	1,148,534.552
62.....	1,575,919.54	19,061,695.88	39,092.104	1,111,000.121
63.....	1,498,390.37	17,485,776.34	40,622.297	1,071,908.017
64.....	1,421,221.97	15,987,385.97	42,116.865	1,031,285.720
65.....	1,344,441.15	14,566,164.00	43,573.942	989,168.855
66.....	1,268,075.96	13,221,722.85	44,983.836	945,594.913
67.....	1,192,163.45	11,953,646.89	46,319.553	900,611.077
68.....	1,116,766.73	10,761,483.44	47,506.936	854,291.524
69.....	1,042,021.59	9,644,716.71	48,442.474	806,784.588
70.....	968,163.95	8,602,695.12	49,035.793	758,342.114
71.....	895,514.40	7,634,531.17	49,220.343	709,306.321
72.....	824,452.24	6,739,016.77	48,972.831	660,085.978
73.....	755,370.82	5,914,564.53	48,351.498	611,113.147
74.....	688,595.64	5,159,193.71	47,464.399	562,761.649
75.....	624,336.23	4,470,598.07	46,392.316	515,297.250
76.....	562,716.20	3,846,261.84	45,185.215	468,904.934
77.....	503,806.20	3,283,545.64	43,850.849	423,719.719
78.....	447,667.40	2,779,739.44	42,332.620	379,868.870
79.....	394,416.06	2,332,072.04	40,538.629	337,536.250
80.....	344,257.52	1,937,655.98	38,419.947	296,997.621
81.....	297,441.05	1,593,398.46	35,968.066	258,577.674
82.....	254,218.33	1,295,957.41	33,215.197	222,609.608
83.....	214,802.68	1,041,739.08	30,239.454	189,394.411
84.....	179,324.14	826,936.40	27,139.018	159,154.957
85.....	147,811.36	647,612.26	24,005.702	132,015.939
86.....	120,200.50	499,800.90	20,919.821	108,010.237
87.....	96,348.96	379,600.40	17,955.733	87,090.416
88.....	76,043.25	283,251.44	15,176.989	69,134.683
89.....	59,011.55	207,208.19	12,629.517	53,957.694
90.....	44,942.73	148,196.64	10,339.996	41,328.177
91.....	33,506.57	103,253.91	8,317.393	30,988.181
92.....	24,371.94	69,747.34	6,558.354	22,670.788
93.....	17,219.15	45,375.40	5,050.982	16,112.434
94.....	11,748.19	28,156.25	3,790.318	11,061.452
95.....	7,671.33	16,408.06	2,773.987	7,271.134
96.....	4,710.24	8,736.73	1,992.031	4,497.147
97.....	2,603.32	4,026.49	1,394.997	2,505.116
98.....	1,144.83	1,423.17	838.570	1,110.119
99.....	278.34	278.34	271.549	271.549

TABLE 1b
 1958 CSO TABLE (MALE)—AGE LAST BIRTHDAY BASIS
 COMMUTATION COLUMNS—INTEREST AT 2½%

Age x	\bar{C}_x	\bar{M}_x	\bar{R}_x	S_x
0.....	43,597.516	2,093,123.066	120,884,522.542	8,379,889,120.61
1.....	15,678.799	2,049,525.550	118,791,399.476	8,056,103,392.39
2.....	13,874.868	2,033,846.751	116,741,873.926	7,742,282,264.17
3.....	12,971.444	2,019,971.883	114,708,027.175	7,438,139,635.46
4.....	12,150.369	2,007,000.439	112,688,055.292	7,143,423,959.28
5.....	11,407.899	1,994,850.070	110,681,054.853	6,857,891,605.69
6.....	10,737.858	1,983,442.171	108,686,204.783	6,581,305,779.25
7.....	10,175.982	1,972,704.313	106,702,762.612	6,313,436,271.01
8.....	9,715.384	1,962,528.331	104,730,058.299	6,054,059,220.21
9.....	9,389.840	1,952,812.947	102,767,529.968	5,802,956,887.91
10.....	9,225.637	1,943,423.107	100,814,717.021	5,559,917,400.84
11.....	9,173.768	1,934,197.470	98,871,293.914	5,324,734,508.31
12.....	9,262.159	1,925,023.702	96,937,096.444	5,097,207,311.68
13.....	9,479.073	1,915,761.543	95,012,072.742	4,877,139,974.45
14.....	9,712.751	1,906,282.470	93,096,311.199	4,664,341,487.86
15.....	9,960.083	1,896,569.719	91,190,028.729	4,458,625,414.59
16.....	10,220.178	1,886,609.636	89,293,459.010	4,259,809,650.33
17.....	10,427.256	1,876,389.458	87,406,849.374	4,067,716,301.53
18.....	10,524.423	1,865,962.202	85,530,459.916	3,882,171,569.22
19.....	10,548.859	1,855,437.779	83,664,497.714	3,703,005,636.53
20.....	10,535.703	1,844,888.920	81,809,059.935	3,530,052,623.93
21.....	10,458.104	1,834,353.217	79,964,171.015	3,363,150,601.77
22.....	10,349.908	1,823,895.113	78,129,817.798	3,202,141,565.76
23.....	10,213.342	1,813,545.205	76,305,922.685	3,046,871,378.37
24.....	10,049.429	1,803,331.863	74,492,377.480	2,897,189,738.16
25.....	9,913.541	1,793,282.434	72,689,045.617	2,752,950,116.45
26.....	9,801.696	1,783,368.893	70,895,763.183	2,614,009,693.32
27.....	9,712.228	1,773,567.197	69,112,394.290	2,480,229,294.16
28.....	9,668.294	1,763,854.969	67,338,827.093	2,351,473,273.07
29.....	9,641.965	1,754,186.675	65,574,972.124	2,227,609,403.07
30.....	9,632.829	1,744,544.710	63,820,785.449	2,108,508,770.59
31.....	9,637.699	1,734,911.881	62,076,240.739	1,994,045,649.68
32.....	9,656.771	1,725,274.182	60,341,328.858	1,884,097,406.89
33.....	9,708.096	1,715,617.411	58,616,054.676	1,778,544,408.86
34.....	9,828.818	1,705,909.315	56,900,437.265	1,677,269,935.30
35.....	10,033.604	1,696,080.497	55,194,527.950	1,580,160,093.91
36.....	10,313.106	1,686,046.893	53,498,447.453	1,487,103,719.57
37.....	10,716.808	1,675,733.787	51,812,400.560	1,397,992,239.26
38.....	11,231.888	1,665,016.979	50,136,666.773	1,312,719,525.82
39.....	11,831.227	1,653,785.091	48,471,649.794	1,231,181,764.48
40.....	12,504.640	1,641,953.864	46,817,864.703	1,153,277,273.81
41.....	13,210.305	1,629,449.224	45,175,910.839	1,078,906,343.67
42.....	13,941.686	1,616,238.919	43,546,461.615	1,007,971,103.90
43.....	14,709.807	1,602,297.233	41,930,222.696	940,375,406.28
44.....	15,522.817	1,587,587.426	40,327,925.463	876,024,750.69
45.....	16,401.216	1,572,064.609	38,740,338.037	814,826,219.49
46.....	17,348.709	1,555,663.393	37,168,273.428	756,688,402.66
47.....	18,368.038	1,538,314.684	35,612,610.035	701,521,316.67
48.....	19,458.966	1,519,946.646	34,074,295.351	649,236,305.12
49.....	20,620.365	1,500,487.680	32,554,348.705	599,745,938.11

TABLE 16—Continued

Age <i>x</i>	\bar{C}_x	\bar{M}_x	\bar{R}_x	S_x
50.....	21,849.753	1,479,867.315	31,053,861.025	552,963,911.38
51.....	23,119.052	1,458,017.562	29,573,993.710	508,804,948.14
52.....	24,425.038	1,434,898.510	28,115,976.148	467,184,704.41
53.....	25,774.451	1,410,473.472	26,681,077.638	428,019,679.10
54.....	27,160.407	1,384,699.021	25,270,604.166	391,227,154.04
55.....	28,594.996	1,357,538.614	23,885,905.145	356,725,138.65
56.....	30,086.184	1,328,943.618	22,528,366.531	324,432,309.30
57.....	31,626.391	1,298,857.434	21,199,422.913	294,267,956.95
58.....	33,197.398	1,267,231.043	19,900,565.479	266,151,924.12
59.....	34,795.607	1,234,033.645	18,633,334.436	240,004,535.54
60.....	36,405.887	1,199,238.038	17,399,300.791	215,746,537.96
61.....	38,001.681	1,162,832.151	16,200,062.753	193,299,059.46
62.....	39,578.744	1,124,830.470	15,037,230.602	172,583,573.26
63.....	41,127.986	1,085,251.726	13,912,400.132	153,521,877.38
64.....	42,641.159	1,044,123.740	12,827,148.406	136,036,101.04
65.....	44,116.375	1,001,482.581	11,783,024.666	120,048,715.07
66.....	45,543.820	957,366.206	10,781,542.085	105,482,551.07
67.....	46,896.165	911,822.386	9,824,175.879	92,260,828.22
68.....	48,098.329	864,926.221	8,912,353.493	80,307,181.33
69.....	49,045.513	816,827.892	8,047,427.272	69,545,697.89
70.....	49,646.218	767,782.379	7,230,599.380	59,900,981.18
71.....	49,833.065	718,136.161	6,462,817.001	51,298,286.06
72.....	49,582.472	668,303.096	5,744,680.840	43,663,754.89
73.....	48,953.404	618,720.624	5,076,377.744	36,924,738.12
74.....	48,055.262	569,767.220	4,457,657.120	31,010,173.59
75.....	46,969.833	521,711.958	3,887,889.900	25,850,979.88
76.....	45,747.706	474,742.125	3,366,177.942	21,380,381.81
77.....	44,396.729	428,994.419	2,891,435.817	17,534,119.97
78.....	42,859.600	384,597.690	2,462,441.398	14,250,574.33
79.....	41,043.276	341,738.090	2,077,843.708	11,470,834.89
80.....	38,898.220	300,694.814	1,736,105.618	9,138,762.85
81.....	36,415.817	261,796.594	1,435,410.804	7,201,106.87
82.....	33,628.678	225,380.777	1,173,614.210	5,607,708.41
83.....	30,615.892	191,752.099	948,233.433	4,311,751.00
84.....	27,476.860	161,136.207	756,481.334	3,270,011.92
85.....	24,304.538	133,659.347	595,345.127	2,443,075.52
86.....	21,180.243	109,354.809	461,685.780	1,795,463.26
87.....	18,179.256	88,174.566	352,330.971	1,295,662.36
88.....	15,365.921	69,995.310	264,156.405	916,061.96
89.....	12,786.736	54,629.389	194,161.095	632,810.52
90.....	10,468.714	41,842.653	139,531.706	425,602.33
91.....	8,420.933	31,373.939	97,689.053	277,405.69
92.....	6,639.996	22,953.006	66,315.114	174,151.78
93.....	5,113.859	16,313.010	43,362.108	104,404.44
94.....	3,837.502	11,199.151	27,049.098	59,029.04
95.....	2,808.519	7,361.649	15,849.947	30,872.79
96.....	2,016.829	4,553.130	8,488.298	14,464.73
97.....	1,412.363	2,536.301	3,935.168	5,728.00
98.....	849.009	1,123.938	1,398.867	1,701.51
99.....	274.929	274.929	274.929	278.34

TABLE 2a
1958 CET TABLE (MALE)—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS—INTEREST AT 2½%

Age <i>x</i>	<i>D_x</i>	<i>N_x</i>	<i>C_x</i>	<i>M_x</i>
0.....	9,960,850.00	314,259,340.11	50,343.415	2,295,988.013
1.....	9,667,559.02	304,298,490.11	22,542.772	2,245,644.598
2.....	9,409,222.13	294,630,931.09	20,562.905	2,223,101.826
3.....	9,159,166.00	285,221,708.96	19,479.751	2,202,538.921
4.....	8,916,291.96	276,062,542.96	18,485.812	2,183,059.170
5.....	8,680,335.61	267,146,251.00	17,572.748	2,164,573.358
6.....	8,451,047.36	258,465,915.39	16,737.813	2,147,000.610
7.....	8,228,186.44	250,014,868.03	16,014.407	2,130,262.797
8.....	8,011,484.56	241,786,681.59	15,398.006	2,114,248.390
9.....	7,800,684.49	233,775,197.03	14,916.202	2,098,850.384
10.....	7,595,507.69	225,974,512.54	14,598.121	2,083,934.182
11.....	7,395,653.28	218,379,004.85	14,393.755	2,069,336.061
12.....	7,200,877.74	210,983,351.57	14,331.405	2,054,942.306
13.....	7,010,915.17	203,782,473.83	14,398.002	2,040,610.901
14.....	6,825,519.23	196,771,558.66	14,483.206	2,026,212.899
15.....	6,644,559.95	189,946,039.43	14,585.327	2,011,729.693
16.....	6,467,912.18	183,301,479.48	14,702.111	1,997,144.366
17.....	6,295,456.12	176,833,567.30	14,771.180	1,982,442.255
18.....	6,127,137.22	170,538,111.18	14,734.931	1,967,671.075
19.....	5,962,959.92	164,410,973.96	14,631.246	1,952,936.144
20.....	5,802,890.63	158,448,014.04	14,492.893	1,938,304.898
21.....	5,646,863.82	152,645,123.41	14,295.660	1,923,812.005
22.....	5,494,839.77	146,998,259.59	14,071.659	1,909,516.345
23.....	5,346,747.63	141,503,419.82	13,823.542	1,895,444.686
24.....	5,202,515.61	136,156,672.19	13,552.189	1,881,621.144
25.....	5,062,072.79	130,954,156.58	13,309.529	1,868,068.955
26.....	4,925,298.07	125,892,083.79	13,093.747	1,854,759.426
27.....	4,792,075.11	120,966,785.72	12,903.613	1,841,665.679
28.....	4,662,291.61	116,174,710.61	12,758.457	1,828,762.066
29.....	4,535,818.72	111,512,419.00	12,634.158	1,816,003.609
30.....	4,412,554.84	106,976,600.28	12,526.937	1,803,369.451
31.....	4,292,404.62	102,564,045.44	12,437.397	1,790,842.514
32.....	4,175,274.42	98,271,640.82	12,362.481	1,778,405.117
33.....	4,061,075.98	94,096,366.40	12,321.827	1,766,042.636
34.....	3,949,703.52	90,035,290.42	12,349.543	1,753,720.809
35.....	3,841,019.74	86,085,586.90	12,534.248	1,741,371.266
36.....	3,734,802.09	82,244,567.16	12,879.867	1,728,837.018
37.....	3,630,829.48	78,509,765.07	13,371.380	1,715,957.151
38.....	3,528,901.29	74,878,935.59	14,011.054	1,702,585.771
39.....	3,428,819.47	71,350,034.30	14,751.232	1,688,574.717
40.....	3,330,438.49	67,921,214.83	15,562.150	1,673,823.485
41.....	3,233,646.14	64,590,776.34	16,419.028	1,658,261.335
42.....	3,138,357.69	61,357,130.20	17,312.347	1,641,842.307
43.....	3,044,500.03	58,218,772.51	18,249.832	1,624,529.960
44.....	2,951,994.10	55,174,272.48	19,235.635	1,606,280.128
45.....	2,860,758.61	52,222,278.38	20,287.741	1,587,044.493
46.....	2,770,696.27	49,361,519.77	21,418.699	1,566,756.752
47.....	2,681,699.61	46,590,823.50	22,639.840	1,545,338.053
48.....	2,593,652.46	43,909,123.89	23,932.710	1,522,698.213
49.....	2,506,459.94	41,315,471.43	25,303.244	1,498,765.503

TABLE 2a—Continued

Age x	D_x	N_x	C_x	M_x
50.....	2,420,023.53	38,809,011.49	26,743.691	1,473,462.259
51.....	2,334,254.87	36,388,987.96	28,219.836	1,446,718.568
52.....	2,249,101.99	34,054,733.09	29,734.234	1,418,498.732
53.....	2,164,511.61	31,805,631.10	31,275.263	1,388,764.498
54.....	2,080,443.38	29,641,119.49	32,839.664	1,357,489.235
55.....	1,996,861.19	27,560,676.11	34,440.106	1,324,649.571
56.....	1,913,717.15	25,563,814.92	36,084.413	1,290,209.465
57.....	1,830,956.71	23,650,097.77	37,762.699	1,254,125.052
58.....	1,748,536.53	21,819,141.06	39,446.214	1,216,362.353
59.....	1,666,443.08	20,070,604.53	41,118.101	1,176,916.139
60.....	1,584,680.03	18,404,161.45	42,760.801	1,135,798.038
61.....	1,503,268.50	16,819,481.42	44,343.041	1,093,037.237
62.....	1,422,260.37	15,316,212.92	45,854.319	1,048,694.196
63.....	1,341,716.77	13,893,952.55	47,276.616	1,002,839.877
64.....	1,261,715.36	12,552,235.78	48,598.840	955,563.261
65.....	1,182,342.97	11,290,520.42	49,807.275	906,964.421
66.....	1,103,698.06	10,108,177.45	50,883.491	857,157.146
67.....	1,025,895.11	9,004,479.39	51,800.351	806,273.655
68.....	949,072.92	7,978,584.28	52,466.411	754,473.304
69.....	873,458.39	7,029,511.36	52,771.408	702,006.893
70.....	799,383.12	6,156,052.97	52,618.911	649,235.485
71.....	727,267.06	5,356,669.85	51,950.507	596,616.574
72.....	657,578.33	4,629,402.79	50,762.727	544,666.067
73.....	590,777.11	3,971,824.46	49,143.707	493,903.340
74.....	527,224.20	3,381,047.35	47,224.922	444,759.633
75.....	467,140.16	2,853,823.15	45,103.334	397,534.711
76.....	410,643.16	2,386,682.99	42,843.099	352,431.377
77.....	357,784.37	1,976,039.83	40,460.230	309,588.278
78.....	308,597.69	1,618,255.46	37,912.203	269,128.048
79.....	263,158.72	1,309,657.77	35,136.919	231,215.845
80.....	221,603.29	1,046,499.05	32,126.143	196,078.926
81.....	184,072.19	824,895.76	28,913.524	163,952.783
82.....	150,669.10	640,823.57	25,569.184	135,039.259
83.....	121,425.06	490,154.47	22,201.393	109,470.075
84.....	96,262.08	368,729.41	18,920.274	87,268.682
85.....	74,993.95	272,467.33	15,817.338	68,348.408
86.....	57,347.49	197,473.38	12,960.929	52,531.070
87.....	42,987.85	140,125.89	10,402.362	39,570.141
88.....	31,537.00	97,138.04	8,171.917	29,167.779
89.....	22,595.89	65,601.04	6,277.484	20,995.862
90.....	15,767.28	43,005.15	4,707.821	14,718.378
91.....	10,674.89	27,237.87	3,437.889	10,010.557
92.....	6,976.64	16,562.98	2,434.882	6,572.668
93.....	4,371.60	9,586.34	1,662.228	4,137.786
94.....	2,602.75	5,214.74	1,087.572	2,475.558
95.....	1,451.69	2,611.99	678.711	1,387.986
96.....	737.57	1,160.30	401.360	709.275
97.....	318.23	422.73	216.551	307.915
98.....	93.91	104.50	81.037	91.364
99.....	10.59	10.59	10.327	10.327

TABLE 2b

1958 CET TABLE (MALE)—AGE LAST BIRTHDAY BASIS
 COMMUTATION COLUMNS—INTEREST AT 2½%

Age x	\bar{C}_x	\bar{M}_x	\bar{R}_x	S_x
0	50,970.118	2,324,569.750	123,505,725.704	7,883,159,275.82
1	22,823.397	2,273,599.632	121,181,155.954	7,568,899,935.71
2	20,818.884	2,250,776.235	118,907,556.322	7,264,601,445.60
3	19,722.246	2,229,957.351	116,656,780.087	6,969,970,514.51
4	18,715.934	2,210,235.105	114,426,822.736	6,684,748,805.55
5	17,791.503	2,191,519.171	112,216,587.631	6,408,686,262.59
6	16,946.175	2,173,727.668	110,025,068.460	6,141,540,011.59
7	16,213.763	2,156,781.493	107,851,340.792	5,883,074,096.20
8	15,589.689	2,140,567.730	105,694,559.299	5,633,059,228.17
9	15,101.887	2,124,978.041	103,553,991.569	5,391,272,546.58
10	14,779.847	2,109,876.154	101,429,013.528	5,157,497,349.55
11	14,572.936	2,095,096.307	99,319,137.374	4,931,522,837.01
12	14,509.810	2,080,523.371	97,224,041.067	4,713,143,832.16
13	14,577.236	2,066,013.561	95,143,517.696	4,502,160,480.59
14	14,663.501	2,051,436.325	93,077,504.135	4,298,378,006.76
15	14,766.893	2,036,772.824	91,026,067.810	4,101,606,448.10
16	14,885.131	2,022,005.931	88,989,294.986	3,911,660,408.67
17	14,955.060	2,007,120.800	86,967,289.055	3,728,358,929.19
18	14,918.360	1,992,165.740	84,960,168.255	3,551,525,361.89
19	14,813.384	1,977,247.380	82,968,002.515	3,380,987,250.71
20	14,673.309	1,962,433.996	80,990,755.135	3,216,576,276.75
21	14,473.620	1,947,760.687	79,028,321.139	3,058,128,262.71
22	14,246.831	1,933,287.067	77,080,560.452	2,905,483,139.30
23	13,995.625	1,919,040.236	75,147,273.385	2,758,484,879.71
24	13,720.894	1,905,044.611	73,228,233.149	2,616,981,459.89
25	13,475.213	1,891,323.717	71,323,188.538	2,480,824,787.70
26	13,256.745	1,877,848.504	69,431,864.821	2,349,870,631.12
27	13,064.244	1,864,591.759	67,554,016.317	2,223,978,547.33
28	12,917.281	1,851,527.515	65,689,424.558	2,103,011,761.61
29	12,791.435	1,838,610.234	63,837,897.043	1,986,837,051.00
30	12,682.879	1,825,818.799	61,999,286.809	1,875,324,632.00
31	12,592.225	1,813,135.920	60,173,468.010	1,768,348,031.72
32	12,516.376	1,800,543.695	58,360,332.090	1,665,783,986.28
33	12,475.216	1,788,027.319	56,559,788.395	1,567,512,345.46
34	12,503.277	1,775,552.103	54,771,761.076	1,473,415,979.06
35	12,690.281	1,763,048.826	52,996,208.973	1,383,380,688.64
36	13,040.203	1,750,358.545	51,233,160.147	1,297,295,101.74
37	13,537.834	1,737,318.342	49,482,801.602	1,215,050,534.58
38	14,185.471	1,723,780.508	47,745,483.260	1,136,540,769.51
39	14,934.864	1,709,595.037	46,021,702.752	1,061,661,833.92
40	15,755.876	1,694,660.173	44,312,107.715	990,311,799.62
41	16,623.421	1,678,904.297	42,617,447.542	922,390,584.79
42	17,527.861	1,662,280.876	40,938,543.245	857,799,808.45
43	18,477.016	1,644,753.015	39,276,262.369	796,442,678.25
44	19,475.091	1,626,275.999	37,631,509.354	738,223,905.74
45	20,540.294	1,606,800.908	36,005,233.355	683,049,633.26
46	21,685.331	1,586,260.614	34,398,432.447	630,827,354.88
47	22,921.673	1,564,575.283	32,812,171.833	581,465,835.11
48	24,230.638	1,541,653.610	31,247,596.550	534,875,011.61
49	25,618.233	1,517,422.972	29,705,942.940	490,965,887.72

TABLE 2b—Continued

Age x	\bar{C}_x	\bar{M}_x	\bar{R}_x	S_x
50.	27,076.611	1,491,804.739	28,188,519.968	449,650,416.29
51.	28,571.132	1,464,728.128	26,696,715.229	410,841,404.80
52.	30,104.382	1,436,156.996	25,231,987.101	374,452,416.84
53.	31,664.595	1,406,052.614	23,795,830.105	340,397,683.75
54.	33,248.470	1,374,388.019	22,389,777.491	308,592,052.65
55.	34,868.836	1,341,139.549	21,015,389.472	278,950,933.16
56.	36,533.612	1,306,270.713	19,674,249.923	251,390,257.05
57.	38,232.790	1,269,737.101	18,367,979.210	225,826,442.13
58.	39,937.262	1,231,504.311	17,098,242.109	202,176,344.36
59.	41,629.962	1,191,567.049	15,866,737.798	180,357,203.30
60.	43,293.111	1,149,937.087	14,675,170.749	160,286,598.77
61.	44,895.048	1,106,643.976	13,525,233.662	141,882,437.32
62.	46,425.139	1,061,748.928	12,418,589.686	125,062,955.90
63.	47,865.142	1,015,323.789	11,356,840.758	109,746,742.98
64.	49,203.825	967,458.647	10,341,516.969	95,852,790.43
65.	50,427.304	918,254.822	9,374,058.322	83,300,554.65
66.	51,516.917	867,827.518	8,455,803.500	72,010,034.23
67.	52,445.191	816,310.601	7,587,975.982	61,901,856.78
68.	53,119.542	763,865.410	6,771,665.381	52,897,377.39
69.	53,428.336	710,745.868	6,007,799.971	44,918,793.11
70.	53,273.941	657,317.532	5,297,054.103	37,889,281.75
71.	52,597.216	604,043.591	4,639,736.571	31,733,228.78
72.	51,394.650	551,446.375	4,035,692.980	26,376,558.93
73.	49,755.475	500,051.725	3,484,246.605	21,747,156.14
74.	47,812.804	450,296.250	2,984,194.880	17,775,331.68
75.	45,664.805	402,483.446	2,533,898.630	14,394,284.33
76.	43,376.434	356,818.641	2,131,415.184	11,540,461.18
77.	40,963.902	313,442.207	1,774,596.543	9,153,778.19
78.	38,384.155	272,478.305	1,461,154.336	7,177,738.36
79.	35,574.323	234,094.150	1,188,676.031	5,559,482.90
80.	32,526.067	198,519.827	954,581.881	4,249,825.13
81.	29,273.456	165,993.760	756,062.054	3,203,326.08
82.	25,887.483	136,720.304	590,068.294	2,378,430.32
83.	22,477.768	110,832.821	453,347.990	1,737,606.75
84.	19,155.804	88,355.053	342,515.169	1,247,452.28
85.	16,014.241	69,199.249	254,160.116	878,722.87
86.	13,122.274	53,185.008	184,960.867	606,255.54
87.	10,531.856	40,062.734	131,775.859	408,782.16
88.	8,273.646	29,530.878	91,713.125	268,656.27
89.	6,355.630	21,257.232	62,182.247	171,518.23
90.	4,766.427	14,901.602	40,925.015	105,917.19
91.	3,480.686	10,135.175	26,023.413	62,912.04
92.	2,465.193	6,654.489	15,888.238	35,674.17
93.	1,682.920	4,189.296	9,233.749	19,111.19
94.	1,101.111	2,506.376	5,044.453	9,524.85
95.	687.160	1,405.265	2,538.077	4,310.11
96.	406.356	718.105	1,132.812	1,698.12
97.	219.247	311.749	414.707	537.82
98.	82.046	92.502	102.958	115.09
99.	10.456	10.456	10.456	10.59

TABLE 3a
1958 CSO TABLE (MALE)—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS—INTEREST AT 3%

Age <i>x</i>	<i>D_x</i>	<i>N_x</i>	<i>C_x</i>	<i>M_x</i>
0.....	9,964,600.00	288,147,459.53	42,852.427	1,571,955.517
1.....	9,631,516.50	278,182,859.53	15,336.035	1,529,103.090
2.....	9,335,650.86	268,551,343.03	13,505.661	1,513,767.055
3.....	9,050,233.04	259,215,692.17	12,564.984	1,500,261.394
4.....	8,774,069.04	250,165,459.13	11,712.502	1,487,696.410
5.....	8,506,801.12	241,391,390.09	10,943.407	1,475,983.908
6.....	8,248,086.81	232,884,588.97	10,250.645	1,465,040.501
7.....	7,997,600.63	224,636,502.16	9,667.105	1,454,789.856
8.....	7,754,993.70	216,638,901.53	9,184.738	1,445,122.751
9.....	7,519,935.36	208,883,907.83	8,833.883	1,435,938.013
10.....	7,292,074.23	201,363,972.47	8,637.269	1,427,104.130
11.....	7,071,046.45	194,071,898.24	8,547.015	1,418,466.861
12.....	6,856,546.62	187,000,851.79	8,587.477	1,409,919.846
13.....	6,648,253.90	180,144,305.17	8,745.927	1,401,332.369
14.....	6,445,869.51	173,496,051.27	8,918.030	1,392,586.442
15.....	6,249,207.71	167,050,181.76	9,100.730	1,383,668.412
16.....	6,058,091.22	160,800,974.05	9,293.053	1,374,567.682
17.....	5,872,348.91	154,742,882.83	9,435.320	1,365,274.629
18.....	5,691,874.30	148,870,533.92	9,477.013	1,355,839.309
19.....	5,516,614.54	143,178,659.62	9,452.906	1,346,362.296
20.....	5,346,483.54	137,662,045.08	9,395.286	1,336,909.390
21.....	5,181,365.43	132,315,561.54	9,280.814	1,327,514.104
22.....	5,021,171.06	127,134,196.11	9,140.212	1,318,233.290
23.....	4,865,783.15	122,113,025.05	8,975.823	1,309,093.078
24.....	4,715,085.48	117,247,241.90	8,788.898	1,300,117.255
25.....	4,568,964.00	112,532,156.42	8,627.968	1,291,328.357
26.....	4,427,259.41	107,963,192.42	8,489.215	1,282,700.389
27.....	4,289,820.89	103,535,933.01	8,370.894	1,274,211.174
28.....	4,156,503.76	99,246,112.12	8,292.577	1,265,840.280
29.....	4,027,147.96	95,089,608.36	8,229.847	1,257,547.703
30.....	3,901,622.54	91,062,460.40	8,182.137	1,249,317.856
31.....	3,779,800.92	87,160,837.86	8,146.534	1,241,135.719
32.....	3,661,563.09	83,381,036.94	8,123.030	1,232,989.185
33.....	3,546,792.59	79,719,473.85	8,126.563	1,224,866.155
34.....	3,435,361.39	76,172,681.26	8,187.678	1,216,739.592
35.....	3,327,114.64	72,737,319.87	8,317.697	1,208,551.914
36.....	3,221,890.69	69,410,205.23	8,507.897	1,200,234.217
37.....	3,119,541.32	66,188,314.54	8,798.018	1,191,726.320
38.....	3,019,882.87	63,068,773.22	9,176.114	1,182,928.302
39.....	2,922,749.01	60,048,890.35	9,618.834	1,173,752.188
40.....	2,828,001.56	57,126,141.34	10,116.971	1,164,133.354
41.....	2,735,515.61	54,298,139.78	10,636.011	1,154,016.383
42.....	2,645,204.39	51,562,624.17	11,170.378	1,143,380.372
43.....	2,556,989.22	48,917,419.78	11,728.601	1,132,209.994
44.....	2,470,785.21	46,360,430.56	12,316.758	1,120,481.393
45.....	2,386,503.83	43,889,645.35	12,950.561	1,108,164.635
46.....	2,304,043.45	41,503,141.52	13,632.211	1,095,214.074
47.....	2,223,303.18	39,199,098.07	14,363.113	1,081,581.863
48.....	2,144,183.66	36,975,794.89	15,142.311	1,067,218.750
49.....	2,066,589.40	34,831,611.23	15,968.180	1,052,076.439

TABLE 3a—Continued

Age x	D_x	N_x	C_x	M_x
50.....	1,990,429.29	32,765,021.83	16,838.067	1,036,108.259
51.....	1,915,617.56	30,774,592.54	17,729.740	1,019,270.192
52.....	1,842,093.13	28,858,974.98	18,640.357	1,001,540.452
53.....	1,769,799.57	27,016,881.85	19,574.697	982,900.095
54.....	1,698,677.32	25,247,082.28	20,527.145	963,325.398
55.....	1,628,674.13	23,548,404.96	21,506.461	942,798.253
56.....	1,559,730.56	21,919,730.83	22,518.147	921,291.792
57.....	1,491,783.37	20,360,000.27	23,556.015	898,773.645
58.....	1,424,777.35	18,868,216.90	24,606.106	875,217.630
59.....	1,358,672.88	17,443,439.55	25,665.510	850,611.524
60.....	1,293,434.37	16,084,766.67	26,722.909	824,946.014
61.....	1,229,038.61	14,791,332.30	27,758.856	798,223.105
62.....	1,165,482.52	13,562,293.69	28,770.500	770,464.249
63.....	1,102,765.92	12,396,811.17	29,751.542	741,693.749
64.....	1,040,894.98	11,294,045.25	30,696.417	711,942.207
65.....	979,881.24	10,253,150.27	31,604.225	681,245.790
66.....	919,736.78	9,273,269.03	32,468.440	649,641.565
67.....	860,479.89	8,353,532.25	33,270.240	617,173.125
68.....	802,147.13	7,493,052.36	33,957.462	583,902.885
69.....	744,826.16	6,690,905.23	34,458.087	549,945.423
70.....	688,674.11	5,946,079.07	34,710.806	515,487.336
71.....	633,904.83	5,257,404.96	34,672.309	480,776.530
72.....	580,769.28	4,623,500.13	34,330.488	446,104.221
73.....	529,523.18	4,042,730.85	33,730.388	411,773.733
74.....	480,369.78	3,513,207.67	32,950.806	378,043.345
75.....	433,427.62	3,032,837.89	32,050.200	345,092.539
76.....	388,753.32	2,599,410.27	31,064.737	313,042.339
77.....	346,365.67	2,210,656.95	30,001.017	281,977.602
78.....	306,276.33	1,864,291.28	28,821.711	251,976.585
79.....	268,533.95	1,558,014.95	27,466.310	223,154.874
80.....	233,246.26	1,289,481.00	25,904.467	195,688.564
81.....	200,548.22	1,056,234.74	24,133.573	169,784.097
82.....	170,573.43	855,686.52	22,178.287	145,650.524
83.....	143,426.99	685,113.09	20,093.323	123,472.237
84.....	119,156.18	541,686.10	17,945.625	103,378.914
85.....	97,739.99	422,529.92	15,796.669	85,433.289
86.....	79,096.52	324,789.93	13,699.216	69,636.620
87.....	63,093.52	245,693.41	11,701.122	55,937.404
88.....	49,554.73	182,599.89	9,842.301	44,236.282
89.....	38,269.08	133,045.16	8,150.503	34,393.981
90.....	29,003.95	94,776.08	6,640.560	26,243.478
91.....	21,518.61	65,772.13	5,315.672	19,602.918
92.....	15,576.18	44,253.52	4,171.118	14,287.246
93.....	10,951.39	28,677.34	3,196.833	10,116.128
94.....	7,435.59	17,725.95	2,387.297	6,919.295
95.....	4,831.72	10,290.36	1,738.689	4,531.998
96.....	2,952.30	5,458.64	1,242.511	2,793.309
97.....	1,623.80	2,506.34	865.893	1,550.798
98.....	710.61	882.54	517.984	684.905
99.....	171.93	171.93	166.921	166.921

TABLE 3b
 1958 CSO TABLE (MALE)—AGE LAST BIRTHDAY BASIS
 COMMUTATION COLUMNS—INTEREST AT 3%

Age x	\bar{C}_x	\bar{M}_x	\bar{R}_x	S_x
0	43,492.047	1,595,418.687	87,427,711.127	6,935,522,540.13
1	15,564.942	1,551,926.640	85,832,292.440	6,647,375,080.60
2	13,707.248	1,536,361.698	84,280,365.800	6,369,192,221.07
3	12,752.530	1,522,654.450	82,744,004.102	6,100,640,878.04
4	11,887.324	1,509,901.920	81,221,349.652	5,841,425,185.87
5	11,106.749	1,498,014.596	79,711,447.732	5,591,259,726.74
6	10,403.647	1,486,907.847	78,213,433.136	5,349,868,336.65
7	9,811.397	1,476,504.200	76,726,525.289	5,116,983,747.68
8	9,321.830	1,466,692.803	75,250,021.089	4,892,347,245.52
9	8,965.738	1,457,370.973	73,783,328.286	4,675,708,343.99
10	8,766.190	1,448,405.235	72,325,957.313	4,466,824,436.16
11	8,674.589	1,439,639.045	70,877,552.078	4,265,460,463.69
12	8,715.655	1,430,964.456	69,437,913.033	4,071,388,565.45
13	8,876.470	1,422,248.801	68,006,948.577	3,884,387,713.66
14	9,051.141	1,413,372.331	66,584,699.776	3,704,243,408.49
15	9,236.568	1,404,321.190	65,171,327.445	3,530,747,357.22
16	9,431.762	1,395,084.622	63,767,006.255	3,363,697,175.46
17	9,576.153	1,385,652.860	62,371,921.633	3,202,896,201.41
18	9,618.468	1,376,076.707	60,986,268.773	3,048,153,318.58
19	9,594.001	1,366,458.239	59,610,192.066	2,899,282,784.66
20	9,535.521	1,356,864.238	58,243,733.827	2,756,104,125.04
21	9,419.340	1,347,328.717	56,886,869.589	2,618,442,079.96
22	9,276.640	1,337,909.377	55,539,540.872	2,486,126,518.42
23	9,109.797	1,328,632.737	54,201,631.495	2,358,992,322.31
24	8,920.082	1,319,522.940	52,872,998.758	2,236,879,297.26
25	8,756.750	1,310,602.858	51,553,475.818	2,119,632,055.36
26	8,615.926	1,301,846.108	50,242,872.960	2,007,099,898.94
27	8,495.839	1,293,230.182	48,941,026.852	1,899,136,706.52
28	8,416.353	1,284,734.343	47,647,796.670	1,795,600,773.51
29	8,352.687	1,276,317.990	46,363,062.327	1,696,354,661.39
30	8,304.264	1,267,965.303	45,086,744.337	1,601,265,053.03
31	8,268.130	1,259,661.039	43,818,779.034	1,510,202,592.63
32	8,244.275	1,251,392.909	42,559,117.995	1,423,041,754.77
33	8,247.861	1,243,148.634	41,307,725.086	1,339,660,717.83
34	8,309.888	1,234,900.773	40,064,576.452	1,259,941,243.98
35	8,441.848	1,226,590.885	38,829,675.679	1,183,768,562.72
36	8,634.887	1,218,149.037	37,603,084.794	1,111,031,242.85
37	8,929.338	1,209,514.150	36,384,935.757	1,041,621,037.62
38	9,313.078	1,200,584.812	35,175,421.607	975,432,323.08
39	9,762.406	1,191,271.734	33,974,836.795	912,363,949.86
40	10,267.978	1,181,509.328	32,783,565.061	852,315,059.51
41	10,794.765	1,171,241.350	31,602,055.733	795,188,918.17
42	11,337.108	1,160,446.585	30,430,814.383	740,890,778.39
43	11,903.663	1,149,109.477	29,270,367.798	689,328,154.22
44	12,500.599	1,137,205.814	28,121,258.321	640,410,734.44
45	13,143.862	1,124,705.215	26,984,052.507	594,050,303.88
46	13,835.687	1,111,561.353	25,859,347.292	550,160,658.53
47	14,577.498	1,097,725.666	24,747,785.939	508,657,517.01
48	15,368.327	1,083,148.168	23,650,060.273	469,458,418.94
49	16,206.523	1,067,779.841	22,566,912.105	432,482,624.05

TABLE 3b—Continued

Age x	\bar{C}_x	\bar{M}_x	\bar{R}_x	S_x
50.....	17,089.394	1,051,573.318	21,499,132.264	397,651,012.82
51.....	17,994.376	1,034,483.924	20,447,558.946	364,885,990.99
52.....	18,918.585	1,016,489.548	19,413,075.022	334,111,398.45
53.....	19,866.871	997,570.963	18,396,585.474	305,252,423.47
54.....	20,833.535	977,704.092	17,399,014.511	278,235,541.62
55.....	21,827.469	956,870.557	16,421,310.419	252,988,459.34
56.....	22,854.255	935,043.088	15,464,439.862	229,440,054.38
57.....	23,907.615	912,188.833	14,529,396.774	207,520,323.55
58.....	24,973.379	888,281.218	13,617,207.941	187,160,323.28
59.....	26,048.596	863,307.839	12,728,926.723	168,292,106.38
60.....	27,121.778	837,259.243	11,865,618.884	150,848,666.83
61.....	28,173.188	810,137.465	11,028,359.641	134,763,900.16
62.....	29,199.931	781,964.277	10,218,222.176	119,972,567.86
63.....	30,195.617	752,764.346	9,436,257.899	106,410,274.17
64.....	31,154.595	722,568.729	8,683,493.553	94,013,463.00
65.....	32,075.953	691,414.134	7,960,924.824	82,719,417.75
66.....	32,953.067	659,338.181	7,269,510.690	72,466,267.48
67.....	33,766.835	626,385.114	6,610,172.509	63,192,998.45
68.....	34,464.315	592,618.279	5,983,787.395	54,839,466.20
69.....	34,972.412	558,153.964	5,391,169.116	47,346,413.84
70.....	35,228.903	523,181.552	4,833,015.152	40,655,508.61
71.....	35,189.832	487,952.649	4,309,833.600	34,709,429.54
72.....	34,842.908	452,762.817	3,821,880.951	29,452,024.58
73.....	34,233.851	417,919.909	3,369,118.134	24,828,524.45
74.....	33,442.633	383,686.058	2,951,198.225	20,785,793.60
75.....	32,528.585	350,243.425	2,567,512.167	17,272,585.93
76.....	31,528.413	317,714.840	2,217,268.742	14,239,748.04
77.....	30,448.815	286,186.427	1,899,553.902	11,640,337.77
78.....	29,251.907	255,737.612	1,613,367.475	9,429,680.82
79.....	27,876.275	226,485.705	1,357,629.863	7,565,389.54
80.....	26,291.120	198,609.430	1,131,144.158	6,007,374.59
81.....	24,493.793	172,318.310	932,534.728	4,717,893.59
82.....	22,509.322	147,824.517	760,216.418	3,661,658.85
83.....	20,393.238	125,315.195	612,391.901	2,805,972.33
84.....	18,213.483	104,921.957	487,076.706	2,120,859.24
85.....	16,032.452	86,708.474	382,154.749	1,579,173.14
86.....	13,903.692	70,676.022	295,446.275	1,156,643.22
87.....	11,875.774	56,772.330	224,770.253	831,853.29
88.....	9,989.208	44,896.556	167,997.923	586,159.88
89.....	8,272.158	34,907.348	123,101.367	403,559.99
90.....	6,739.678	26,635.190	88,194.019	270,514.83
91.....	5,395.014	19,895.512	61,558.829	175,738.75
92.....	4,233.377	14,500.498	41,663.317	109,966.62
93.....	3,244.549	10,267.121	27,162.819	65,713.10
94.....	2,422.930	7,022.572	16,895.698	37,035.76
95.....	1,764.641	4,599.642	9,873.126	19,309.81
96.....	1,261.057	2,835.001	5,273.484	9,019.45
97.....	878.817	1,573.944	2,438.483	3,560.81
98.....	525.715	695.127	864.539	1,054.47
99.....	169.412	169.412	169.412	171.93

TABLE 4a
1958 CET TABLE (MALE)—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS—INTEREST AT 3%

Age x	D_x	N_x	C_x	M_x
0.....	9,960,850.00	280,674,384.64	50,099.029	1,785,867.897
1.....	9,620,629.13	270,713,534.64	22,324.442	1,735,768.868
2.....	9,318,092.19	261,092,905.51	20,264.897	1,713,444.426
3.....	9,026,426.55	251,774,813.32	19,104.249	1,693,179.529
4.....	8,744,416.67	242,748,386.77	18,041.463	1,674,075.280
5.....	8,471,683.46	234,003,970.10	17,067.092	1,656,033.817
6.....	8,207,868.30	225,532,286.64	16,177.269	1,638,966.725
7.....	7,952,626.91	217,324,418.34	15,402.953	1,622,789.456
8.....	7,705,594.05	209,371,791.43	14,738.194	1,607,386.503
9.....	7,466,421.07	201,666,197.38	14,207.729	1,592,648.309
10.....	7,234,744.77	194,199,776.31	13,837.257	1,578,440.580
11.....	7,010,186.79	186,965,031.54	13,577.312	1,564,603.323
12.....	6,792,429.28	179,954,844.75	13,452.875	1,551,026.011
13.....	6,581,138.66	173,162,415.47	13,449.781	1,537,573.136
14.....	6,376,005.23	166,581,276.81	13,463.696	1,524,123.355
15.....	6,176,832.64	160,205,271.58	13,492.811	1,510,659.659
16.....	5,983,432.08	154,028,438.94	13,534.823	1,497,166.848
17.....	5,795,622.54	148,045,006.86	13,532.397	1,483,632.025
18.....	5,613,285.60	142,249,384.32	13,433.658	1,470,099.628
19.....	5,436,358.19	136,636,098.72	13,274.376	1,456,665.970
20.....	5,264,743.28	131,199,740.53	13,085.024	1,443,391.594
21.....	5,098,316.22	125,934,997.25	12,844.296	1,430,306.570
22.....	4,936,977.27	120,836,681.03	12,581.663	1,417,462.274
23.....	4,780,600.16	115,899,703.76	12,299.819	1,404,880.611
24.....	4,629,059.56	111,119,103.60	11,999.840	1,392,580.792
25.....	4,482,232.74	106,490,044.04	11,727.767	1,380,580.952
26.....	4,339,954.50	102,007,811.30	11,481.622	1,368,853.185
27.....	4,202,066.44	97,667,856.80	11,259.971	1,357,371.563
28.....	4,068,416.18	93,465,790.36	11,079.259	1,346,111.592
29.....	3,938,839.36	89,397,374.18	10,918.061	1,335,032.333
30.....	3,813,197.83	85,458,534.82	10,772.854	1,324,114.272
31.....	3,691,360.96	81,645,336.99	10,643.930	1,313,341.418
32.....	3,573,201.66	77,953,976.03	10,528.458	1,302,697.488
33.....	3,458,599.37	74,380,774.37	10,442.895	1,292,169.030
34.....	3,347,420.57	70,922,175.00	10,415.577	1,281,726.135
35.....	3,239,507.30	67,574,754.43	10,520.039	1,271,310.558
36.....	3,134,632.68	64,335,247.13	10,757.642	1,260,790.519
37.....	3,032,575.06	61,200,614.45	11,113.953	1,250,032.877
38.....	2,933,133.68	58,168,039.39	11,589.102	1,238,918.924
39.....	2,836,113.50	55,234,905.71	12,142.103	1,227,329.822
40.....	2,741,366.15	52,398,792.21	12,747.407	1,215,187.719
41.....	2,648,773.12	49,657,426.06	13,384.013	1,202,440.312
42.....	2,558,240.38	47,008,652.94	14,043.699	1,189,056.299
43.....	2,469,684.82	44,450,412.56	14,732.317	1,175,012.600
44.....	2,383,019.94	41,980,727.74	15,452.735	1,160,280.283
45.....	2,298,158.85	39,597,707.80	16,218.817	1,144,827.548
46.....	2,215,003.37	37,299,548.95	17,039.828	1,128,608.731
47.....	2,133,448.88	35,084,545.58	17,923.883	1,111,568.903
48.....	2,053,385.71	32,951,096.70	18,855.466	1,093,645.020
49.....	1,974,722.89	30,897,710.99	19,838.473	1,074,789.554

TABLE 4a—Continued

Age x	D_x	N_x	C_x	M_x
50.....	1,897,368.22	28,922,988.10	20,866.040	1,054,951.081
51.....	1,821,239.03	27,025,619.88	21,910.879	1,034,085.041
52.....	1,746,282.35	25,204,380.85	22,974.639	1,012,174.162
53.....	1,672,445.12	23,458,098.50	24,048.033	989,199.523
54.....	1,599,685.09	21,785,653.38	25,128.348	965,151.490
55.....	1,527,963.97	20,185,968.29	26,225.052	940,023.142
56.....	1,457,235.12	18,658,004.32	27,343.756	913,798.090
57.....	1,387,447.62	17,200,769.20	28,476.604	886,454.334
58.....	1,318,559.92	15,813,321.58	29,601.732	857,977.730
59.....	1,250,553.53	14,494,761.66	30,706.583	828,375.998
60.....	1,183,423.06	13,244,208.13	31,778.319	797,669.415
61.....	1,117,176.10	12,060,785.07	32,794.212	765,891.096
62.....	1,051,842.78	10,943,608.97	33,747.267	733,096.884
63.....	987,459.32	9,891,766.19	34,625.128	699,349.617
64.....	924,073.24	8,904,306.87	35,420.733	664,724.489
65.....	861,737.75	7,980,233.63	36,125.267	629,303.756
66.....	800,513.32	7,118,495.88	36,726.693	593,178.489
67.....	740,470.71	6,317,982.56	37,206.967	556,451.796
68.....	681,696.63	5,577,511.85	37,502.443	519,244.829
69.....	624,338.95	4,895,815.22	37,537.343	481,742.386
70.....	568,616.98	4,271,476.27	37,247.175	444,205.043
71.....	514,808.14	3,702,859.29	36,595.520	406,957.868
72.....	463,218.21	3,188,051.15	35,585.225	370,362.348
73.....	414,141.19	2,724,832.94	34,283.040	334,777.123
74.....	367,795.79	2,310,691.75	32,784.555	300,494.083
75.....	324,298.73	1,942,895.96	31,159.705	267,709.528
76.....	283,693.43	1,618,597.23	29,454.538	236,549.823
77.....	245,975.98	1,334,903.80	27,681.290	207,095.285
78.....	211,130.34	1,088,927.82	25,812.117	179,413.995
79.....	179,168.80	877,797.48	23,806.466	153,601.878
80.....	150,143.82	698,628.68	21,660.899	129,795.412
81.....	124,109.80	548,484.86	19,400.171	108,134.513
82.....	101,094.78	424,375.06	17,072.929	88,734.342
83.....	81,077.34	323,280.28	14,752.243	71,661.413
84.....	63,963.62	242,202.94	12,510.996	56,909.170
85.....	49,589.61	178,239.32	10,408.412	44,398.174
86.....	37,736.84	128,649.71	8,487.384	33,989.762
87.....	28,150.33	90,912.87	6,778.855	25,502.378
88.....	20,551.56	62,762.54	5,299.501	18,723.523
89.....	14,653.47	42,210.98	4,051.196	13,424.022
90.....	10,175.47	27,557.51	3,023.460	9,372.826
91.....	6,855.64	17,382.04	2,197.165	6,349.366
92.....	4,458.79	10,526.40	1,548.587	4,152.201
93.....	2,780.34	6,067.61	1,052.046	2,603.614
94.....	1,647.31	3,287.27	684.998	1,551.568
95.....	914.34	1,639.96	425.405	866.570
96.....	462.30	725.62	250.344	441.165
97.....	198.49	263.32	134.416	190.821
98.....	58.29	64.83	50.057	56.405
99.....	6.54	6.54	6.348	6.348

TABLE 4b

1958 CET TABLE (MALE)—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS—INTEREST AT 3%

Age x	\bar{C}_x	\bar{M}_x	\bar{R}_x	S_x
0.....	50,846.812	1,812,523.949	90,804,875.136	6,564,702,898.93
1.....	22,657.659	1,761,677.137	88,992,351.187	6,284,028,514.29
2.....	20,567.373	1,739,019.478	87,230,674.050	6,013,314,979.65
3.....	19,389.401	1,718,452.105	85,491,654.572	5,752,222,074.14
4.....	18,310.752	1,699,062.704	83,773,202.467	5,500,447,260.82
5.....	17,321.837	1,680,751.952	82,074,139.763	5,257,698,874.05
6.....	16,418.733	1,663,430.115	80,393,387.811	5,023,694,903.95
7.....	15,632.859	1,647,011.382	78,729,957.696	4,798,162,617.31
8.....	14,958.178	1,631,378.523	77,082,946.314	4,580,838,198.97
9.....	14,419.795	1,616,420.345	75,451,567.791	4,371,466,407.54
10.....	14,043.793	1,602,000.550	73,835,147.446	4,169,800,210.16
11.....	13,779.968	1,587,956.757	72,233,146.896	3,975,600,433.85
12.....	13,653.674	1,574,176.789	70,645,190.139	3,788,635,402.31
13.....	13,650.534	1,560,523.115	69,071,013.350	3,608,680,557.56
14.....	13,664.657	1,546,872.581	67,510,490.235	3,435,518,142.09
15.....	13,694.206	1,533,207.924	65,963,617.654	3,268,936,865.28
16.....	13,736.845	1,519,513.718	64,430,409.730	3,108,731,593.70
17.....	13,734.383	1,505,776.873	62,910,896.012	2,954,703,154.76
18.....	13,634.170	1,492,042.490	61,405,119.139	2,806,658,147.90
19.....	13,472.511	1,478,408.320	59,913,076.649	2,664,408,763.58
20.....	13,280.332	1,464,935.809	58,434,668.329	2,527,772,664.86
21.....	13,036.011	1,451,655.477	56,969,732.520	2,396,572,924.33
22.....	12,769.458	1,438,619.466	55,518,077.043	2,270,637,927.08
23.....	12,483.407	1,425,850.008	54,079,457.577	2,149,801,246.05
24.....	12,178.951	1,413,366.601	52,653,607.569	2,033,901,542.29
25.....	11,902.817	1,401,187.650	51,240,240.968	1,922,782,438.69
26.....	11,652.998	1,389,284.833	49,839,053.318	1,816,292,394.65
27.....	11,428.039	1,377,631.835	48,449,768.485	1,714,284,583.35
28.....	11,244.629	1,366,203.796	47,072,136.650	1,616,616,726.55
29.....	11,081.025	1,354,959.167	45,705,932.854	1,523,150,936.19
30.....	10,933.651	1,343,878.142	44,350,973.687	1,433,753,562.01
31.....	10,802.802	1,332,944.491	43,007,095.545	1,348,295,027.19
32.....	10,685.607	1,322,141.689	41,674,151.054	1,266,649,690.20
33.....	10,598.767	1,311,456.082	40,352,009.365	1,188,695,714.17
34.....	10,571.041	1,300,857.315	39,040,553.283	1,114,314,939.80
35.....	10,677.062	1,290,286.274	37,739,695.968	1,043,392,764.80
36.....	10,918.212	1,279,609.212	36,449,409.694	975,818,010.37
37.....	11,279.841	1,268,691.000	35,169,800.482	911,482,763.24
38.....	11,762.082	1,257,411.159	33,901,109.482	850,282,148.79
39.....	12,323.337	1,245,649.077	32,643,698.323	792,114,109.40
40.....	12,937.676	1,233,325.740	31,398,049.246	736,879,203.69
41.....	13,583.784	1,220,388.064	30,164,723.506	684,480,411.48
42.....	14,253.317	1,206,804.280	28,944,335.442	634,822,985.42
43.....	14,952.213	1,192,550.963	27,737,531.162	587,814,332.48
44.....	15,683.384	1,177,598.750	26,544,980.199	543,363,919.92
45.....	16,460.901	1,161,915.366	25,367,381.449	501,383,192.18
46.....	17,294.166	1,145,454.465	24,205,466.083	461,785,484.38
47.....	18,191.417	1,128,160.299	23,060,011.618	424,485,935.43
48.....	19,136.905	1,109,968.882	21,931,851.319	389,401,389.85
49.....	20,134.584	1,090,831.977	20,821,882.437	356,450,293.15

TABLE 4b—Continued

Age x	\bar{C}_x	\bar{M}_x	\bar{R}_x	S_x
50.....	21,177.489	1,070,697.393	19,731,050.460	325,552,582.16
51.....	22,237.923	1,049,519.904	18,660,353.067	296,629,594.06
52.....	23,317.561	1,027,281.981	17,610,833.163	269,603,974.18
53.....	24,406.976	1,003,964.420	16,583,551.182	244,399,593.33
54.....	25,503.416	979,557.444	15,579,586.762	220,941,494.83
55.....	26,616.490	954,054.028	14,600,029.318	199,155,841.45
56.....	27,751.892	927,437.538	13,645,975.290	178,969,873.16
57.....	28,901.649	899,685.646	12,718,537.752	160,311,868.84
58.....	30,043.571	870,783.997	11,818,852.106	143,111,099.64
59.....	31,164.913	840,740.426	10,948,068.109	127,297,778.06
60.....	32,252.646	809,575.513	10,107,327.683	112,803,016.40
61.....	33,283.702	777,322.867	9,297,752.170	99,558,808.27
62.....	34,250.982	744,039.165	8,520,429.303	87,498,023.20
63.....	35,141.946	709,788.183	7,776,390.138	76,554,414.23
64.....	35,949.427	674,646.237	7,066,601.955	66,662,648.04
65.....	36,664.477	638,696.810	6,391,955.718	57,758,341.17
66.....	37,274.879	602,032.333	5,753,258.908	49,778,107.54
67.....	37,762.322	564,757.454	5,151,226.575	42,659,611.66
68.....	38,062.208	526,995.132	4,586,469.121	36,341,629.10
69.....	38,097.629	488,932.924	4,059,473.989	30,764,117.25
70.....	37,803.130	450,835.295	3,570,541.065	25,868,302.03
71.....	37,141.749	413,032.165	3,119,705.770	21,596,825.76
72.....	36,116.374	375,890.416	2,706,673.605	17,893,966.47
73.....	34,794.752	339,774.042	2,330,783.189	14,705,915.32
74.....	33,273.901	304,979.290	1,991,009.147	11,981,082.38
75.....	31,624.798	271,705.389	1,686,029.857	9,670,390.63
76.....	29,894.180	240,080.591	1,414,324.468	7,727,494.67
77.....	28,094.464	210,186.411	1,174,243.877	6,108,897.44
78.....	26,197.391	182,091.947	964,057.466	4,773,993.64
79.....	24,161.804	155,894.556	781,965.519	3,685,065.82
80.....	21,984.212	131,732.752	626,070.963	2,807,268.34
81.....	19,689.740	109,748.540	494,338.211	2,108,639.66
82.....	17,327.761	90,058.800	384,589.671	1,560,154.80
83.....	14,972.437	72,731.039	294,530.871	1,135,779.74
84.....	12,697.736	57,758.602	221,799.832	812,499.46
85.....	10,563.769	45,060.866	164,041.230	570,296.52
86.....	8,614.068	34,497.097	118,980.364	392,057.20
87.....	6,880.037	25,883.029	84,483.267	263,407.49
88.....	5,378.602	19,002.992	58,600.238	172,494.62
89.....	4,111.665	13,624.390	39,597.246	109,732.08
90.....	3,068.588	9,512.725	25,972.856	67,521.10
91.....	2,229.960	6,444.137	16,460.131	39,963.59
92.....	1,571.701	4,214.177	10,015.994	22,581.55
93.....	1,067.749	2,642.476	5,801.817	12,055.15
94.....	695.222	1,574.727	3,159.341	5,987.54
95.....	431.755	879.505	1,584.614	2,700.27
96.....	254.081	447.750	705.109	1,060.31
97.....	136.422	193.669	257.359	334.69
98.....	50.804	57.247	63.690	71.37
99.....	6.443	6.443	6.443	6.54

us have had ideas which might seem to be useful and practical—some may turn out to be harebrained ideas, some may have a germ of truth in them—but most of us tend to think first, “Will the insurance departments go along with this?” In smaller organizations I am afraid that we are somewhat prone to let perfectly good ideas go to waste because we have neither the time nor the staff to investigate them in detail and we do not feel justified in spending a company’s or client’s money in developing something that may not meet the approval of our insurance departments.

The adoption of this trend of thought almost automatically means that major developments in our business are left to the giant companies. They naturally have the resources to make extensive tests of their ideas and they probably have a certain prestige with the state insurance departments so that their ideas are given the serious consideration which they deserve by these departments. We are certainly grateful for this, as it means that the smaller companies are able to take advantage of the ideas developed by the giant companies.

There have been several examples recently of developments promoted by our friends in the large companies, the one coming to mind first undoubtedly being the family policy. Another such development is the guaranteed insurability rider. Both of these coverages certainly have their place in the life insurance business, but one wonders whether they could have been successfully promoted by a small company operating in a limited number of states. It seems quite apparent that if one or two of the more prominent insurance departments approve a certain development, then the rest of the insurance departments will follow along after a demonstration that the ideas are actuarially sound and comply with the insurance statutes. What would happen if the same development were presented by a small company operating in three or four Midwestern states? Is the actuarial development of our business being hindered by an artificial rigidity which we read into the statutes but which is not really there?

Returning to the actuarial note now under consideration, we find a sentence in the standard nonforfeiture law which reads: “All adjusted premiums and present values referred to in this section shall be calculated on the basis of the Commissioners 1941 Standard Ordinary Mortality Table for ordinary insurance and the 1941 Standard Industrial Mortality Table for industrial insurance. . . .” This appears pretty definite and the question which I raise is, “Does the table presented by Mr. Greeley qualify under this law?” What is “the Commissioners 1941 Standard Ordinary Mortality Table” referred to in the law? Is it the one for which

tables were printed by the Society of Actuaries some ten years ago or is it merely the series of q_x 's worked out on an age nearest birthday basis which were used to obtain the published values? It seems the Metropolitan has undoubtedly received approval for the use of the 1941 CSO Table modified to an age last birthday basis, which certainly would demonstrate that the insurance departments will permit such modifications.

I believe that the great contribution made by the giant companies in recent years has been freeing the minds of some of us from the shackles of rigid interpretation of insurance statutes. We need more room to experiment without being held back by the thought that it is useless to proceed along certain lines because we fear that we might not receive the approval of our insurance departments and our time and efforts will be wasted. In the industrial insurance field we have a somewhat similar situation whereby we have traditionally valued industrial business on a midterminal basis, the liability at the end of the calendar year being assumed to be the average of the two adjacent terminal reserves. This procedure is apparently a historical pattern which developed because premiums were payable weekly and the midterminal is an approximation to a continuous reserve. Coming from other fields into the industrial business we tend to assume that this is the only proper method of valuing such business, without taking time to find out whether or not this is the case. Would it not be equally proper to adopt the mean valuation procedure and take credit for one-half of the net annual premium as a deferred premium asset? The insurance statutes apparently do not specify any particular reserve formula and it may be that some companies have used the mean reserve concept for valuing industrial business. However, such a procedure is not mentioned in any of the published references covering industrial insurance.

If Mr. Greeley's note serves to free the minds of some of us from self-imposed rigidity in thinking, it will be not only a report of an important and interesting development in actuarial science but it may give some of the rest of us the courage to go ahead with some of our own ideas.

(AUTHOR'S REVIEW OF DISCUSSION)

CHARLES GREELEY:

I wish to thank Mr. Bailey and Mr. Vanderhoof for their discussions of my paper.

Mr. Bailey's remarks in regard to the statutory provisions relevant to the question of age last birthday are of interest. When my company undertook the step of issuing Ordinary insurance on the basis of age last birthday, it was, naturally, done in full compliance with all statutory provisions. Mr. Bailey refers, in particular, to the standard nonforfeiture law where it is stipulated that calculations be "on the basis of the Commissioners 1941 Standard Ordinary Mortality Table. . . ." It is clear that the law prescribes the use of this table but does not prescribe any particular method of classifying ages according to, say, age nearest birthday as opposed to age last birthday or age next birthday. The fact that the table is expressed on the basis of age nearest birthday merely reflects the fact that at the time that the table was constructed it was customary to issue Ordinary insurance on the basis of age nearest birthday and therefore the expression of a table in this particular form was of greatest convenience. Fundamentally, however, the table consists of a series of mortality rates reflecting a particular level of experience and is neither changed nor impaired when it is expressed on the basis of age last birthday or any other age basis, provided that appropriate techniques are used to reflect the different classifications of age.

We are indebted to Mr. Vanderhoof for his submission of the 1958 CSO and the 1958 CET commutation columns on the basis of age last birthday. In order to complete the record we present, on pages 349-52, values at ages for which special female commutation columns are required.

1958 CSO 2½%—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS FOR FEMALE EXTENSION AT AGES 0 TO 14

Age x	D_x^*	N_x	C_x^\dagger	M_x
0	10,751,260.32	355,045,989.20	41,348.398	2,091,602.009
1	10,447,686.06	344,294,728.88	15,697.875	2,050,253.611
2	10,177,166.58	333,847,042.82	13,703.000	2,034,555.736
3	9,915,240.00	323,669,876.24	12,768.780	2,020,852.736
4	9,660,636.10	313,754,636.24	11,922.427	2,008,083.956
5	9,413,088.40	304,094,000.14	11,158.051	1,996,161.529
6	9,172,342.83	294,680,911.74	10,470.072	1,985,003.478
7	8,938,157.08	285,508,568.91	9,897.400	1,974,533.406
8	8,710,255.84	276,570,411.83	9,475.780	1,964,636.006
9	8,488,334.80	267,860,155.99	9,191.664	1,955,160.226
10	8,272,110.58	259,371,821.19	8,998.665	1,945,968.562
11	8,061,353.12	251,099,710.61	8,888.085	1,936,969.897
12	7,855,846.66	243,038,357.49	8,851.759	1,928,081.812
13	7,655,388.89	235,182,510.83	8,887.370	1,919,230.053
14	7,459,784.71	227,527,121.94	8,988.104	1,910,342.683
15	7,268,850.64	220,067,337.23	9,148.276	1,901,354.579

Age x	\bar{C}_x^\ddagger	\bar{M}_x	\bar{R}_x	S_x
0	41,863.126	2,117,639.439	127,028,521.169	9,412,753,155.73
1	15,893.291	2,075,776.313	124,910,881.730	9,057,707,166.53
2	13,873.583	2,059,883.022	122,835,105.417	8,713,412,437.65
3	12,927.733	2,046,009.439	120,775,222.395	8,379,565,394.83
4	12,070.844	2,033,081.706	118,729,212.956	8,055,895,518.59
5	11,296.953	2,021,010.862	116,696,131.250	7,742,140,882.35
6	10,600.409	2,009,713.909	114,675,120.388	7,438,046,882.21
7	10,020.608	1,999,113.500	112,665,406.479	7,143,365,970.47
8	9,593.740	1,989,092.892	110,666,292.979	6,857,857,401.56
9	9,306.087	1,979,499.152	108,677,200.087	6,581,286,989.73
10	9,110.685	1,970,193.065	106,697,700.935	6,313,426,833.74
11	8,998.729	1,961,082.380	104,727,507.870	6,054,055,012.55
12	8,961.951	1,952,083.651	102,766,425.490	5,802,955,301.94
13	8,998.005	1,943,121.700	100,814,341.839	5,559,916,944.45
14	9,099.993	1,934,123.695	98,871,220.139	5,324,734,433.62
15	9,262.159	1,925,023.702	96,937,096.444	5,097,207,311.68

* $D_x = v^x \cdot d_x$.

† $C_x = v^x \cdot {}_2d_x$.

‡ $\bar{C}_x = C_x \cdot i / \delta$.

1958 CSO 3%—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS FOR FEMALE EXTENSION AT AGES 0 TO 14

Age x	D_x^*	N_x	C_x^\dagger	M_x
0.....	10,909,364.58	319,718,647.35	41,752.780	1,597,170.932
1.....	10,549,863.31	308,809,282.77	15,774.450	1,555,418.152
2.....	10,226,811.29	298,259,419.46	13,703.000	1,539,643.702
3.....	9,915,240.00	288,032,608.17	12,706.796	1,525,940.702
4.....	9,613,739.81	278,117,368.17	11,806.956	1,513,233.906
5.....	9,321,921.01	268,503,628.36	10,996.342	1,501,426.950
6.....	9,039,412.41	259,181,707.35	10,268.245	1,490,430.608
7.....	8,765,860.30	250,142,294.94	9,659.493	1,480,162.363
8.....	8,500,884.49	241,376,434.64	9,203.114	1,470,502.870
9.....	8,244,082.80	232,875,550.15	8,883.838	1,461,299.756
10.....	7,995,080.04	224,631,467.35	8,655.083	1,452,415.918
11.....	7,753,558.55	216,636,387.31	8,507.226	1,443,760.835
12.....	7,519,219.52	208,882,828.76	8,431.328	1,435,253.609
13.....	7,291,781.80	201,363,609.24	8,424.155	1,426,822.281
14.....	7,070,975.65	194,071,827.44	8,478.280	1,418,398.126
15.....	6,856,546.62	187,000,851.79	8,587.477	1,409,919.846

Age x	\bar{C}_x^\ddagger	\bar{M}_x	\bar{R}_x	S_x
0.....	42,375.986	1,621,010.473	92,082,823.215	7,861,991,626.91
1.....	16,009.901	1,578,634.487	90,461,812.742	7,542,272,979.56
2.....	13,907.532	1,562,624.586	88,883,178.255	7,233,463,696.79
3.....	12,896.459	1,548,717.054	87,320,553.669	6,935,204,277.33
4.....	11,983.188	1,535,820.595	85,771,836.615	6,647,171,669.16
5.....	11,160.475	1,523,837.407	84,236,016.020	6,369,054,300.99
6.....	10,421.510	1,512,676.932	82,712,178.613	6,100,550,672.63
7.....	9,803.672	1,502,255.422	81,199,501.681	5,841,368,965.28
8.....	9,340.481	1,492,451.750	79,697,246.259	5,591,226,670.34
9.....	9,016.439	1,483,111.269	78,204,794.509	5,349,850,235.70
10.....	8,784.270	1,474,094.830	76,721,683.240	5,116,974,685.55
11.....	8,634.206	1,465,310.560	75,247,588.410	4,892,343,218.20
12.....	8,557.175	1,456,676.354	73,782,277.850	4,675,706,830.89
13.....	8,549.895	1,448,119.179	72,325,601.496	4,466,824,002.13
14.....	8,604.828	1,439,569.284	70,877,482.317	4,265,460,392.89
15.....	8,715.655	1,430,964.456	69,437,913.033	4,071,388,565.45

* $D_x = v^{x-1}l_x$.

† $C_x = v^x - d_x$.

‡ $\bar{C}_x = C_x \cdot i/\delta$

1958 CET 2½%—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS FOR FEMALE EXTENSION AT AGES 0 TO 14

Age x	D_x^*	N_x	C_x^\dagger	M_x
0.....	10,771,443.40	345,555,360.65	49,316.338	2,343,263.844
1.....	10,459,408.94	334,783,917.25	23,368.975	2,293,947.506
2.....	10,180,932.43	324,324,508.31	21,157.000	2,270,578.531
3.....	9,911,460.00	314,143,575.88	20,016.585	2,249,421.531
4.....	9,649,700.49	304,232,115.88	18,970.613	2,229,404.946
5.....	9,395,371.33	294,582,415.39	18,011.114	2,210,434.333
6.....	9,148,204.81	285,187,044.06	17,136.962	2,192,423.219
7.....	8,907,940.90	276,038,839.25	16,382.239	2,175,286.257
8.....	8,674,291.81	267,130,898.35	15,782.620	2,158,904.018
9.....	8,446,941.10	258,456,606.54	15,327.853	2,143,121.398
10.....	8,225,590.29	250,009,665.44	14,967.134	2,127,793.545
11.....	8,009,999.00	241,784,075.15	14,690.963	2,112,826.411
12.....	7,799,942.21	233,774,076.15	14,496.699	2,098,135.448
13.....	7,595,203.02	225,974,133.94	14,374.813	2,083,638.749
14.....	7,395,579.35	218,378,930.92	14,321.630	2,069,263.936
15.....	7,200,877.74	210,983,351.57	14,331.405	2,054,942.306

Age x	\bar{C}_x^\ddagger	\bar{M}_x	\bar{R}_x	S_x
0.....	49,930.255	2,372,434.096	130,390,280.075	8,887,499,995.32
1.....	23,659.885	2,322,503.841	128,017,845.979	8,541,944,634.67
2.....	21,420.374	2,298,843.956	125,695,342.138	8,207,160,717.42
3.....	20,265.763	2,277,423.582	123,396,498.182	7,882,836,209.11
4.....	19,206.770	2,257,157.819	121,119,074.600	7,568,692,633.23
5.....	18,235.326	2,237,951.049	118,861,916.781	7,264,460,517.35
6.....	17,350.292	2,219,715.723	116,623,965.732	6,969,878,101.96
7.....	16,586.174	2,202,365.431	114,404,250.009	6,684,691,057.90
8.....	15,979.091	2,185,779.257	112,201,884.578	6,408,652,218.65
9.....	15,518.663	2,169,800.166	110,016,105.321	6,141,521,320.30
10.....	15,153.453	2,154,281.503	107,846,305.155	5,883,064,713.76
11.....	14,873.844	2,139,128.050	105,692,023.652	5,633,055,048.32
12.....	14,677.162	2,124,254.206	103,552,895.602	5,391,270,973.17
13.....	14,553.759	2,109,577.044	101,428,641.396	5,157,496,897.02
14.....	14,499.914	2,095,023.285	99,319,064.352	4,931,522,763.08
15.....	14,509.810	2,080,523.371	97,224,041.067	4,713,143,832.16

* $D_x = v^x - v_{x+1}$.
 $\dagger C_x = v^x - v_{x+1}d_x$.
 $\ddagger \bar{C}_x = C_x \cdot i/\delta$.

1958 CET 3%—AGE LAST BIRTHDAY BASIS
COMMUTATION COLUMNS FOR FEMALE EXTENSION AT AGES 0 TO 14

Age x	D_x^*	N_x	C_x^\dagger	M_x
0.....	10,929,844.46	312,281,759.11	49,798.646	1,834,259.219
1.....	10,561,700.83	301,351,914.65	23,482.970	1,784,460.573
2.....	10,230,595.51	290,790,213.82	21,157.000	1,760,977.603
3.....	9,911,460.00	280,559,618.31	19,919.417	1,739,820.603
4.....	9,602,857.28	270,648,158.31	18,786.879	1,719,901.186
5.....	9,304,375.53	261,045,301.03	17,750.088	1,701,114.307
6.....	9,015,624.21	251,740,925.50	16,806.621	1,683,364.219
7.....	8,736,226.59	242,725,301.29	15,988.454	1,666,557.598
8.....	8,465,784.94	233,989,074.70	15,328.474	1,650,569.144
9.....	8,203,880.20	225,523,289.76	14,814.527	1,635,240.670
10.....	7,950,117.71	217,319,409.56	14,395.667	1,620,426.143
11.....	7,704,165.21	209,369,291.85	14,061.448	1,606,030.476
12.....	7,465,710.60	201,665,126.64	13,808.151	1,591,969.028
13.....	7,234,454.57	194,199,416.04	13,625.588	1,578,160.877
14.....	7,010,116.72	186,964,961.47	13,509.278	1,564,535.289
15.....	6,792,429.28	179,954,844.75	13,452.875	1,551,026.011

Age x	\bar{C}_x^\ddagger	\bar{M}_x	\bar{R}_x	S_x
0.....	50,541.946	1,861,637.565	96,157,780.360	7,468,809,164.35
1.....	23,833.479	1,811,095.619	94,296,142.795	7,156,527,405.24
2.....	21,472.792	1,787,262.140	92,485,047.176	6,855,175,490.59
3.....	20,216.736	1,765,789.348	90,697,785.036	6,564,385,276.77
4.....	19,067.294	1,745,572.612	88,931,995.688	6,283,825,658.46
5.....	18,015.028	1,726,505.318	87,186,423.076	6,013,177,500.15
6.....	17,057.478	1,708,490.290	85,459,917.758	5,752,132,199.12
7.....	16,227.099	1,691,432.812	83,751,427.468	5,500,391,273.62
8.....	15,557.268	1,675,205.713	82,059,994.656	5,257,665,972.33
9.....	15,035.650	1,659,648.445	80,384,788.943	5,023,676,897.63
10.....	14,610.538	1,644,612.795	78,725,140.498	4,798,153,607.87
11.....	14,271.331	1,630,002.257	77,080,527.703	4,580,834,198.31
12.....	14,014.253	1,615,730.926	75,450,525.446	4,371,464,906.46
13.....	13,828.965	1,601,716.673	73,834,794.520	4,169,799,779.82
14.....	13,710.919	1,587,887.708	72,233,077.847	3,975,600,363.78
15.....	13,653.674	1,574,176.789	70,645,190.139	3,788,635,402.31

* $D_x = v^{n-x}d_x$.
 $\dagger C_x = v^{n-x}d_x$.
 $\ddagger \bar{C}_x = C_{x+i}/\delta$.