Continuous Mortality Investigation

Mortality Committee

Working Paper 21

The Graduation of the CMI 1999-2002 Mortality Experience: Final "00" Series Mortality Tables – Assured Lives

July 2006

CMI Mortality Graduation Working Party
Working Paper 21
The Graduation of the CMI 1999-2002 Mortality Experience:
Final "00" Series Mortality Tables – Assured Lives

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The Graduation of the CMI 1999-2002 Mortality Experience:
Final "00" Series Mortality Tables – Assured Lives

Introduction

In 2003 the Mortality Committee set up a Working Party to carry out the graduation of a new set of mortality tables, to be based on the 1999-2002 experience. The members of the Mortality Graduation Working Party ("MGWP") are Angus Macdonald (Chairman), John Ellam, Adrian Gallop, Simon Spencer, Joanne Wells, David Wilkie and Richard Willets.

The previous work has been exposed to the Profession in a series of Working Papers:

- Working Paper 8, first published in draft form in May 2004 with the final version made available in August 2004, contained initial findings of the Working Party and proposals on which tables to graduate.
- Working Paper 12, published in April 2005, contained proposed graduations for the assured lives tables.
- Working Paper 16, published in September 2005, contained proposed graduations for the annuitant and pensioner tables.

These were widely publicised, for example via the Profession's e-bulletins, and presentations on the draft tables have been given to numerous seminars, including 'Current Issues in Life Assurance' (CILA) and 'Current Issues in Pensions'.

The MGWP would like to thank all respondents for the valuable comments made. The MGWP has considered the feedback received on both these Working Papers, and has pleasure in presenting the final "00" Series base tables of mortality. This Working Paper contains the final tables for assured lives, whilst the final tables for annuitants and pensioners are contained in Working Paper 22.

These tables have now been approved by the Faculty and Institute Management Committee (FIMC) for adoption by the Actuarial Profession with an effective date of 1 September 2006. **It is the responsibility of of any actuary or other person using a base table to ensure that it is appropriate for the particular purpose to which it is put.**

In due course a CMI Report containing the final "00" Series tables will be published. This Report will take account of comments received, up to the time of drafting, should any further explanation or clarification be required.

Any comments on this Working Paper should be submitted to:

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Assured lives tables – feedback on Working Paper 12

The Working Party received three written responses to Working Paper 12. A summary of the main points raised follows.

Lack of an accident hump

There was some concern that the proposed assured lives tables for males did not contain an 'accident hump' at younger ages (late teens/early twenties).

As there were virtually no deaths below the high 30s of age – and none at all for many of these ages – the Working Party has no evidence either way about the existence or otherwise of an accident hump. There was no deliberate decision not to include this feature in the tables – the shape of the curves are a result of the fit to the bulk of the data and the need to maintain consistency between the different sections.

The Working Party has though considered population data, specifically the interim life tables issued by the Government Actuary's Department for the periods 1999-2001 and 2000-2002, and has concluded that these show more of an accident 'plateau' than a 'hump'. This is similar to the shape arising from the graduated rates in Working Paper 12. The Working Party is therefore comfortable with the rates produced and feels that no further adjustment is required. Individual actuaries who feel this is inappropriate may wish to make suitable adjustment to the base tables.

Extrapolation at the oldest ages

Comments were made about the appropriateness of the mortality rates at the very oldest ages.

The Working Party had absolutely no CMI data at the very oldest ages above the low 100s, and the available data above about age 90 was scanty and unreliable. The behaviour of the fitted functions at ages well removed from the bulk of the data could be arbitrarily bad and clearly needed to be adjusted. The Working Party therefore considered alternative studies into old age mortality and took a pragmatic approach to ending the tables in, hopefully, a reasonable and consistent way. The Working Party does not claim that the rates at such advanced ages are "correct". For practical purposes, the Working Party does not believe that the mortality rates assumed for centenarians will be financially significant, and in the absence of a clearly better alternative does not propose to change the method adopted.

Relationships between smoker statuses and select durations

Some concerns were raised about the relationships between the smoker, non-smoker and combined rates, and between the rates at different select durations, particularly at the extremes of age.

Very low data volumes at the extremes of age and at the shorter durations made it impossible to produce sensible rates that adhered faithfully to the data outside the main (financially significant) age range. The method chosen maintains desirable relationships at all ages between the different sections – i.e. non-smoker < combined < smoker, duration 0 < duration 1 < …, etc.

Alternative approaches were considered, but none produced rates that are materially different outside the main age range or that are clearly preferable at the extremes of age. The Working Party therefore does not see a compelling reason to amend the approach taken.

Calculation of q_x from μ_x

It has been suggested that the method for deriving values of q_x from the graduated formulae for μ_x are not sufficiently accurate.

For the original proposals, values of q_x were derived from μ_x by using the formula:

$$q_x = 1 - e^{-\int_0^1 \mu_{x+t} dt}$$

using Simpson's rule to evaluate the integral as follows:

$$\int_0^1 \mu_{x+t} dt \approx [\mu_x + 3\mu_{x+⅓} + 3\mu_{x+⅔} + \mu_{x+1}] / 8.$$

The following more accurate approximation is now used:

$$\int_0^1 \mu_{x+t} dt \approx [7\mu_x + 32\mu_{x+¼} + 12\mu_{x+½} + 32\mu_{x+¾} + 7\mu_{x+1}] / 90.$$

This has only affected some values of q_{118} and q_{119} in the sixth decimal place.

Derivation of final Assured Lives tables

The following tables have been produced.

Table	Investigation	Sex	Lives/Amounts	Select Period
AMC00	Permanents – combined	Male	Lives	2
AMN00	Permanents – non-smokers	Male	Lives	2
AMS00	Permanents – smokers	Male	Lives	2
AFC00	Permanents – combined	Female	Lives	2
AFN00	Permanents – non-smokers	Female	Lives	2
AFS00	Permanents – smokers	Female	Lives	2
TMC00	Temporaries – combined	Male	Lives	5
TMN00	Temporaries – non-smokers	Male	Lives	5
TMS00	Temporaries – smokers	Male	Lives	5
TFC00	Temporaries – combined	Female	Lives	5
TFN00	Temporaries – non-smokers	Female	Lives	5
TFS00	Temporaries – smokers	Female	Lives	5

After consideration, the Working Party has decided to make a small change to the naming of the tables since the publication of Working Paper 12. The combined tables will now contain the letter "C" (e.g. AMC00 instead of AM00) to maintain consistency with the new smoker and non-smoker tables, and to remove possible ambiguity.

Full details of the methodology used, and the thinking behind it, are given in Working Paper 12 and will not be repeated here. However, for ease of reference a brief summary is provided below.

Ultimate rates

The Permanent (Investigation 01) and Temporary (Investigation 02) assurance datasets were combined in the ultimate durations: 2+ for the Permanents and 5+ for the Temporaries. This was due to the similarity of these experiences, and is explained further in Working Papers 8 and 12. Separate graduations of values of μ_x were produced using the Gompertz-Makeham ("GM") formulae described in Forfar, McCutcheon and Wilkie (1988) for males and females, and smokers, non-smokers and combined, i.e. six separate sections in all.

Further constraints were then applied to the resulting rates to ensure consistency between the different sections, particularly at the extremes of age where there was very little data. These constraints are summarised below.

At the oldest ages, values of μ_x for x>100 were blended into an arbitrary μ_{120} equal to 1 using the formula:

$$\mu_x = \frac{(120-x)^{1.25}}{(120-100)^{1.25}} \times \mu_{100} + \left(1 - \frac{(120-x)^{1.25}}{(120-100)^{1.25}}\right) \times \mu_{120}.$$

Additionally, the rates for smokers and non-smokers were constrained to ensure the following relationship held at all ages, separately for males and females:

$$\mu_x[\text{smoker}] \geq \mu_x[\text{combined}] \geq \mu_x[\text{non-smoker}].$$

A summary of the key statistics for the unadjusted ultimate graduations is given in Tables 1 and 2 below.

Table 1. Unadjusted graduations of the male assured lives ultimate experience: key statistics.

Section	Combined	Non-smoker	Smoker
GM formula	GM(1,3)	GM(1,3)	GM(1,3)
Age range fitted	20-90	20-90	20-90
Optimised parameters:			
$100\times a_1$	0.044726	0.034421	0.067019
T-ratio	16.3	7.1	6.2
b_1	–4.594470	–4.259447	–4.492762
T-ratio	–65.9	–23.3	–17.3
b_2	5.890200	6.275162	5.578582
T-ratio	173.5	72.5	44.1
b_3	–0.575750	–0.033485	–1.023187
T-ratio	–7.8	–0.2	–3.8
–Log likelihood	176,255.6	30,145.7	14,529.7
Sign test: *p*(pos)	0.7648	0.5964	0.4007
Runs test: *p*(runs)	0.4372	0.2343	0.3125
K-S test: *p*(*KS*)	0.9790	0.9730	0.9760
Serial correlation test:			
T-ratio 1	0.56	0.25	0.98
T-ratio 2	1.96	–0.72	0.88
T-ratio 3	1.39	–0.42	–0.72
χ^2 test:			
χ^2	85.63	66.92	65.30
Degrees of freedom	65	63	59
$p(\chi^2)$	0.0442	0.3441	0.2671

Table 2. Unadjusted graduations of the female assured lives ultimate experience: key statistics.

Section	Combined	Non-smoker	Smoker
GM formula	GM(1,2)	GM(1,2)	GM(1,3)
Age range fitted	20-90	20-90	20-90
Optimised parameters:			
$100\times a_1$	0.014423	0.022054	0.023434
T-ratio	6.7	7.5	2.0
b_1	–4.389068	–4.621657	–4.435892
T-ratio	–395.0	–225.9	–14.6
b_2	5.584346	5.850592	5.487066
T-ratio	106.3	58.7	37.1
b_3			–0.736004
T-ratio			–2.3
–Log likelihood	63,628.0	21,223.5	9,224.1
Sign test: *p*(pos)	0.2319	0.6899	0.5522
Runs test: *p*(runs)	0.5361	0.5000	0.9887
K-S test: *p*(*KS*)	0.6056	0.7565	1.0000
Serial correlation test:			
T-ratio 1	0.87	2.02	–1.87
T-ratio 2	2.15	1.88	2.07
T-ratio 3	0.82	0.34	–1.15
χ^2 test:			
χ^2	87.22	76.15	44.06
Degrees of freedom	64	62	54
$p(\chi^2)$	0.0285	0.1067	0.8308

Values of q_x were derived from the resulting values of μ_x using the method described on page 5 above and then rounded to six decimal places. The value of q_{120} was set equal to 1.

Select rates

Two-year select rates for the Permanents and five-year select rates for the Temporaries were produced. This was done by assuming that the mortality rate $q(x,t)$ at age x and duration t (where t = 0, 1 for Permanents, t = 0, 1, 2, 3, 4 for Temporaries) could be expressed as a function of the graduated ultimate rate at age x, $q(x)$, as follows:

$$q(x,t) = q(x) \times f(x,t).$$

The function $f(x,t)$ was obtained by smoothing (using rolling averages) another function, denoted $uf(x,t)$. The function $uf(x,t)$ was a fourth-order polynomial in x plus a term in t that ensured that the graduated rates at different select durations are parallel.

$$uf(x,t) = [a_0 + a_1x + a_2x^2 + a_3x^3 + a_4x^4] + b(t).$$

For all except female Temporaries, the polynomial was assumed to apply to the age range $30 \le x \le 80$, while for ages $x < 30$ we assume that $uf(x,t) = uf(30,t)$, and for ages $x > 80$ we assume that $uf(x,t) = uf(80,t)$. For female Temporaries, which had few deaths at higher ages, age 70 was substituted for age 80.

The smoothed $f(x,t)$ was then calculated as

$$f(x,t) = [uf(x-2,t) + 2\times uf(x-1,t) + 3\times uf(x,t) + 2\times uf(x+1,t) + uf(x+2,t)] \div 9.$$

The following constraints were applied:

$uf(x,t) \le 1.0$; $uf(x,0) \ge 0.2$ (we assume that select rates cannot exceed ultimate rates and, arbitrarily, that select duration 0 rates cannot fall below 20% of ultimate rates).
$uf(x,2) = 1.0$ for Permanents.
$uf(x,5) = 1.0$ for Temporaries.
$a_0 = 0$; $a_1 = 0$; $b(0) = 0$.
$b(t) \ge b(t-1)$.
$b(t) - b(t-1) \ge b(t+1) - b(t)$.

Parameters a_2, a_3, a_4 and $b(t)$ were then found which maximised the function:

$$\sum_x \sum_t (E_{x,t} \times \log(f(x,t) \times q_x) + (E_{x,t} - A_{x,t}) \times \log(1 - f(x,t) \times q_x)) \qquad (1)$$

where E and A are the 1999-2002 exposures and actual deaths respectively for the relevant ages and durations, and q is the graduated ultimate mortality rate.

Separate functions were fitted for the following investigations:-

- Males, Permanents.
- Males, Temporaries.
- Females, Permanents.
- Females, Temporaries.

For non-smokers and smokers a simple adjustment factor was applied to the combined $uf(x,t)$ before deriving the smoothed $f(x,t)$. The adjustment was again found by maximising formula (1), given the parameters a and b fitted to the combined experiences. The resulting mortality rates were further constrained to be not greater/lower (as appropriate) than the relevant combined select rates.

The parameters fitted for the various investigations were as follows:-

Parameter	Males		Females	
	Permanent Assurances	Temporary Assurances	Permanent Assurances	Temporary Assurances
100,000 a_0	0.0000	0.0000	0.0000	0.0000
100,000 a_1	0.0000	0.0000	0.0000	0.0000
100,000 a_2	159.0392	113.5889	64.1485	13.2721
100,000 a_3	–3.7226	–2.7468	–1.2016	0.6237
100,000 a_4	0.0235	0.0174	0.0064	–0.0100
$b(0)$	0.0000	0.0000	0.0000	0.00000
$b(1)$	0.2253	0.1258	0.3158	0.10504
$b(2)$	-	0.2203	-	0.21008
$b(3)$	-	0.3148	-	0.31512
$b(4)$	-	0.4093	-	0.42016
Non-smoker adj	0.9980	1.0368	1.0501	1.0116
Smoker adj	1.1720	1.1108	1.3157	0.9976

Select rates have been assumed to end at age 90+t, as was the case in the "92" Series tables.

Select values of μ have been calculated using the methodology set out in *C.M.I.R.* **10**, 31-34. To summarise:

Define, for $d = 0, 1, \ldots, n$, where n is the select period in years,

$$q_x^d = q_{[x-d]+d}$$

$$\mu_x^d = \mu_{[x-d]+d}$$

$$\lambda_x^d = -\log(1 - q_x^d) \cdot$$

Then, for duration 0,

$$\mu_x^0 = \frac{3\lambda_x^0 - \lambda_{x+1}^1}{2}$$

and, for durations 1-4,

$$\mu_x^d = \frac{\lambda_{x-1}^{d-1} + \lambda_x^d}{2} \cdot$$

Final tables

The final assured lives mortality tables are set out in Tables A1 to A24 in the Appendix. The ultimate values of μ_x are those originally graduated; this marks a change of approach from the "80" and "92" Series where the published values of μ_x were recalculated from the published values of q_x.

References

C.M.I. (1990) Standard Tables of Mortality Based on the 1979-82 Experiences. *C.M.I.R.* **10**, 31-34.

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Government Actuary's Department: Interim Life Tables, United Kingdom, Males, 1999-2001 and 2000-2002. (http://www.gad.gov.uk/Life_Tables/Historical_Interim_life_tables.htm)

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Final values of mortality rates for the "00" Series assured lives mortality tables.

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Table A1. Permanent Assurances, males, combined – AMC00 two years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000282	0.000386	0.000458
18	0.000283	0.000386	0.000459
19	0.000285	0.000389	0.000462
20	0.000286	0.000391	0.000464
21	0.000288	0.000393	0.000467
22	0.000290	0.000397	0.000471
23	0.000293	0.000400	0.000475
24	0.000296	0.000404	0.000480
25	0.000299	0.000408	0.000485
26	0.000303	0.000414	0.000492
27	0.000308	0.000421	0.000500
28	0.000313	0.000428	0.000508
29	0.000321	0.000438	0.000519
30	0.000332	0.000452	0.000531
31	0.000348	0.000471	0.000545
32	0.000367	0.000494	0.000561
33	0.000389	0.000520	0.000579
34	0.000414	0.000549	0.000601
35	0.000441	0.000582	0.000626
36	0.000470	0.000617	0.000654
37	0.000502	0.000657	0.000687
38	0.000539	0.000703	0.000726
39	0.000580	0.000753	0.000769
40	0.000626	0.000810	0.000820
41	0.000677	0.000873	0.000878
42	0.000734	0.000942	0.000944
43	0.000800	0.001021	0.001021
44	0.000873	0.001108	0.001108
45	0.000956	0.001208	0.001208
46	0.001049	0.001322	0.001322
47	0.001153	0.001452	0.001452
48	0.001271	0.001601	0.001601
49	0.001404	0.001770	0.001770
50	0.001552	0.001963	0.001963
51	0.001720	0.002183	0.002183
52	0.001906	0.002432	0.002432
53	0.002115	0.002713	0.002715
54	0.002349	0.003026	0.003036

Table A1. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.002609	0.003374	0.003400
56	0.002900	0.003759	0.003812
57	0.003223	0.004187	0.004277
58	0.003582	0.004664	0.004802
59	0.003982	0.005198	0.005395
60	0.004428	0.005794	0.006064
61	0.004922	0.006457	0.006816
62	0.005471	0.007197	0.007662
63	0.006082	0.008023	0.008613
64	0.006762	0.008943	0.009679
65	0.007520	0.009970	0.010875
66	0.008366	0.011118	0.012214
67	0.009313	0.012402	0.013712
68	0.010373	0.013839	0.015385
69	0.011565	0.015452	0.017252
70	0.012908	0.017264	0.019333
71	0.014426	0.019303	0.021649
72	0.016147	0.021605	0.024224
73	0.018106	0.024208	0.027084
74	0.020342	0.027159	0.030255
75	0.022905	0.030512	0.033767
76	0.025850	0.034333	0.037652
77	0.029246	0.038696	0.041942
78	0.033172	0.043688	0.046672
79	0.037594	0.049283	0.051882
80	0.042409	0.055389	0.057610
81	0.047427	0.061823	0.063897
82	0.052694	0.068642	0.070787
83	0.058305	0.075952	0.078325
84	0.064432	0.083933	0.086556
85	0.071111	0.092634	0.095529
86	0.078378	0.102099	0.105290
87	0.086267	0.112376	0.115888
88	0.094814	0.123510	0.127370
89	0.104053	0.135546	0.139782
90	0.114018	0.148527	0.153168
91		0.162493	0.167571
92			0.183029
93			0.199573
94			0.217232

Table A1. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.236024
96			0.255963
97			0.277048
98			0.299269
99			0.322606
100			0.346759
101			0.370214
102			0.392528
103			0.413752
104			0.433932
105			0.453110
106			0.471326
107			0.488618
108			0.505018
109			0.520556
110			0.535256
111			0.549141
112			0.562225
113			0.574517
114			0.586017
115			0.596712
116			0.606569
117			0.615519
118			0.623412
119			0.629820
120			1.000000

Table A2. Permanent Assurances, males, combined – AMC00 two years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000230	0.000334	0.000457
18	0.000230	0.000334	0.000459
19	0.000232	0.000336	0.000461
20	0.000233	0.000338	0.000463
21	0.000234	0.000340	0.000466
22	0.000235	0.000343	0.000469
23	0.000238	0.000345	0.000473
24	0.000240	0.000349	0.000477
25	0.000242	0.000352	0.000483
26	0.000244	0.000357	0.000489
27	0.000248	0.000362	0.000496
28	0.000251	0.000368	0.000504
29	0.000256	0.000376	0.000513
30	0.000263	0.000387	0.000525
31	0.000275	0.000402	0.000537
32	0.000291	0.000421	0.000552
33	0.000309	0.000444	0.000570
34	0.000330	0.000469	0.000590
35	0.000353	0.000498	0.000613
36	0.000377	0.000529	0.000640
37	0.000402	0.000564	0.000670
38	0.000432	0.000603	0.000706
39	0.000465	0.000646	0.000747
40	0.000503	0.000695	0.000794
41	0.000545	0.000750	0.000848
42	0.000591	0.000810	0.000910
43	0.000646	0.000878	0.000981
44	0.000706	0.000954	0.001063
45	0.000773	0.001041	0.001156
46	0.000848	0.001140	0.001263
47	0.000929	0.001251	0.001385
48	0.001022	0.001378	0.001525
49	0.001125	0.001522	0.001683
50	0.001237	0.001685	0.001865
51	0.001365	0.001869	0.002071
52	0.001503	0.002078	0.002305
53	0.001661	0.002312	0.002571
54	0.001838	0.002574	0.002873

Table A2. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.002036	0.002866	0.003216
56	0.002258	0.003189	0.003604
57	0.002505	0.003550	0.004043
58	0.002777	0.003952	0.004539
59	0.003079	0.004400	0.005100
60	0.003418	0.004900	0.005733
61	0.003790	0.005458	0.006446
62	0.004201	0.006079	0.007249
63	0.004659	0.006771	0.008152
64	0.005167	0.007542	0.009167
65	0.005732	0.008402	0.010307
66	0.006362	0.009364	0.011586
67	0.007067	0.010440	0.013019
68	0.007854	0.011646	0.014624
69	0.008741	0.013000	0.016418
70	0.009742	0.014524	0.018423
71	0.010876	0.016242	0.020661
72	0.012165	0.018186	0.023157
73	0.013641	0.020392	0.025938
74	0.015334	0.022903	0.029032
75	0.017289	0.025769	0.032473
76	0.019553	0.029054	0.036295
77	0.022188	0.032827	0.040536
78	0.025333	0.037177	0.045237
79	0.028987	0.042137	0.050444
80	0.033093	0.047650	0.056205
81	0.037327	0.053576	0.062572
82	0.041704	0.059850	0.069603
83	0.046278	0.066562	0.077358
84	0.051297	0.073870	0.085904
85	0.056801	0.081905	0.095313
86	0.062827	0.090731	0.105660
87	0.069410	0.100414	0.117029
88	0.076594	0.111023	0.129507
89	0.084417	0.122636	0.143189
90	0.092925	0.135331	0.158176
91		0.149192	0.174576
92			0.192504
93			0.212084
94			0.233444

Table A2. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.256725
96			0.282071
97			0.309640
98			0.339595
99			0.372110
100			0.407367
101			0.444172
102			0.480496
103			0.516318
104			0.551618
105			0.586369
106			0.620546
107			0.654118
108			0.687050
109			0.719302
110			0.750828
111			0.781575
112			0.811478
113			0.840459
114			0.868421
115			0.895236
116			0.920736
117			0.944678
118			0.966674
119			0.985988
120			1.000000

Table A3. Permanent Assurances, males, smokers – AMS00 two years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000491	0.000670	0.000679
18	0.000492	0.000672	0.000681
19	0.000494	0.000675	0.000684
20	0.000496	0.000678	0.000687
21	0.000499	0.000681	0.000690
22	0.000502	0.000686	0.000695
23	0.000506	0.000691	0.000700
24	0.000510	0.000697	0.000706
25	0.000515	0.000704	0.000713
26	0.000522	0.000712	0.000722
27	0.000529	0.000722	0.000732
28	0.000538	0.000734	0.000744
29	0.000550	0.000750	0.000759
30	0.000569	0.000769	0.000776
31	0.000595	0.000792	0.000796
32	0.000629	0.000819	0.000820
33	0.000668	0.000848	0.000848
34	0.000711	0.000881	0.000881
35	0.000759	0.000920	0.000920
36	0.000813	0.000966	0.000966
37	0.000873	0.001019	0.001019
38	0.000941	0.001081	0.001081
39	0.001019	0.001154	0.001154
40	0.001107	0.001238	0.001238
41	0.001207	0.001336	0.001336
42	0.001321	0.001449	0.001449
43	0.001452	0.001581	0.001581
44	0.001599	0.001732	0.001732
45	0.001768	0.001907	0.001907
46	0.001961	0.002109	0.002109
47	0.002178	0.002340	0.002340
48	0.002425	0.002605	0.002605
49	0.002704	0.002909	0.002909
50	0.003018	0.003256	0.003256
51	0.003372	0.003652	0.003652
52	0.003769	0.004103	0.004103
53	0.004214	0.004615	0.004615
54	0.004711	0.005196	0.005196

Table A3. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.005266	0.005855	0.005855
56	0.005884	0.006599	0.006599
57	0.006569	0.007438	0.007438
58	0.007330	0.008383	0.008383
59	0.008172	0.009446	0.009446
60	0.009102	0.010637	0.010637
61	0.010131	0.011971	0.011971
62	0.011265	0.013462	0.013462
63	0.012517	0.015124	0.015124
64	0.013898	0.016974	0.016974
65	0.015422	0.019029	0.019029
66	0.017105	0.021307	0.021307
67	0.018965	0.023826	0.023826
68	0.021025	0.026607	0.026607
69	0.023310	0.029670	0.029670
70	0.025851	0.033036	0.033036
71	0.028683	0.036728	0.036728
72	0.031849	0.040768	0.040768
73	0.035397	0.045179	0.045179
74	0.039387	0.049983	0.049983
75	0.043887	0.055205	0.055205
76	0.048975	0.060865	0.060865
77	0.054745	0.066988	0.066988
78	0.061303	0.073593	0.073593
79	0.068536	0.080703	0.080703
80	0.076211	0.088334	0.088334
81	0.083952	0.096506	0.096506
82	0.091808	0.105232	0.105232
83	0.099917	0.114527	0.114527
84	0.108530	0.124399	0.124399
85	0.117653	0.134856	0.134856
86	0.127290	0.145902	0.145902
87	0.137440	0.157536	0.157536
88	0.148099	0.169754	0.169754
89	0.159261	0.182548	0.182548
90	0.170914	0.195905	0.195905
91		0.209808	0.209808
92			0.224234
93			0.239158
94			0.254548

Table A3. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.270369
96			0.286580
97			0.303139
98			0.319997
99			0.337105
100			0.357329
101			0.379761
102			0.401123
103			0.421463
104			0.440820
105			0.459236
106			0.476745
107			0.493381
108			0.509174
109			0.524150
110			0.538332
111			0.551739
112			0.564383
113			0.576272
114			0.587403
115			0.597764
116			0.607319
117			0.616001
118			0.623663
119			0.629886
120			1.000000

Table A4. Permanent Assurances, males, smokers – AMS00 two years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000401	0.000580	0.000679
18	0.000401	0.000582	0.000680
19	0.000402	0.000584	0.000683
20	0.000404	0.000586	0.000685
21	0.000406	0.000589	0.000689
22	0.000408	0.000593	0.000692
23	0.000411	0.000597	0.000697
24	0.000413	0.000602	0.000703
25	0.000417	0.000607	0.000709
26	0.000422	0.000614	0.000717
27	0.000427	0.000622	0.000727
28	0.000432	0.000632	0.000738
29	0.000441	0.000644	0.000751
30	0.000458	0.000660	0.000767
31	0.000483	0.000681	0.000786
32	0.000520	0.000707	0.000808
33	0.000562	0.000739	0.000834
34	0.000607	0.000775	0.000864
35	0.000656	0.000816	0.000900
36	0.000710	0.000863	0.000942
37	0.000769	0.000916	0.000992
38	0.000835	0.000977	0.001049
39	0.000910	0.001048	0.001116
40	0.000993	0.001129	0.001195
41	0.001087	0.001222	0.001285
42	0.001192	0.001329	0.001391
43	0.001313	0.001452	0.001513
44	0.001446	0.001593	0.001654
45	0.001599	0.001755	0.001817
46	0.001773	0.001940	0.002005
47	0.001966	0.002153	0.002221
48	0.002185	0.002394	0.002470
49	0.002431	0.002671	0.002754
50	0.002705	0.002984	0.003079
51	0.003011	0.003341	0.003451
52	0.003351	0.003745	0.003875
53	0.003730	0.004201	0.004358
54	0.004147	0.004716	0.004906

Table A4. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.004609	0.005297	0.005527
56	0.005119	0.005950	0.006231
57	0.005677	0.006684	0.007026
58	0.006290	0.007505	0.007923
59	0.006961	0.008424	0.008934
60	0.007694	0.009450	0.010069
61	0.008497	0.010593	0.011343
62	0.009374	0.011868	0.012770
63	0.010334	0.013284	0.014366
64	0.011387	0.014858	0.016146
65	0.012545	0.016604	0.018129
66	0.013822	0.018540	0.020334
67	0.015237	0.020684	0.022782
68	0.016814	0.023057	0.025493
69	0.018582	0.025684	0.028491
70	0.020577	0.028590	0.031800
71	0.022842	0.031805	0.035446
72	0.025435	0.035362	0.039456
73	0.028420	0.039299	0.043857
74	0.031882	0.043657	0.048678
75	0.035921	0.048485	0.053951
76	0.040654	0.053838	0.059706
77	0.046230	0.059776	0.065975
78	0.052821	0.066371	0.072793
79	0.060256	0.073704	0.080191
80	0.068164	0.081740	0.088205
81	0.075934	0.090379	0.096870
82	0.083633	0.099439	0.106219
83	0.091480	0.108966	0.116286
84	0.099896	0.119057	0.127108
85	0.108900	0.129871	0.138715
86	0.118516	0.141440	0.151142
87	0.128759	0.153788	0.164420
88	0.139646	0.166942	0.178577
89	0.151192	0.180924	0.193642
90	0.163407	0.195756	0.209641
91		0.211455	0.226595
92			0.244526
93			0.263450
94			0.283378

Table A4. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.304321
96			0.326281
97			0.349259
98			0.373247
99			0.398235
100			0.424205
101			0.459964
102			0.495256
103			0.530061
104			0.564357
105			0.598122
106			0.631328
107			0.663945
108			0.695941
109			0.727277
110			0.757908
111			0.787781
112			0.816835
113			0.844992
114			0.872159
115			0.898213
116			0.922988
117			0.946250
118			0.967621
119			0.986386
120			1.000000

Table A5. Permanent Assurances, males, non-smokers – AMN00 two years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000223	0.000305	0.000363
18	0.000225	0.000307	0.000365
19	0.000226	0.000309	0.000368
20	0.000229	0.000313	0.000372
21	0.000231	0.000315	0.000375
22	0.000234	0.000319	0.000380
23	0.000236	0.000323	0.000384
24	0.000240	0.000328	0.000390
25	0.000244	0.000333	0.000396
26	0.000248	0.000339	0.000403
27	0.000253	0.000345	0.000411
28	0.000259	0.000354	0.000421
29	0.000266	0.000363	0.000431
30	0.000276	0.000376	0.000443
31	0.000290	0.000393	0.000456
32	0.000308	0.000414	0.000471
33	0.000328	0.000438	0.000489
34	0.000349	0.000463	0.000508
35	0.000373	0.000492	0.000531
36	0.000399	0.000524	0.000556
37	0.000427	0.000558	0.000585
38	0.000458	0.000596	0.000617
39	0.000492	0.000639	0.000654
40	0.000530	0.000686	0.000696
41	0.000572	0.000738	0.000744
42	0.000620	0.000795	0.000798
43	0.000672	0.000858	0.000860
44	0.000731	0.000927	0.000929
45	0.000796	0.001006	0.001008
46	0.000869	0.001096	0.001098
47	0.000951	0.001198	0.001200
48	0.001042	0.001312	0.001315
49	0.001145	0.001444	0.001447
50	0.001259	0.001592	0.001595
51	0.001387	0.001760	0.001764
52	0.001529	0.001951	0.001955
53	0.001689	0.002166	0.002172
54	0.001867	0.002405	0.002418

Table A5. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.002066	0.002671	0.002697
56	0.002288	0.002965	0.003013
57	0.002535	0.003293	0.003371
58	0.002813	0.003662	0.003778
59	0.003122	0.004075	0.004238
60	0.003469	0.004539	0.004760
61	0.003856	0.005059	0.005351
62	0.004291	0.005644	0.006021
63	0.004779	0.006304	0.006781
64	0.005327	0.007045	0.007640
65	0.005945	0.007882	0.008614
66	0.006643	0.008827	0.009717
67	0.007432	0.009898	0.010965
68	0.008329	0.011112	0.012378
69	0.009351	0.012493	0.013977
70	0.010519	0.014068	0.015786
71	0.011858	0.015868	0.017832
72	0.013401	0.017931	0.020145
73	0.015184	0.020302	0.022759
74	0.017253	0.023034	0.025712
75	0.019664	0.026196	0.029048
76	0.022483	0.029861	0.032813
77	0.025790	0.034123	0.037060
78	0.029685	0.039095	0.041849
79	0.034165	0.044788	0.047245
80	0.039172	0.051161	0.053319
81	0.044559	0.058084	0.060153
82	0.050394	0.065646	0.067833
83	0.056798	0.073989	0.076454
84	0.063955	0.083312	0.086088
85	0.070969	0.092449	0.095529
86	0.078221	0.101895	0.105290
87	0.086094	0.112151	0.115888
88	0.094624	0.123263	0.127370
89	0.103845	0.135275	0.139782
90	0.113790	0.148229	0.153168
91		0.162168	0.167571
92			0.183029
93			0.199573
94			0.217232

Table A5. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.236024
96			0.255963
97			0.277048
98			0.299269
99			0.322606
100			0.346759
101			0.370214
102			0.392528
103			0.413752
104			0.433932
105			0.453110
106			0.471326
107			0.488618
108			0.505018
109			0.520556
110			0.535256
111			0.549141
112			0.562225
113			0.574517
114			0.586017
115			0.596712
116			0.606569
117			0.615519
118			0.623412
119			0.629820
120			1.000000

Table A6. Permanent Assurances, males, non-smokers – AMN00 two years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000181	0.000264	0.000362
18	0.000183	0.000265	0.000364
19	0.000183	0.000267	0.000367
20	0.000186	0.000270	0.000370
21	0.000187	0.000272	0.000373
22	0.000190	0.000275	0.000377
23	0.000190	0.000279	0.000382
24	0.000194	0.000282	0.000387
25	0.000197	0.000287	0.000393
26	0.000200	0.000292	0.000400
27	0.000203	0.000297	0.000407
28	0.000207	0.000304	0.000416
29	0.000211	0.000311	0.000426
30	0.000218	0.000321	0.000437
31	0.000228	0.000335	0.000449
32	0.000243	0.000352	0.000464
33	0.000261	0.000373	0.000480
34	0.000278	0.000396	0.000498
35	0.000298	0.000421	0.000519
36	0.000320	0.000449	0.000543
37	0.000343	0.000479	0.000570
38	0.000368	0.000512	0.000600
39	0.000395	0.000549	0.000635
40	0.000426	0.000589	0.000675
41	0.000461	0.000634	0.000719
42	0.000501	0.000684	0.000770
43	0.000545	0.000739	0.000828
44	0.000594	0.000800	0.000893
45	0.000646	0.000869	0.000968
46	0.000705	0.000946	0.001052
47	0.000771	0.001034	0.001148
48	0.000841	0.001132	0.001256
49	0.000922	0.001244	0.001379
50	0.001009	0.001369	0.001519
51	0.001105	0.001511	0.001677
52	0.001211	0.001670	0.001857
53	0.001332	0.001849	0.002061
54	0.001466	0.002049	0.002292

Table A6. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.001618	0.002272	0.002555
56	0.001787	0.002519	0.002852
57	0.001973	0.002795	0.003190
58	0.002184	0.003103	0.003572
59	0.002416	0.003450	0.004006
60	0.002677	0.003838	0.004498
61	0.002965	0.004273	0.005056
62	0.003288	0.004762	0.005689
63	0.003651	0.005312	0.006406
64	0.004055	0.005930	0.007219
65	0.004511	0.006627	0.008140
66	0.005024	0.007414	0.009185
67	0.005603	0.008306	0.010369
68	0.006260	0.009317	0.011711
69	0.007009	0.010468	0.013232
70	0.007864	0.011781	0.014955
71	0.008846	0.013285	0.016909
72	0.009982	0.015011	0.019122
73	0.011299	0.017001	0.021630
74	0.012833	0.019302	0.024472
75	0.014632	0.021974	0.027692
76	0.016750	0.025088	0.031340
77	0.019253	0.028729	0.035472
78	0.022291	0.033004	0.040154
79	0.025885	0.037978	0.045456
80	0.030020	0.043639	0.051463
81	0.034423	0.049900	0.058266
82	0.039128	0.056741	0.065970
83	0.044218	0.064289	0.074696
84	0.050635	0.072731	0.084577
85	0.056686	0.081549	0.095313
86	0.062698	0.090541	0.105660
87	0.069267	0.100202	0.117029
88	0.076436	0.110788	0.129507
89	0.084244	0.122374	0.143189
90	0.092733	0.135040	0.158176
91		0.148870	0.174576
92			0.192504
93			0.212084
94			0.233444

Table A6. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.256725
96			0.282071
97			0.309640
98			0.339595
99			0.372110
100			0.407367
101			0.444172
102			0.480496
103			0.516318
104			0.551618
105			0.586369
106			0.620546
107			0.654118
108			0.687050
109			0.719302
110			0.750828
111			0.781575
112			0.811478
113			0.840459
114			0.868421
115			0.895236
116			0.920736
117			0.944678
118			0.966674
119			0.985988
120			1.000000

Table A7. Permanent Assurances, females, combined – AFC00 two years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000055	0.000111	0.000179
18	0.000056	0.000114	0.000184
19	0.000057	0.000117	0.000188
20	0.000059	0.000120	0.000194
21	0.000061	0.000123	0.000199
22	0.000063	0.000128	0.000206
23	0.000065	0.000132	0.000213
24	0.000067	0.000137	0.000221
25	0.000070	0.000143	0.000230
26	0.000073	0.000150	0.000241
27	0.000077	0.000156	0.000252
28	0.000081	0.000164	0.000265
29	0.000085	0.000174	0.000279
30	0.000092	0.000185	0.000295
31	0.000100	0.000199	0.000313
32	0.000110	0.000215	0.000333
33	0.000122	0.000234	0.000355
34	0.000135	0.000255	0.000380
35	0.000150	0.000278	0.000408
36	0.000166	0.000305	0.000439
37	0.000184	0.000333	0.000473
38	0.000205	0.000367	0.000512
39	0.000228	0.000404	0.000556
40	0.000254	0.000445	0.000604
41	0.000284	0.000492	0.000659
42	0.000317	0.000544	0.000720
43	0.000354	0.000603	0.000788
44	0.000396	0.000669	0.000864
45	0.000442	0.000742	0.000949
46	0.000495	0.000825	0.001044
47	0.000554	0.000917	0.001150
48	0.000620	0.001021	0.001269
49	0.000694	0.001136	0.001401
50	0.000777	0.001267	0.001550
51	0.000870	0.001412	0.001716
52	0.000975	0.001575	0.001901
53	0.001092	0.001758	0.002109
54	0.001223	0.001962	0.002341

Table A7. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.001370	0.002191	0.002600
56	0.001534	0.002446	0.002890
57	0.001717	0.002731	0.003213
58	0.001922	0.003052	0.003576
59	0.002151	0.003408	0.003980
60	0.002408	0.003808	0.004433
61	0.002694	0.004253	0.004938
62	0.003014	0.004752	0.005503
63	0.003371	0.005308	0.006134
64	0.003770	0.005930	0.006840
65	0.004216	0.006625	0.007628
66	0.004714	0.007401	0.008508
67	0.005271	0.008268	0.009492
68	0.005893	0.009237	0.010591
69	0.006588	0.010320	0.011818
70	0.007365	0.011529	0.013188
71	0.008234	0.012883	0.014719
72	0.009207	0.014395	0.016427
73	0.010296	0.016086	0.018333
74	0.011516	0.017977	0.020460
75	0.012883	0.020094	0.022833
76	0.014417	0.022464	0.025480
77	0.016139	0.025117	0.028431
78	0.018073	0.028090	0.031720
79	0.020235	0.031410	0.035385
80	0.022636	0.035099	0.039466
81	0.025281	0.039179	0.044009
82	0.028200	0.043694	0.049064
83	0.031430	0.048699	0.054684
84	0.035018	0.054260	0.060928
85	0.039004	0.060435	0.067862
86	0.043425	0.067286	0.075555
87	0.048326	0.074879	0.084081
88	0.053752	0.083286	0.093522
89	0.059753	0.092584	0.103963
90	0.066381	0.102854	0.115495
91		0.114182	0.128215
92			0.142221
93			0.157615
94			0.174502

Table A7. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.192984
96			0.213160
97			0.235123
98			0.258956
99			0.284727
100			0.312189
101			0.339060
102			0.364540
103			0.388697
104			0.411593
105			0.433285
106			0.453826
107			0.473266
108			0.491649
109			0.509014
110			0.525398
111			0.540829
112			0.555332
113			0.568922
114			0.581604
115			0.593370
116			0.604189
117			0.613992
118			0.622620
119			0.629613
120			1.000000

Table A8. Permanent Assurances, females, combined – AFC00 two years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000025	0.000083	0.000178
18	0.000025	0.000085	0.000182
19	0.000025	0.000087	0.000186
20	0.000027	0.000089	0.000191
21	0.000027	0.000091	0.000196
22	0.000028	0.000095	0.000203
23	0.000029	0.000098	0.000209
24	0.000029	0.000101	0.000217
25	0.000030	0.000105	0.000226
26	0.000031	0.000110	0.000235
27	0.000033	0.000115	0.000246
28	0.000034	0.000121	0.000258
29	0.000035	0.000128	0.000272
30	0.000038	0.000135	0.000287
31	0.000042	0.000146	0.000304
32	0.000048	0.000158	0.000322
33	0.000055	0.000172	0.000343
34	0.000063	0.000189	0.000367
35	0.000072	0.000207	0.000393
36	0.000082	0.000228	0.000423
37	0.000092	0.000250	0.000456
38	0.000105	0.000276	0.000492
39	0.000119	0.000305	0.000533
40	0.000135	0.000337	0.000579
41	0.000154	0.000373	0.000631
42	0.000174	0.000414	0.000688
43	0.000196	0.000460	0.000753
44	0.000223	0.000512	0.000825
45	0.000250	0.000569	0.000905
46	0.000284	0.000634	0.000995
47	0.000320	0.000706	0.001095
48	0.000362	0.000788	0.001208
49	0.000407	0.000878	0.001333
50	0.000459	0.000981	0.001474
51	0.000517	0.001095	0.001631
52	0.000583	0.001223	0.001807
53	0.000657	0.001368	0.002003
54	0.000739	0.001528	0.002223

Table A8. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.000832	0.001709	0.002468
56	0.000935	0.001910	0.002743
57	0.001049	0.002135	0.003050
58	0.001179	0.002388	0.003394
59	0.001322	0.002669	0.003777
60	0.001485	0.002984	0.004207
61	0.001665	0.003336	0.004687
62	0.001867	0.003730	0.005224
63	0.002091	0.004170	0.005824
64	0.002342	0.004662	0.006495
65	0.002623	0.005212	0.007245
66	0.002937	0.005827	0.008084
67	0.003287	0.006514	0.009023
68	0.003679	0.007282	0.010072
69	0.004117	0.008142	0.011245
70	0.004605	0.009103	0.012557
71	0.005152	0.010179	0.014023
72	0.005766	0.011384	0.015663
73	0.006454	0.012733	0.017497
74	0.007225	0.014245	0.019547
75	0.008090	0.015941	0.021840
76	0.009064	0.017843	0.024404
77	0.010160	0.019980	0.027270
78	0.011401	0.022381	0.030476
79	0.012799	0.025076	0.034060
80	0.014361	0.028086	0.038067
81	0.016070	0.031432	0.042548
82	0.017946	0.035142	0.047559
83	0.020008	0.039265	0.053161
84	0.022300	0.043861	0.059426
85	0.024849	0.048992	0.066431
86	0.027679	0.054721	0.074264
87	0.030819	0.061113	0.083022
88	0.034299	0.068246	0.092815
89	0.038151	0.076202	0.103765
90	0.042408	0.085075	0.116009
91		0.094965	0.129700
92			0.145009
93			0.162126
94			0.181267

Table A8. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.202669
96			0.226599
97			0.253358
98			0.283278
99			0.316734
100			0.354144
101			0.394254
102			0.433840
103			0.472880
104			0.511349
105			0.549222
106			0.586469
107			0.623055
108			0.658944
109			0.694093
110			0.728451
111			0.761959
112			0.794548
113			0.826131
114			0.856604
115			0.885828
116			0.913618
117			0.939709
118			0.963681
119			0.984730
120			1.000000

Table A9. Permanent Assurances, females, smokers – AFS00 two years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000100	0.000204	0.000250
18	0.000101	0.000207	0.000253
19	0.000103	0.000209	0.000256
20	0.000104	0.000212	0.000260
21	0.000106	0.000216	0.000265
22	0.000108	0.000220	0.000270
23	0.000111	0.000225	0.000276
24	0.000114	0.000232	0.000284
25	0.000117	0.000239	0.000293
26	0.000121	0.000247	0.000303
27	0.000126	0.000257	0.000315
28	0.000132	0.000269	0.000329
29	0.000139	0.000282	0.000345
30	0.000149	0.000300	0.000364
31	0.000162	0.000322	0.000385
32	0.000178	0.000349	0.000411
33	0.000198	0.000381	0.000440
34	0.000221	0.000418	0.000474
35	0.000247	0.000461	0.000513
36	0.000278	0.000509	0.000558
37	0.000312	0.000566	0.000610
38	0.000352	0.000630	0.000669
39	0.000399	0.000705	0.000738
40	0.000452	0.000791	0.000816
41	0.000513	0.000889	0.000906
42	0.000584	0.001000	0.001009
43	0.000666	0.001124	0.001127
44	0.000760	0.001260	0.001261
45	0.000868	0.001415	0.001415
46	0.000991	0.001589	0.001589
47	0.001133	0.001788	0.001788
48	0.001294	0.002013	0.002013
49	0.001478	0.002269	0.002269
50	0.001688	0.002558	0.002558
51	0.001926	0.002886	0.002886
52	0.002197	0.003257	0.003257
53	0.002503	0.003674	0.003674
54	0.002850	0.004146	0.004146

Table A9. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.003241	0.004676	0.004676
56	0.003681	0.005272	0.005272
57	0.004176	0.005941	0.005941
58	0.004732	0.006691	0.006691
59	0.005355	0.007530	0.007530
60	0.006052	0.008469	0.008469
61	0.006831	0.009517	0.009517
62	0.007700	0.010686	0.010686
63	0.008667	0.011987	0.011987
64	0.009742	0.013433	0.013433
65	0.010936	0.015039	0.015039
66	0.012261	0.016819	0.016819
67	0.013726	0.018789	0.018789
68	0.015348	0.020967	0.020967
69	0.017139	0.023370	0.023370
70	0.019117	0.026019	0.026019
71	0.021296	0.028932	0.028932
72	0.023696	0.032133	0.032133
73	0.026337	0.035643	0.035643
74	0.029241	0.039486	0.039486
75	0.032431	0.043686	0.043686
76	0.035935	0.048270	0.048270
77	0.039779	0.053262	0.053262
78	0.043997	0.058691	0.058691
79	0.048591	0.064583	0.064583
80	0.053552	0.070965	0.070965
81	0.058851	0.077867	0.077867
82	0.064515	0.085314	0.085314
83	0.070579	0.093334	0.093334
84	0.077098	0.101954	0.101954
85	0.084089	0.111199	0.111199
86	0.091571	0.121093	0.121093
87	0.099560	0.131658	0.131658
88	0.108072	0.142914	0.142914
89	0.117118	0.154877	0.154877
90	0.126711	0.167563	0.167563
91		0.180981	0.180981
92			0.195138
93			0.210036
94			0.225672

Table A9. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.242039
96			0.259122
97			0.276902
98			0.295354
99			0.314444
100			0.336839
101			0.361264
102			0.384479
103			0.406538
104			0.427492
105			0.447389
106			0.466271
107			0.484178
108			0.501148
109			0.517211
110			0.532397
111			0.546727
112			0.560221
113			0.572889
114			0.584732
115			0.595738
116			0.605875
117			0.615073
118			0.623181
119			0.629760
120			1.000000

Table A10. Permanent Assurances, females, smokers – AFS00 two years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000046	0.000152	0.000248
18	0.000047	0.000154	0.000251
19	0.000048	0.000155	0.000254
20	0.000048	0.000158	0.000258
21	0.000049	0.000160	0.000262
22	0.000049	0.000163	0.000267
23	0.000050	0.000167	0.000273
24	0.000051	0.000172	0.000280
25	0.000052	0.000177	0.000288
26	0.000053	0.000182	0.000298
27	0.000054	0.000189	0.000309
28	0.000057	0.000198	0.000322
29	0.000058	0.000207	0.000336
30	0.000062	0.000220	0.000354
31	0.000068	0.000236	0.000374
32	0.000076	0.000256	0.000398
33	0.000088	0.000280	0.000425
34	0.000101	0.000308	0.000456
35	0.000116	0.000341	0.000492
36	0.000134	0.000378	0.000534
37	0.000153	0.000422	0.000583
38	0.000175	0.000471	0.000638
39	0.000203	0.000529	0.000702
40	0.000233	0.000595	0.000775
41	0.000269	0.000671	0.000859
42	0.000314	0.000757	0.000956
43	0.000369	0.000854	0.001066
44	0.000432	0.000964	0.001192
45	0.000507	0.001088	0.001335
46	0.000592	0.001229	0.001499
47	0.000693	0.001391	0.001685
48	0.000806	0.001574	0.001897
49	0.000938	0.001783	0.002138
50	0.001089	0.002020	0.002410
51	0.001261	0.002290	0.002719
52	0.001459	0.002595	0.003069
53	0.001682	0.002940	0.003463
54	0.001938	0.003330	0.003908

Table A10. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.002226	0.003771	0.004410
56	0.002552	0.004266	0.004975
57	0.002920	0.004823	0.005609
58	0.003336	0.005449	0.006322
59	0.003802	0.006151	0.007120
60	0.004324	0.006937	0.008014
61	0.004910	0.007816	0.009015
62	0.005565	0.008799	0.010132
63	0.006295	0.009895	0.011378
64	0.007108	0.011114	0.012766
65	0.008013	0.012471	0.014310
66	0.009021	0.013979	0.016026
67	0.010137	0.015652	0.017930
68	0.011377	0.017506	0.020041
69	0.012750	0.019557	0.022378
70	0.014274	0.021826	0.024961
71	0.015959	0.024330	0.027812
72	0.017825	0.027093	0.030957
73	0.019892	0.030137	0.034420
74	0.022181	0.033488	0.038228
75	0.024716	0.037173	0.042410
76	0.027528	0.041221	0.046999
77	0.030646	0.045665	0.052025
78	0.034110	0.050538	0.057524
79	0.037912	0.055879	0.063532
80	0.042026	0.061710	0.070088
81	0.046393	0.068053	0.077232
82	0.051045	0.074914	0.085007
83	0.056023	0.082336	0.093458
84	0.061407	0.090364	0.102630
85	0.067216	0.099057	0.112572
86	0.073473	0.108456	0.123334
87	0.080199	0.118604	0.134969
88	0.087418	0.129544	0.147530
89	0.095147	0.141321	0.161072
90	0.103409	0.153981	0.175652
91		0.167568	0.191330
92			0.208163
93			0.226213
94			0.245541

Table A10. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.266208
96			0.288278
97			0.311811
98			0.336870
99			0.363517
100			0.391812
101			0.429583
102			0.466860
103			0.503623
104			0.539849
105			0.575513
106			0.610587
107			0.645040
108			0.678836
109			0.711935
110			0.744288
111			0.775842
112			0.806530
113			0.836272
114			0.864967
115			0.892487
116			0.918656
117			0.943226
118			0.965799
119			0.985620
120			1.000000

Table A11. Permanent Assurances, females, non-smokers – AFN00 two years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000055	0.000111	0.000179
18	0.000056	0.000114	0.000184
19	0.000057	0.000117	0.000188
20	0.000059	0.000120	0.000194
21	0.000061	0.000123	0.000199
22	0.000063	0.000128	0.000206
23	0.000065	0.000132	0.000213
24	0.000067	0.000137	0.000221
25	0.000070	0.000143	0.000230
26	0.000073	0.000150	0.000241
27	0.000077	0.000156	0.000252
28	0.000081	0.000164	0.000265
29	0.000085	0.000174	0.000279
30	0.000092	0.000185	0.000295
31	0.000100	0.000199	0.000313
32	0.000110	0.000215	0.000333
33	0.000122	0.000234	0.000355
34	0.000135	0.000255	0.000375
35	0.000150	0.000278	0.000394
36	0.000165	0.000303	0.000416
37	0.000180	0.000326	0.000440
38	0.000196	0.000351	0.000467
39	0.000215	0.000380	0.000498
40	0.000235	0.000412	0.000532
41	0.000258	0.000448	0.000571
42	0.000284	0.000487	0.000614
43	0.000313	0.000533	0.000663
44	0.000345	0.000583	0.000718
45	0.000382	0.000641	0.000780
46	0.000423	0.000705	0.000850
47	0.000469	0.000777	0.000928
48	0.000521	0.000857	0.001015
49	0.000579	0.000949	0.001114
50	0.000645	0.001051	0.001225
51	0.000719	0.001166	0.001349
52	0.000802	0.001295	0.001489
53	0.000895	0.001442	0.001647
54	0.001001	0.001606	0.001824

Table A11. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.001118	0.001789	0.002022
56	0.001252	0.001996	0.002246
57	0.001401	0.002229	0.002497
58	0.001569	0.002490	0.002779
59	0.001757	0.002784	0.003096
60	0.001969	0.003115	0.003453
61	0.002207	0.003485	0.003853
62	0.002475	0.003902	0.004303
63	0.002775	0.004370	0.004809
64	0.003112	0.004896	0.005377
65	0.003491	0.005486	0.006015
66	0.003917	0.006149	0.006732
67	0.004395	0.006895	0.007538
68	0.004932	0.007732	0.008442
69	0.005536	0.008673	0.009458
70	0.006215	0.009730	0.010599
71	0.006979	0.010919	0.011880
72	0.007839	0.012255	0.013318
73	0.008805	0.013757	0.014931
74	0.009895	0.015447	0.016742
75	0.011124	0.017349	0.018774
76	0.012509	0.019491	0.021053
77	0.014073	0.021902	0.023609
78	0.015839	0.024618	0.026473
79	0.017825	0.027669	0.029684
80	0.020044	0.031080	0.033280
81	0.022504	0.034876	0.037307
82	0.025236	0.039102	0.041813
83	0.028279	0.043816	0.046854
84	0.031680	0.049086	0.052489
85	0.035478	0.054972	0.058783
86	0.039719	0.061543	0.065810
87	0.044448	0.068870	0.073645
88	0.049717	0.077035	0.082375
89	0.055581	0.086120	0.092090
90	0.062098	0.096219	0.102889
91		0.107427	0.114874
92			0.128157
93			0.142850
94			0.159072

Table A11. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.176942
96			0.196576
97			0.218089
98			0.241586
99			0.267157
100			0.295467
101			0.324026
102			0.351066
103			0.376663
104			0.400888
105			0.423806
106			0.445478
107			0.465958
108			0.485298
109			0.503543
110			0.520734
111			0.536905
112			0.552084
113			0.566290
114			0.579532
115			0.591804
116			0.603076
117			0.613278
118			0.622251
119			0.629516
120			1.000000

Table A12. Permanent Assurances, females, non-smokers – AFN00 two years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Durations 2+
17	0.000025	0.000083	0.000178
18	0.000025	0.000085	0.000182
19	0.000025	0.000087	0.000186
20	0.000027	0.000089	0.000191
21	0.000027	0.000091	0.000196
22	0.000028	0.000095	0.000203
23	0.000029	0.000098	0.000209
24	0.000029	0.000101	0.000217
25	0.000030	0.000105	0.000226
26	0.000031	0.000110	0.000235
27	0.000033	0.000115	0.000246
28	0.000034	0.000121	0.000258
29	0.000035	0.000128	0.000272
30	0.000038	0.000135	0.000287
31	0.000042	0.000146	0.000304
32	0.000048	0.000158	0.000322
33	0.000055	0.000172	0.000343
34	0.000063	0.000189	0.000366
35	0.000073	0.000207	0.000384
36	0.000084	0.000227	0.000405
37	0.000094	0.000246	0.000427
38	0.000104	0.000266	0.000453
39	0.000116	0.000288	0.000482
40	0.000128	0.000314	0.000515
41	0.000143	0.000342	0.000551
42	0.000159	0.000373	0.000592
43	0.000178	0.000409	0.000638
44	0.000197	0.000448	0.000690
45	0.000220	0.000493	0.000748
46	0.000246	0.000544	0.000814
47	0.000275	0.000600	0.000887
48	0.000307	0.000663	0.000970
49	0.000343	0.000735	0.001063
50	0.000384	0.000815	0.001168
51	0.000431	0.000906	0.001285
52	0.000482	0.001008	0.001418
53	0.000539	0.001123	0.001566
54	0.000607	0.001251	0.001733

Table A12. (continued)

Age x	Duration 0	Duration 1	Durations 2+
55	0.000679	0.001396	0.001921
56	0.000763	0.001558	0.002132
57	0.000856	0.001742	0.002369
58	0.000961	0.001948	0.002636
59	0.001078	0.002179	0.002936
60	0.001211	0.002439	0.003273
61	0.001359	0.002731	0.003652
62	0.001527	0.003060	0.004078
63	0.001714	0.003429	0.004557
64	0.001925	0.003843	0.005095
65	0.002162	0.004309	0.005700
66	0.002428	0.004833	0.006380
67	0.002726	0.005422	0.007145
68	0.003061	0.006083	0.008005
69	0.003438	0.006828	0.008971
70	0.003862	0.007665	0.010057
71	0.004340	0.008607	0.011278
72	0.004879	0.009667	0.012651
73	0.005482	0.010861	0.014194
74	0.006166	0.012206	0.015928
75	0.006938	0.013723	0.017878
76	0.007809	0.015435	0.020070
77	0.008796	0.017367	0.022534
78	0.009919	0.019550	0.025304
79	0.011192	0.022012	0.028417
80	0.012622	0.024780	0.031917
81	0.014198	0.027873	0.035852
82	0.015937	0.031324	0.040275
83	0.017864	0.035182	0.045247
84	0.020019	0.039509	0.050836
85	0.022425	0.044367	0.057119
86	0.025116	0.049820	0.064182
87	0.028117	0.055943	0.072122
88	0.031465	0.062815	0.081048
89	0.035194	0.070526	0.091081
90	0.039341	0.079177	0.102360
91		0.088878	0.115038
92			0.129291
93			0.145313
94			0.163324

Table A12. (continued)

Age x	Duration 0	Duration 1	Durations 2+
95			0.183570
96			0.206330
97			0.231915
98			0.260675
99			0.293006
100			0.329351
101			0.371001
102			0.412107
103			0.452645
104			0.492591
105			0.531918
106			0.570594
107			0.608585
108			0.645852
109			0.682350
110			0.718027
111			0.752821
112			0.786661
113			0.819457
114			0.851099
115			0.881445
116			0.910302
117			0.937395
118			0.962287
119			0.984143
120			1.000000

Table A13. Temporary Assurances, males, combined – TMC00 five years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000193	0.000251	0.000294	0.000337	0.000381	0.000458
18	0.000194	0.000251	0.000295	0.000338	0.000381	0.000459
19	0.000195	0.000253	0.000297	0.000340	0.000384	0.000462
20	0.000196	0.000254	0.000298	0.000342	0.000386	0.000464
21	0.000197	0.000256	0.000300	0.000344	0.000388	0.000467
22	0.000199	0.000258	0.000302	0.000347	0.000391	0.000471
23	0.000200	0.000260	0.000305	0.000350	0.000395	0.000475
24	0.000202	0.000263	0.000308	0.000353	0.000399	0.000480
25	0.000204	0.000265	0.000311	0.000357	0.000403	0.000485
26	0.000207	0.000269	0.000316	0.000362	0.000409	0.000492
27	0.000211	0.000274	0.000321	0.000368	0.000415	0.000500
28	0.000214	0.000278	0.000326	0.000374	0.000422	0.000508
29	0.000220	0.000285	0.000334	0.000383	0.000432	0.000519
30	0.000227	0.000294	0.000344	0.000394	0.000444	0.000531
31	0.000237	0.000306	0.000357	0.000409	0.000460	0.000545
32	0.000250	0.000320	0.000373	0.000426	0.000479	0.000561
33	0.000264	0.000337	0.000391	0.000446	0.000501	0.000579
34	0.000280	0.000355	0.000412	0.000469	0.000526	0.000601
35	0.000297	0.000376	0.000435	0.000494	0.000553	0.000626
36	0.000315	0.000398	0.000459	0.000521	0.000583	0.000654
37	0.000336	0.000422	0.000487	0.000552	0.000617	0.000687
38	0.000359	0.000451	0.000519	0.000588	0.000657	0.000726
39	0.000385	0.000481	0.000554	0.000627	0.000699	0.000769
40	0.000413	0.000517	0.000594	0.000672	0.000749	0.000820
41	0.000445	0.000556	0.000639	0.000722	0.000805	0.000878
42	0.000481	0.000600	0.000689	0.000778	0.000867	0.000944
43	0.000521	0.000650	0.000746	0.000843	0.000939	0.001021
44	0.000566	0.000705	0.000810	0.000915	0.001019	0.001108
45	0.000616	0.000768	0.000882	0.000996	0.001111	0.001208
46	0.000672	0.000838	0.000963	0.001088	0.001213	0.001322
47	0.000735	0.000917	0.001054	0.001192	0.001329	0.001452
48	0.000804	0.001006	0.001157	0.001308	0.001460	0.001601
49	0.000882	0.001105	0.001272	0.001439	0.001606	0.001770
50	0.000968	0.001215	0.001401	0.001586	0.001772	0.001963
51	0.001064	0.001339	0.001545	0.001751	0.001958	0.002183
52	0.001170	0.001476	0.001706	0.001935	0.002165	0.002432
53	0.001287	0.001628	0.001885	0.002141	0.002398	0.002715
54	0.001415	0.001797	0.002084	0.002371	0.002658	0.003036

Table A13. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.001557	0.001985	0.002306	0.002627	0.002949	0.003400
56	0.001713	0.002192	0.002552	0.002913	0.003273	0.003812
57	0.001882	0.002421	0.002825	0.003229	0.003633	0.004277
58	0.002068	0.002672	0.003126	0.003580	0.004034	0.004802
59	0.002271	0.002950	0.003460	0.003970	0.004479	0.005395
60	0.002493	0.003256	0.003829	0.004402	0.004975	0.006064
61	0.002734	0.003591	0.004235	0.004880	0.005524	0.006816
62	0.002997	0.003960	0.004685	0.005409	0.006133	0.007662
63	0.003283	0.004367	0.005181	0.005995	0.006808	0.008613
64	0.003595	0.004813	0.005728	0.006642	0.007557	0.009679
65	0.003937	0.005305	0.006332	0.007360	0.008388	0.010875
66	0.004311	0.005847	0.007001	0.008156	0.009310	0.012214
67	0.004722	0.006447	0.007742	0.009038	0.010334	0.013712
68	0.005175	0.007111	0.008564	0.010018	0.011472	0.015385
69	0.005678	0.007848	0.009479	0.011109	0.012739	0.017252
70	0.006239	0.008671	0.010498	0.012325	0.014152	0.019333
71	0.006869	0.009592	0.011638	0.013684	0.015730	0.021649
72	0.007581	0.010628	0.012917	0.015206	0.017496	0.024224
73	0.008392	0.011799	0.014358	0.016918	0.019477	0.027084
74	0.009322	0.013128	0.015987	0.018846	0.021705	0.030255
75	0.010396	0.014644	0.017835	0.021026	0.024217	0.033767
76	0.011647	0.016383	0.019941	0.023500	0.027058	0.037652
77	0.013110	0.018386	0.022350	0.026313	0.030277	0.041942
78	0.014832	0.020703	0.025114	0.029524	0.033935	0.046672
79	0.016799	0.023326	0.028229	0.033132	0.038034	0.051882
80	0.018962	0.026209	0.031653	0.037097	0.042542	0.057610
81	0.021217	0.029256	0.035294	0.041332	0.047370	0.063897
82	0.023580	0.032485	0.039174	0.045864	0.052553	0.070787
83	0.026091	0.035944	0.043346	0.050748	0.058150	0.078325
84	0.028833	0.039722	0.047901	0.056081	0.064260	0.086556
85	0.031822	0.043840	0.052867	0.061895	0.070922	0.095529
86	0.035074	0.048319	0.058269	0.068219	0.078169	0.105290
87	0.038604	0.053183	0.064134	0.075085	0.086037	0.115888
88	0.042429	0.058452	0.070488	0.082525	0.094561	0.127370
89	0.046563	0.064148	0.077357	0.090567	0.103776	0.139782
90	0.051022	0.070291	0.084765	0.099240	0.113714	0.153168
91		0.076901	0.092736	0.108572	0.124407	0.167571
92			0.101291	0.118587	0.135883	0.183029
93				0.129306	0.148166	0.199573
94					0.161276	0.217232

Table A13. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.236024
96						0.255963
97						0.277048
98						0.299269
99						0.322606
100						0.346759
101						0.370214
102						0.392528
103						0.413752
104						0.433932
105						0.453110
106						0.471326
107						0.488618
108						0.505018
109						0.520556
110						0.535256
111						0.549141
112						0.562225
113						0.574517
114						0.586017
115						0.596712
116						0.606569
117						0.615519
118						0.623412
119						0.629820
120						1.000000

Table A14. Temporary Assurances, males, combined – TMC00 five years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000164	0.000222	0.000272	0.000315	0.000359	0.000457
18	0.000165	0.000222	0.000273	0.000316	0.000359	0.000459
19	0.000166	0.000224	0.000274	0.000318	0.000361	0.000461
20	0.000166	0.000225	0.000276	0.000320	0.000363	0.000463
21	0.000167	0.000226	0.000277	0.000321	0.000365	0.000466
22	0.000169	0.000228	0.000279	0.000324	0.000368	0.000469
23	0.000169	0.000230	0.000282	0.000326	0.000371	0.000473
24	0.000171	0.000232	0.000284	0.000329	0.000375	0.000477
25	0.000172	0.000234	0.000287	0.000333	0.000378	0.000483
26	0.000174	0.000237	0.000291	0.000337	0.000383	0.000489
27	0.000178	0.000241	0.000295	0.000342	0.000389	0.000496
28	0.000179	0.000245	0.000300	0.000348	0.000395	0.000504
29	0.000183	0.000250	0.000306	0.000355	0.000403	0.000513
30	0.000188	0.000257	0.000315	0.000364	0.000414	0.000525
31	0.000196	0.000267	0.000326	0.000377	0.000427	0.000537
32	0.000207	0.000279	0.000340	0.000392	0.000444	0.000552
33	0.000219	0.000294	0.000356	0.000410	0.000464	0.000570
34	0.000232	0.000310	0.000375	0.000430	0.000486	0.000590
35	0.000247	0.000328	0.000395	0.000453	0.000511	0.000613
36	0.000262	0.000348	0.000418	0.000478	0.000539	0.000640
37	0.000279	0.000369	0.000443	0.000506	0.000569	0.000670
38	0.000298	0.000394	0.000471	0.000538	0.000605	0.000706
39	0.000319	0.000420	0.000503	0.000573	0.000644	0.000747
40	0.000342	0.000451	0.000538	0.000613	0.000688	0.000794
41	0.000368	0.000485	0.000578	0.000658	0.000739	0.000848
42	0.000397	0.000523	0.000623	0.000709	0.000795	0.000910
43	0.000429	0.000566	0.000673	0.000766	0.000859	0.000981
44	0.000465	0.000613	0.000730	0.000831	0.000931	0.001063
45	0.000505	0.000667	0.000794	0.000903	0.001014	0.001156
46	0.000550	0.000727	0.000866	0.000985	0.001105	0.001263
47	0.000600	0.000795	0.000946	0.001078	0.001209	0.001385
48	0.000654	0.000871	0.001038	0.001182	0.001327	0.001525
49	0.000716	0.000955	0.001140	0.001299	0.001458	0.001683
50	0.000783	0.001049	0.001254	0.001430	0.001607	0.001865
51	0.000858	0.001154	0.001381	0.001577	0.001774	0.002071
52	0.000941	0.001271	0.001524	0.001742	0.001960	0.002305
53	0.001032	0.001400	0.001682	0.001925	0.002169	0.002571
54	0.001131	0.001543	0.001858	0.002130	0.002402	0.002873

Table A14. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.001240	0.001701	0.002054	0.002358	0.002664	0.003216
56	0.001360	0.001876	0.002271	0.002613	0.002954	0.003604
57	0.001488	0.002069	0.002512	0.002895	0.003278	0.004043
58	0.001628	0.002280	0.002777	0.003208	0.003638	0.004539
59	0.001780	0.002512	0.003071	0.003554	0.004038	0.005100
60	0.001945	0.002767	0.003395	0.003939	0.004483	0.005733
61	0.002123	0.003047	0.003753	0.004364	0.004976	0.006446
62	0.002314	0.003353	0.004147	0.004834	0.005522	0.007249
63	0.002520	0.003689	0.004581	0.005355	0.006127	0.008152
64	0.002743	0.004057	0.005061	0.005929	0.006799	0.009167
65	0.002985	0.004460	0.005588	0.006566	0.007544	0.010307
66	0.003247	0.004904	0.006172	0.007271	0.008370	0.011586
67	0.003532	0.005394	0.006818	0.008052	0.009289	0.013019
68	0.003843	0.005935	0.007534	0.008920	0.010309	0.014624
69	0.004187	0.006534	0.008330	0.009886	0.011445	0.016418
70	0.004569	0.007201	0.009216	0.010963	0.012712	0.018423
71	0.004997	0.007948	0.010208	0.012166	0.014128	0.020661
72	0.005480	0.008789	0.011320	0.013515	0.015715	0.023157
73	0.006034	0.009740	0.012573	0.015032	0.017496	0.025938
74	0.006672	0.010821	0.013993	0.016744	0.019503	0.029032
75	0.007416	0.012059	0.015605	0.018683	0.021770	0.032473
76	0.008294	0.013485	0.017447	0.020888	0.024341	0.036295
77	0.009335	0.015136	0.019561	0.023404	0.027263	0.040536
78	0.010613	0.017059	0.021996	0.026286	0.030595	0.045237
79	0.012133	0.019273	0.024778	0.029564	0.034372	0.050444
80	0.013870	0.021750	0.027884	0.033219	0.038583	0.056205
81	0.015656	0.024418	0.031245	0.037188	0.043166	0.062572
82	0.017491	0.027235	0.034827	0.041440	0.048097	0.069603
83	0.019390	0.030234	0.038669	0.046021	0.053429	0.077358
84	0.021470	0.033485	0.042846	0.051014	0.059249	0.085904
85	0.023746	0.037043	0.047424	0.056490	0.065639	0.095313
86	0.026231	0.040932	0.052433	0.062487	0.072643	0.105660
87	0.028938	0.045177	0.057904	0.069045	0.080311	0.117029
88	0.031884	0.049799	0.063873	0.076206	0.088694	0.129507
89	0.035081	0.054827	0.070371	0.084015	0.097847	0.143189
90	0.038545	0.060283	0.077436	0.092515	0.107825	0.158176
91		0.066194	0.085103	0.101753	0.118685	0.174576
92			0.093407	0.111775	0.130489	0.192504
93				0.122630	0.143296	0.212084
94					0.157169	0.233444

Table A14. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.256725
96						0.282071
97						0.309640
98						0.339595
99						0.372110
100						0.407367
101						0.444172
102						0.480496
103						0.516318
104						0.551618
105						0.586369
106						0.620546
107						0.654118
108						0.687050
109						0.719302
110						0.750828
111						0.781575
112						0.811478
113						0.840459
114						0.868421
115						0.895236
116						0.920736
117						0.944678
118						0.966674
119						0.985988
120						1.000000

Table A15. Temporary Assurances, males, smokers – TMS00 five years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000318	0.000413	0.000484	0.000555	0.000627	0.000679
18	0.000319	0.000414	0.000486	0.000557	0.000629	0.000681
19	0.000320	0.000416	0.000488	0.000560	0.000631	0.000684
20	0.000322	0.000418	0.000490	0.000562	0.000634	0.000687
21	0.000323	0.000420	0.000492	0.000564	0.000637	0.000690
22	0.000325	0.000423	0.000496	0.000569	0.000641	0.000695
23	0.000328	0.000426	0.000499	0.000573	0.000646	0.000700
24	0.000331	0.000429	0.000503	0.000578	0.000652	0.000706
25	0.000334	0.000434	0.000508	0.000583	0.000658	0.000713
26	0.000338	0.000439	0.000515	0.000591	0.000666	0.000722
27	0.000343	0.000445	0.000522	0.000599	0.000676	0.000732
28	0.000348	0.000452	0.000530	0.000609	0.000687	0.000744
29	0.000357	0.000463	0.000542	0.000622	0.000702	0.000759
30	0.000368	0.000477	0.000558	0.000639	0.000721	0.000776
31	0.000385	0.000496	0.000579	0.000663	0.000746	0.000796
32	0.000405	0.000520	0.000606	0.000692	0.000778	0.000820
33	0.000429	0.000548	0.000637	0.000726	0.000815	0.000848
34	0.000455	0.000579	0.000671	0.000764	0.000856	0.000881
35	0.000485	0.000613	0.000710	0.000806	0.000903	0.000920
36	0.000517	0.000652	0.000754	0.000855	0.000956	0.000966
37	0.000554	0.000696	0.000803	0.000910	0.001014	0.001019
38	0.000595	0.000746	0.000859	0.000973	0.001080	0.001081
39	0.000641	0.000802	0.000924	0.001045	0.001154	0.001154
40	0.000693	0.000866	0.000996	0.001126	0.001238	0.001238
41	0.000753	0.000940	0.001080	0.001220	0.001336	0.001336
42	0.000820	0.001022	0.001175	0.001327	0.001449	0.001449
43	0.000897	0.001118	0.001284	0.001450	0.001581	0.001581
44	0.000983	0.001225	0.001407	0.001588	0.001732	0.001732
45	0.001080	0.001347	0.001547	0.001747	0.001907	0.001907
46	0.001191	0.001486	0.001707	0.001928	0.002109	0.002109
47	0.001315	0.001642	0.001887	0.002133	0.002340	0.002340
48	0.001454	0.001818	0.002091	0.002365	0.002605	0.002605
49	0.001610	0.002016	0.002322	0.002627	0.002908	0.002909
50	0.001784	0.002239	0.002581	0.002922	0.003250	0.003256
51	0.001977	0.002488	0.002871	0.003255	0.003632	0.003652
52	0.002192	0.002766	0.003196	0.003627	0.004056	0.004103
53	0.002429	0.003074	0.003559	0.004043	0.004528	0.004615
54	0.002691	0.003417	0.003962	0.004508	0.005053	0.005196

Table A15. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.002978	0.003797	0.004411	0.005026	0.005640	0.005855
56	0.003293	0.004215	0.004908	0.005601	0.006293	0.006599
57	0.003637	0.004676	0.005457	0.006237	0.007018	0.007438
58	0.004011	0.005182	0.006062	0.006942	0.007822	0.008383
59	0.004417	0.005737	0.006729	0.007720	0.008712	0.009446
60	0.004857	0.006344	0.007460	0.008577	0.009693	0.010637
61	0.005334	0.007006	0.008263	0.009520	0.010776	0.011971
62	0.005848	0.007730	0.009143	0.010556	0.011969	0.013462
63	0.006404	0.008517	0.010105	0.011692	0.013280	0.015124
64	0.007004	0.009376	0.011157	0.012939	0.014721	0.016974
65	0.007652	0.010311	0.012308	0.014306	0.016303	0.019029
66	0.008353	0.011330	0.013567	0.015804	0.018040	0.021307
67	0.009113	0.012443	0.014944	0.017445	0.019946	0.023826
68	0.009942	0.013660	0.016452	0.019245	0.022038	0.026607
69	0.010847	0.014993	0.018108	0.021222	0.024337	0.029670
70	0.011843	0.016459	0.019927	0.023395	0.026862	0.033036
71	0.012944	0.018077	0.021932	0.025787	0.029643	0.036728
72	0.014172	0.019869	0.024148	0.028427	0.032707	0.040768
73	0.015549	0.021863	0.026605	0.031347	0.036090	0.045179
74	0.017106	0.024091	0.029338	0.034584	0.039831	0.049983
75	0.018880	0.026594	0.032389	0.038184	0.043979	0.055205
76	0.020913	0.029418	0.035807	0.042196	0.048585	0.060865
77	0.023259	0.032620	0.039651	0.046683	0.053715	0.066988
78	0.025978	0.036262	0.043987	0.051712	0.059437	0.073593
79	0.029027	0.040304	0.048775	0.057247	0.065718	0.080703
80	0.032296	0.044639	0.053912	0.063184	0.072457	0.088334
81	0.035596	0.049082	0.059212	0.069342	0.079473	0.096506
82	0.038938	0.053643	0.064689	0.075736	0.086782	0.105232
83	0.042378	0.058381	0.070403	0.082425	0.094447	0.114527
84	0.046030	0.063414	0.076472	0.089530	0.102588	0.124399
85	0.049900	0.068744	0.082900	0.097056	0.111212	0.134856
86	0.053987	0.074375	0.089691	0.105006	0.120321	0.145902
87	0.058292	0.080306	0.096842	0.113379	0.129916	0.157536
88	0.062813	0.086534	0.104353	0.122172	0.139992	0.169754
89	0.067547	0.093056	0.112218	0.131380	0.150542	0.182548
90	0.072489	0.099865	0.120429	0.140993	0.161558	0.195905
91		0.106952	0.128976	0.150999	0.173023	0.209808
92			0.137844	0.161382	0.184920	0.224234
93				0.172123	0.197227	0.239158
94					0.209919	0.254548

Table A15. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.270369
96						0.286580
97						0.303139
98						0.319997
99						0.337105
100						0.357329
101						0.379761
102						0.401123
103						0.421463
104						0.440820
105						0.459236
106						0.476745
107						0.493381
108						0.509174
109						0.524150
110						0.538332
111						0.551739
112						0.564383
113						0.576272
114						0.587403
115						0.597764
116						0.607319
117						0.616001
118						0.623663
119						0.629886
120						1.000000

Table A16. Temporary Assurances, males, smokers – TMS00 five years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000270	0.000366	0.000448	0.000519	0.000591	0.000679
18	0.000271	0.000366	0.000450	0.000521	0.000592	0.000680
19	0.000271	0.000368	0.000451	0.000523	0.000594	0.000683
20	0.000273	0.000369	0.000453	0.000525	0.000597	0.000685
21	0.000273	0.000371	0.000455	0.000527	0.000600	0.000689
22	0.000275	0.000373	0.000458	0.000531	0.000603	0.000692
23	0.000278	0.000376	0.000461	0.000535	0.000608	0.000697
24	0.000280	0.000379	0.000465	0.000539	0.000613	0.000703
25	0.000282	0.000383	0.000469	0.000543	0.000618	0.000709
26	0.000285	0.000387	0.000475	0.000550	0.000625	0.000717
27	0.000289	0.000392	0.000481	0.000557	0.000634	0.000727
28	0.000291	0.000398	0.000488	0.000566	0.000643	0.000738
29	0.000297	0.000406	0.000497	0.000576	0.000656	0.000751
30	0.000304	0.000417	0.000511	0.000591	0.000672	0.000767
31	0.000318	0.000432	0.000528	0.000611	0.000693	0.000786
32	0.000334	0.000453	0.000551	0.000636	0.000721	0.000808
33	0.000354	0.000477	0.000579	0.000666	0.000754	0.000834
34	0.000376	0.000504	0.000610	0.000701	0.000791	0.000864
35	0.000402	0.000534	0.000645	0.000739	0.000834	0.000900
36	0.000428	0.000569	0.000684	0.000783	0.000881	0.000942
37	0.000458	0.000607	0.000728	0.000832	0.000935	0.000992
38	0.000492	0.000650	0.000778	0.000888	0.000995	0.001049
39	0.000529	0.000699	0.000835	0.000952	0.001064	0.001116
40	0.000570	0.000754	0.000899	0.001026	0.001142	0.001195
41	0.000619	0.000817	0.000973	0.001109	0.001232	0.001285
42	0.000671	0.000888	0.001058	0.001204	0.001335	0.001391
43	0.000733	0.000969	0.001154	0.001313	0.001455	0.001513
44	0.000801	0.001062	0.001263	0.001437	0.001592	0.001654
45	0.000877	0.001166	0.001387	0.001578	0.001749	0.001817
46	0.000966	0.001284	0.001528	0.001739	0.001930	0.002005
47	0.001064	0.001418	0.001688	0.001922	0.002136	0.002221
48	0.001174	0.001568	0.001868	0.002128	0.002372	0.002470
49	0.001296	0.001737	0.002072	0.002362	0.002640	0.002754
50	0.001433	0.001926	0.002301	0.002625	0.002943	0.003079
51	0.001584	0.002138	0.002558	0.002922	0.003282	0.003451
52	0.001752	0.002374	0.002846	0.003254	0.003662	0.003875
53	0.001937	0.002637	0.003168	0.003626	0.004086	0.004358
54	0.002140	0.002927	0.003524	0.004042	0.004559	0.004906

Table A16. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.002362	0.003249	0.003922	0.004504	0.005087	0.005527
56	0.002604	0.003603	0.004362	0.005019	0.005676	0.006231
57	0.002868	0.003993	0.004848	0.005588	0.006330	0.007026
58	0.003152	0.004420	0.005384	0.006219	0.007055	0.007923
59	0.003458	0.004886	0.005974	0.006915	0.007858	0.008934
60	0.003788	0.005395	0.006621	0.007683	0.008745	0.010069
61	0.004142	0.005950	0.007331	0.008527	0.009724	0.011343
62	0.004521	0.006554	0.008108	0.009455	0.010803	0.012770
63	0.004927	0.007209	0.008958	0.010473	0.011991	0.014366
64	0.005361	0.007922	0.009887	0.011590	0.013296	0.016146
65	0.005825	0.008697	0.010902	0.012815	0.014730	0.018129
66	0.006322	0.009538	0.012012	0.014157	0.016307	0.020334
67	0.006855	0.010455	0.013226	0.015629	0.018039	0.022782
68	0.007434	0.011454	0.014555	0.017245	0.019942	0.025493
69	0.008061	0.012549	0.016014	0.019020	0.022035	0.028491
70	0.008749	0.013751	0.017617	0.020973	0.024340	0.031800
71	0.009508	0.015078	0.019386	0.023127	0.026882	0.035446
72	0.010357	0.016549	0.021343	0.025507	0.029690	0.039456
73	0.011314	0.018189	0.023517	0.028147	0.032798	0.043857
74	0.012404	0.020029	0.025941	0.031081	0.036247	0.048678
75	0.013661	0.022104	0.028656	0.034355	0.040086	0.053951
76	0.015120	0.024460	0.031709	0.038019	0.044369	0.059706
77	0.016833	0.027149	0.035159	0.042136	0.049162	0.065975
78	0.018913	0.030235	0.039074	0.046778	0.054542	0.072793
79	0.021352	0.033730	0.043470	0.051967	0.060537	0.080191
80	0.024080	0.037561	0.048279	0.057637	0.067084	0.088205
81	0.026800	0.041578	0.053352	0.063642	0.074039	0.096870
82	0.029497	0.045690	0.058602	0.069897	0.081322	0.106219
83	0.032196	0.049935	0.064070	0.076449	0.088984	0.116286
84	0.035074	0.054408	0.069854	0.083399	0.097131	0.127108
85	0.038139	0.059172	0.076026	0.090824	0.105845	0.138715
86	0.041391	0.064237	0.082596	0.098739	0.115146	0.151142
87	0.044835	0.069607	0.089572	0.107154	0.125052	0.164420
88	0.048471	0.075285	0.096962	0.116081	0.135576	0.178577
89	0.052300	0.081274	0.104769	0.125529	0.146731	0.193642
90	0.056318	0.087574	0.112998	0.135504	0.158530	0.209641
91		0.094183	0.121648	0.146008	0.170978	0.226595
92			0.130717	0.157043	0.184082	0.244526
93				0.168605	0.197842	0.263450
94					0.212255	0.283378

Table A16. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.304321
96						0.326281
97						0.349259
98						0.373247
99						0.398235
100						0.424205
101						0.459964
102						0.495256
103						0.530061
104						0.564357
105						0.598122
106						0.631328
107						0.663945
108						0.695941
109						0.727277
110						0.757908
111						0.787781
112						0.816835
113						0.844992
114						0.872159
115						0.898213
116						0.922988
117						0.946250
118						0.967621
119						0.986386
120						1.000000

Table A17. Temporary Assurances, males, non-smokers – TMN00 five years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000159	0.000206	0.000242	0.000277	0.000313	0.000363
18	0.000160	0.000207	0.000243	0.000279	0.000314	0.000365
19	0.000161	0.000209	0.000245	0.000281	0.000317	0.000368
20	0.000163	0.000211	0.000248	0.000284	0.000320	0.000372
21	0.000164	0.000213	0.000250	0.000286	0.000323	0.000375
22	0.000166	0.000216	0.000253	0.000290	0.000327	0.000380
23	0.000168	0.000218	0.000256	0.000293	0.000331	0.000384
24	0.000170	0.000221	0.000260	0.000298	0.000336	0.000390
25	0.000173	0.000225	0.000264	0.000302	0.000341	0.000396
26	0.000176	0.000229	0.000268	0.000308	0.000347	0.000403
27	0.000180	0.000233	0.000274	0.000314	0.000354	0.000411
28	0.000184	0.000239	0.000280	0.000321	0.000363	0.000421
29	0.000189	0.000245	0.000287	0.000330	0.000372	0.000431
30	0.000196	0.000254	0.000297	0.000341	0.000384	0.000443
31	0.000206	0.000265	0.000310	0.000354	0.000399	0.000456
32	0.000217	0.000279	0.000325	0.000371	0.000417	0.000471
33	0.000231	0.000295	0.000343	0.000391	0.000439	0.000489
34	0.000245	0.000311	0.000361	0.000411	0.000461	0.000508
35	0.000261	0.000330	0.000382	0.000434	0.000486	0.000531
36	0.000278	0.000350	0.000405	0.000459	0.000514	0.000556
37	0.000297	0.000373	0.000430	0.000488	0.000545	0.000585
38	0.000317	0.000397	0.000458	0.000518	0.000579	0.000617
39	0.000339	0.000424	0.000489	0.000553	0.000617	0.000654
40	0.000364	0.000455	0.000523	0.000591	0.000659	0.000696
41	0.000391	0.000488	0.000561	0.000634	0.000707	0.000744
42	0.000422	0.000526	0.000604	0.000682	0.000760	0.000798
43	0.000455	0.000567	0.000652	0.000736	0.000820	0.000860
44	0.000492	0.000613	0.000704	0.000795	0.000886	0.000929
45	0.000533	0.000665	0.000763	0.000862	0.000961	0.001008
46	0.000579	0.000722	0.000830	0.000937	0.001045	0.001098
47	0.000629	0.000786	0.000903	0.001021	0.001139	0.001200
48	0.000685	0.000857	0.000985	0.001114	0.001243	0.001315
49	0.000747	0.000936	0.001078	0.001220	0.001362	0.001447
50	0.000816	0.001024	0.001180	0.001336	0.001493	0.001595
51	0.000892	0.001122	0.001294	0.001467	0.001640	0.001764
52	0.000975	0.001230	0.001422	0.001613	0.001805	0.001955
53	0.001067	0.001350	0.001563	0.001776	0.001989	0.002172
54	0.001169	0.001484	0.001721	0.001958	0.002195	0.002418

Table A17. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.001281	0.001632	0.001897	0.002161	0.002425	0.002697
56	0.001403	0.001796	0.002092	0.002387	0.002682	0.003013
57	0.001538	0.001978	0.002308	0.002639	0.002969	0.003371
58	0.001687	0.002180	0.002550	0.002920	0.003290	0.003778
59	0.001850	0.002403	0.002818	0.003233	0.003648	0.004238
60	0.002029	0.002650	0.003116	0.003582	0.004049	0.004760
61	0.002225	0.002923	0.003447	0.003972	0.004496	0.005351
62	0.002441	0.003227	0.003817	0.004407	0.004997	0.006021
63	0.002680	0.003564	0.004229	0.004893	0.005558	0.006781
64	0.002942	0.003939	0.004687	0.005436	0.006184	0.007640
65	0.003233	0.004356	0.005200	0.006044	0.006888	0.008614
66	0.003556	0.004823	0.005775	0.006727	0.007679	0.009717
67	0.003915	0.005345	0.006419	0.007493	0.008568	0.010965
68	0.004317	0.005931	0.007144	0.008357	0.009570	0.012378
69	0.004769	0.006592	0.007962	0.009331	0.010701	0.013977
70	0.005282	0.007341	0.008888	0.010434	0.011981	0.015786
71	0.005866	0.008192	0.009939	0.011686	0.013433	0.017832
72	0.006536	0.009164	0.011138	0.013111	0.015085	0.020145
73	0.007311	0.010280	0.012509	0.014739	0.016969	0.022759
74	0.008214	0.011567	0.014086	0.016606	0.019125	0.025712
75	0.009273	0.013061	0.015907	0.018753	0.021599	0.029048
76	0.010523	0.014803	0.018018	0.021233	0.024448	0.032813
77	0.012010	0.016844	0.020475	0.024106	0.027737	0.037060
78	0.013789	0.019247	0.023347	0.027447	0.031548	0.041849
79	0.015861	0.022023	0.026652	0.031281	0.035910	0.047245
80	0.018195	0.025150	0.030374	0.035598	0.040822	0.053319
81	0.020709	0.028555	0.034449	0.040342	0.046236	0.060153
82	0.023428	0.032275	0.038921	0.045567	0.052213	0.067833
83	0.026091	0.035944	0.043346	0.050748	0.058150	0.076454
84	0.028833	0.039722	0.047901	0.056081	0.064260	0.086088
85	0.031822	0.043840	0.052867	0.061895	0.070922	0.095529
86	0.035074	0.048319	0.058269	0.068219	0.078169	0.105290
87	0.038604	0.053183	0.064134	0.075085	0.086037	0.115888
88	0.042429	0.058452	0.070488	0.082525	0.094561	0.127370
89	0.046563	0.064148	0.077357	0.090567	0.103776	0.139782
90	0.051022	0.070291	0.084765	0.099240	0.113714	0.153168
91		0.076901	0.092736	0.108572	0.124407	0.167571
92			0.101291	0.118587	0.135883	0.183029
93				0.129306	0.148166	0.199573
94					0.161276	0.217232

Table A17. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.236024
96						0.255963
97						0.277048
98						0.299269
99						0.322606
100						0.346759
101						0.370214
102						0.392528
103						0.413752
104						0.433932
105						0.453110
106						0.471326
107						0.488618
108						0.505018
109						0.520556
110						0.535256
111						0.549141
112						0.562225
113						0.574517
114						0.586017
115						0.596712
116						0.606569
117						0.615519
118						0.623412
119						0.629820
120						1.000000

Table A18. Temporary Assurances, males, non-smokers – TMN00 five years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000135	0.000182	0.000224	0.000259	0.000295	0.000362
18	0.000136	0.000183	0.000225	0.000261	0.000296	0.000364
19	0.000136	0.000185	0.000226	0.000262	0.000298	0.000367
20	0.000138	0.000186	0.000229	0.000265	0.000301	0.000370
21	0.000138	0.000188	0.000231	0.000267	0.000304	0.000373
22	0.000140	0.000190	0.000233	0.000270	0.000307	0.000377
23	0.000142	0.000192	0.000236	0.000273	0.000311	0.000382
24	0.000143	0.000195	0.000239	0.000277	0.000315	0.000387
25	0.000145	0.000198	0.000243	0.000281	0.000320	0.000393
26	0.000148	0.000201	0.000247	0.000286	0.000325	0.000400
27	0.000151	0.000205	0.000252	0.000291	0.000331	0.000407
28	0.000154	0.000210	0.000257	0.000298	0.000339	0.000416
29	0.000157	0.000215	0.000263	0.000305	0.000347	0.000426
30	0.000162	0.000222	0.000271	0.000314	0.000357	0.000437
31	0.000170	0.000231	0.000282	0.000326	0.000370	0.000449
32	0.000178	0.000243	0.000295	0.000341	0.000386	0.000464
33	0.000191	0.000256	0.000311	0.000358	0.000405	0.000480
34	0.000203	0.000271	0.000328	0.000377	0.000426	0.000498
35	0.000217	0.000288	0.000347	0.000398	0.000449	0.000519
36	0.000231	0.000306	0.000368	0.000421	0.000474	0.000543
37	0.000247	0.000326	0.000390	0.000447	0.000502	0.000570
38	0.000264	0.000347	0.000416	0.000474	0.000534	0.000600
39	0.000281	0.000371	0.000443	0.000506	0.000568	0.000635
40	0.000302	0.000397	0.000474	0.000540	0.000606	0.000675
41	0.000324	0.000426	0.000508	0.000579	0.000649	0.000719
42	0.000350	0.000459	0.000546	0.000622	0.000697	0.000770
43	0.000376	0.000495	0.000589	0.000670	0.000751	0.000828
44	0.000406	0.000534	0.000636	0.000724	0.000811	0.000893
45	0.000439	0.000579	0.000688	0.000783	0.000878	0.000968
46	0.000476	0.000628	0.000748	0.000850	0.000954	0.001052
47	0.000515	0.000683	0.000813	0.000926	0.001039	0.001148
48	0.000560	0.000743	0.000886	0.001009	0.001133	0.001256
49	0.000609	0.000811	0.000968	0.001103	0.001239	0.001379
50	0.000663	0.000886	0.001059	0.001208	0.001357	0.001519
51	0.000723	0.000969	0.001160	0.001324	0.001489	0.001677
52	0.000788	0.001062	0.001273	0.001455	0.001637	0.001857
53	0.000859	0.001163	0.001397	0.001600	0.001803	0.002061
54	0.000938	0.001276	0.001537	0.001762	0.001987	0.002292

Table A18. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.001024	0.001402	0.001692	0.001943	0.002194	0.002555
56	0.001116	0.001540	0.001864	0.002144	0.002424	0.002852
57	0.001218	0.001692	0.002054	0.002368	0.002682	0.003190
58	0.001330	0.001861	0.002267	0.002617	0.002969	0.003572
59	0.001451	0.002047	0.002502	0.002896	0.003289	0.004006
60	0.001583	0.002253	0.002763	0.003205	0.003648	0.004498
61	0.001725	0.002479	0.003053	0.003550	0.004047	0.005056
62	0.001881	0.002730	0.003376	0.003935	0.004495	0.005689
63	0.002052	0.003007	0.003735	0.004365	0.004995	0.006406
64	0.002237	0.003315	0.004134	0.004844	0.005554	0.007219
65	0.002440	0.003656	0.004580	0.005380	0.006181	0.008140
66	0.002664	0.004036	0.005079	0.005982	0.006885	0.009185
67	0.002910	0.004461	0.005637	0.006656	0.007677	0.010369
68	0.003183	0.004936	0.006264	0.007416	0.008569	0.011711
69	0.003487	0.005470	0.006971	0.008272	0.009575	0.013232
70	0.003831	0.006074	0.007771	0.009241	0.010714	0.014955
71	0.004222	0.006761	0.008678	0.010341	0.012006	0.016909
72	0.004670	0.007545	0.009713	0.011593	0.013477	0.019122
73	0.005190	0.008445	0.010897	0.013025	0.015156	0.021630
74	0.005798	0.009486	0.012260	0.014667	0.017079	0.024472
75	0.006518	0.010697	0.013835	0.016559	0.019291	0.027692
76	0.007374	0.012115	0.015665	0.018748	0.021841	0.031340
77	0.008407	0.013783	0.017801	0.021292	0.024795	0.035472
78	0.009693	0.015759	0.020306	0.024259	0.028229	0.040154
79	0.011246	0.018077	0.023224	0.027702	0.032201	0.045456
80	0.013059	0.020730	0.026557	0.031630	0.036730	0.051463
81	0.014986	0.023667	0.030264	0.036012	0.041793	0.058266
82	0.017257	0.026867	0.034335	0.040847	0.047402	0.065970
83	0.019390	0.030156	0.038560	0.045890	0.053274	0.074696
84	0.021470	0.033485	0.042846	0.051014	0.059249	0.084577
85	0.023746	0.037043	0.047424	0.056490	0.065639	0.095313
86	0.026231	0.040932	0.052433	0.062487	0.072643	0.105660
87	0.028938	0.045177	0.057904	0.069045	0.080311	0.117029
88	0.031884	0.049799	0.063873	0.076206	0.088694	0.129507
89	0.035081	0.054827	0.070371	0.084015	0.097847	0.143189
90	0.038545	0.060283	0.077436	0.092515	0.107825	0.158176
91		0.066194	0.085103	0.101753	0.118685	0.174576
92			0.093407	0.111775	0.130489	0.192504
93				0.122630	0.143296	0.212084
94					0.157169	0.233444

Table A18. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.256725
96						0.282071
97						0.309640
98						0.339595
99						0.372110
100						0.407367
101						0.444172
102						0.480496
103						0.516318
104						0.551618
105						0.586369
106						0.620546
107						0.654118
108						0.687050
109						0.719302
110						0.750828
111						0.781575
112						0.811478
113						0.840459
114						0.868421
115						0.895236
116						0.920736
117						0.944678
118						0.966674
119						0.985988
120						1.000000

Table A19. Temporary Assurances, females, combined – TFC00 five years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000037	0.000056	0.000075	0.000093	0.000112	0.000179
18	0.000038	0.000057	0.000077	0.000096	0.000115	0.000184
19	0.000039	0.000059	0.000078	0.000098	0.000118	0.000188
20	0.000040	0.000061	0.000081	0.000101	0.000122	0.000194
21	0.000041	0.000062	0.000083	0.000104	0.000125	0.000199
22	0.000043	0.000064	0.000086	0.000108	0.000129	0.000206
23	0.000044	0.000066	0.000089	0.000111	0.000134	0.000213
24	0.000046	0.000069	0.000092	0.000115	0.000139	0.000221
25	0.000048	0.000072	0.000096	0.000120	0.000144	0.000230
26	0.000050	0.000075	0.000100	0.000126	0.000151	0.000241
27	0.000052	0.000079	0.000105	0.000132	0.000158	0.000252
28	0.000055	0.000083	0.000110	0.000138	0.000166	0.000265
29	0.000058	0.000087	0.000117	0.000146	0.000175	0.000279
30	0.000063	0.000094	0.000125	0.000156	0.000187	0.000295
31	0.000070	0.000103	0.000135	0.000168	0.000201	0.000313
32	0.000078	0.000113	0.000148	0.000183	0.000218	0.000333
33	0.000089	0.000126	0.000163	0.000201	0.000238	0.000355
34	0.000101	0.000141	0.000181	0.000220	0.000260	0.000380
35	0.000114	0.000157	0.000200	0.000243	0.000286	0.000408
36	0.000130	0.000176	0.000222	0.000268	0.000314	0.000439
37	0.000147	0.000196	0.000246	0.000296	0.000345	0.000473
38	0.000167	0.000220	0.000274	0.000328	0.000382	0.000512
39	0.000189	0.000248	0.000306	0.000364	0.000423	0.000556
40	0.000215	0.000278	0.000342	0.000405	0.000468	0.000604
41	0.000244	0.000313	0.000382	0.000452	0.000521	0.000659
42	0.000277	0.000353	0.000428	0.000504	0.000580	0.000720
43	0.000315	0.000397	0.000480	0.000563	0.000646	0.000788
44	0.000357	0.000448	0.000538	0.000629	0.000720	0.000864
45	0.000405	0.000505	0.000604	0.000704	0.000804	0.000949
46	0.000459	0.000569	0.000678	0.000788	0.000898	0.001044
47	0.000520	0.000641	0.000762	0.000883	0.001003	0.001150
48	0.000589	0.000722	0.000856	0.000989	0.001122	0.001269
49	0.000666	0.000813	0.000960	0.001108	0.001255	0.001401
50	0.000753	0.000916	0.001079	0.001242	0.001404	0.001550
51	0.000850	0.001030	0.001211	0.001391	0.001571	0.001716
52	0.000958	0.001158	0.001357	0.001557	0.001757	0.001901
53	0.001079	0.001300	0.001522	0.001743	0.001965	0.002109
54	0.001213	0.001459	0.001704	0.001950	0.002196	0.002341

Table A19. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.001360	0.001633	0.001907	0.002180	0.002453	0.002600
56	0.001523	0.001827	0.002131	0.002434	0.002738	0.002890
57	0.001702	0.002039	0.002377	0.002714	0.003052	0.003213
58	0.001898	0.002273	0.002649	0.003025	0.003400	0.003576
59	0.002110	0.002528	0.002946	0.003364	0.003782	0.003980
60	0.002340	0.002805	0.003271	0.003737	0.004202	0.004433
61	0.002586	0.003105	0.003623	0.004142	0.004661	0.004938
62	0.002849	0.003427	0.004005	0.004583	0.005161	0.005503
63	0.003126	0.003770	0.004414	0.005059	0.005703	0.006134
64	0.003416	0.004134	0.004853	0.005571	0.006290	0.006840
65	0.003714	0.004516	0.005317	0.006118	0.006919	0.007628
66	0.004017	0.004910	0.005804	0.006698	0.007591	0.008508
67	0.004317	0.005314	0.006311	0.007308	0.008305	0.009492
68	0.004606	0.005718	0.006830	0.007943	0.009055	0.010591
69	0.004908	0.006150	0.007391	0.008633	0.009874	0.011818
70	0.005270	0.006655	0.008041	0.009426	0.010811	0.013188
71	0.005762	0.007308	0.008854	0.010400	0.011946	0.014719
72	0.006384	0.008109	0.009835	0.011560	0.013286	0.016427
73	0.007125	0.009050	0.010976	0.012902	0.014827	0.018333
74	0.007951	0.010100	0.012249	0.014399	0.016548	0.020460
75	0.008873	0.011272	0.013670	0.016069	0.018467	0.022833
76	0.009902	0.012579	0.015255	0.017931	0.020608	0.025480
77	0.011049	0.014035	0.017022	0.020008	0.022995	0.028431
78	0.012327	0.015659	0.018991	0.022323	0.025655	0.031720
79	0.013751	0.017468	0.021185	0.024902	0.028619	0.035385
80	0.015337	0.019483	0.023628	0.027774	0.031919	0.039466
81	0.017103	0.021726	0.026348	0.030971	0.035594	0.044009
82	0.019067	0.024221	0.029375	0.034528	0.039682	0.049064
83	0.021252	0.026996	0.032740	0.038484	0.044228	0.054684
84	0.023678	0.030078	0.036478	0.042878	0.049278	0.060928
85	0.026373	0.033501	0.040629	0.047757	0.054886	0.067862
86	0.029362	0.037299	0.045235	0.053171	0.061108	0.075555
87	0.032676	0.041508	0.050340	0.059171	0.068003	0.084081
88	0.036345	0.046168	0.055992	0.065816	0.075639	0.093522
89	0.040403	0.051323	0.062243	0.073163	0.084084	0.103963
90	0.044884	0.057016	0.069147	0.081279	0.093410	0.115495
91		0.063295	0.076763	0.090231	0.103698	0.128215
92			0.085148	0.100087	0.115026	0.142221
93				0.110921	0.127476	0.157615
94					0.141134	0.174502

Table A19. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.192984
96						0.213160
97						0.235123
98						0.258956
99						0.284727
100						0.312189
101						0.339060
102						0.364540
103						0.388697
104						0.411593
105						0.433285
106						0.453826
107						0.473266
108						0.491649
109						0.509014
110						0.525398
111						0.540829
112						0.555332
113						0.568922
114						0.581604
115						0.593370
116						0.604189
117						0.613992
118						0.622620
119						0.629613
120						1.000000

Table A20. Temporary Assurances, females, combined – TFC00 five years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000027	0.000046	0.000065	0.000083	0.000102	0.000178
18	0.000028	0.000047	0.000067	0.000086	0.000104	0.000182
19	0.000028	0.000049	0.000068	0.000088	0.000107	0.000186
20	0.000029	0.000050	0.000070	0.000090	0.000110	0.000191
21	0.000030	0.000051	0.000072	0.000093	0.000113	0.000196
22	0.000032	0.000053	0.000074	0.000096	0.000117	0.000203
23	0.000032	0.000055	0.000077	0.000099	0.000121	0.000209
24	0.000033	0.000057	0.000079	0.000102	0.000125	0.000217
25	0.000035	0.000059	0.000083	0.000106	0.000130	0.000226
26	0.000036	0.000062	0.000086	0.000111	0.000136	0.000235
27	0.000037	0.000065	0.000090	0.000116	0.000142	0.000246
28	0.000039	0.000068	0.000095	0.000122	0.000149	0.000258
29	0.000040	0.000071	0.000100	0.000128	0.000157	0.000272
30	0.000043	0.000076	0.000106	0.000137	0.000167	0.000287
31	0.000049	0.000083	0.000115	0.000147	0.000179	0.000304
32	0.000054	0.000092	0.000126	0.000159	0.000193	0.000322
33	0.000063	0.000102	0.000138	0.000175	0.000211	0.000343
34	0.000073	0.000115	0.000154	0.000192	0.000231	0.000367
35	0.000083	0.000129	0.000171	0.000212	0.000253	0.000393
36	0.000097	0.000145	0.000190	0.000234	0.000279	0.000423
37	0.000111	0.000163	0.000211	0.000259	0.000307	0.000456
38	0.000127	0.000184	0.000235	0.000287	0.000339	0.000492
39	0.000145	0.000208	0.000263	0.000319	0.000376	0.000533
40	0.000166	0.000234	0.000295	0.000356	0.000416	0.000579
41	0.000190	0.000264	0.000330	0.000397	0.000463	0.000631
42	0.000217	0.000299	0.000371	0.000443	0.000516	0.000688
43	0.000249	0.000337	0.000417	0.000496	0.000575	0.000753
44	0.000283	0.000382	0.000468	0.000555	0.000642	0.000825
45	0.000323	0.000431	0.000526	0.000621	0.000717	0.000905
46	0.000368	0.000487	0.000592	0.000696	0.000801	0.000995
47	0.000419	0.000550	0.000666	0.000781	0.000896	0.001095
48	0.000477	0.000621	0.000749	0.000876	0.001003	0.001208
49	0.000541	0.000701	0.000841	0.000982	0.001123	0.001333
50	0.000615	0.000791	0.000946	0.001102	0.001257	0.001474
51	0.000696	0.000892	0.001064	0.001236	0.001408	0.001631
52	0.000787	0.001005	0.001194	0.001385	0.001575	0.001807
53	0.000889	0.001130	0.001341	0.001551	0.001763	0.002003
54	0.001003	0.001270	0.001503	0.001738	0.001971	0.002223

Table A20. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.001127	0.001424	0.001684	0.001944	0.002204	0.002468
56	0.001266	0.001595	0.001884	0.002173	0.002462	0.002743
57	0.001417	0.001783	0.002104	0.002425	0.002747	0.003050
58	0.001584	0.001990	0.002347	0.002705	0.003062	0.003394
59	0.001764	0.002216	0.002613	0.003011	0.003409	0.003777
60	0.001959	0.002461	0.002904	0.003347	0.003790	0.004207
61	0.002168	0.002726	0.003219	0.003713	0.004208	0.004687
62	0.002391	0.003011	0.003561	0.004112	0.004662	0.005224
63	0.002625	0.003315	0.003928	0.004542	0.005156	0.005824
64	0.002870	0.003637	0.004321	0.005005	0.005691	0.006495
65	0.003120	0.003974	0.004737	0.005501	0.006265	0.007245
66	0.003374	0.004322	0.005174	0.006026	0.006878	0.008084
67	0.003622	0.004677	0.005627	0.006578	0.007530	0.009023
68	0.003840	0.005030	0.006091	0.007153	0.008216	0.010072
69	0.004042	0.005393	0.006576	0.007762	0.008949	0.011245
70	0.004258	0.005799	0.007121	0.008445	0.009770	0.012557
71	0.004597	0.006309	0.007785	0.009264	0.010744	0.014023
72	0.005061	0.006960	0.008609	0.010260	0.011915	0.015663
73	0.005650	0.007748	0.009589	0.011435	0.013283	0.017497
74	0.006306	0.008651	0.010708	0.012770	0.014836	0.019547
75	0.007040	0.009659	0.011958	0.014262	0.016572	0.021840
76	0.007860	0.010786	0.013354	0.015929	0.018511	0.024404
77	0.008774	0.012043	0.014914	0.017792	0.020679	0.027270
78	0.009794	0.013447	0.016654	0.019872	0.023100	0.030476
79	0.010932	0.015013	0.018598	0.022195	0.025806	0.034060
80	0.012201	0.016761	0.020767	0.024790	0.028828	0.038067
81	0.013617	0.018711	0.023188	0.027686	0.032205	0.042548
82	0.015193	0.020885	0.025890	0.030920	0.035976	0.047559
83	0.016952	0.023309	0.028904	0.034530	0.040187	0.053161
84	0.018907	0.026010	0.032264	0.038556	0.044889	0.059426
85	0.021084	0.029019	0.036009	0.043047	0.050137	0.066431
86	0.023506	0.032370	0.040183	0.048057	0.055995	0.074264
87	0.026199	0.036098	0.044832	0.053642	0.062531	0.083022
88	0.029189	0.040245	0.050007	0.059867	0.069823	0.092815
89	0.032510	0.044854	0.055766	0.066799	0.077956	0.103765
90	0.036190	0.049974	0.062170	0.074519	0.087021	0.116009
91		0.055655	0.069288	0.083109	0.097125	0.129700
92			0.077190	0.092663	0.108381	0.145009
93				0.103281	0.120911	0.162126
94					0.134856	0.181267

Table A20. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.202669
96						0.226599
97						0.253358
98						0.283278
99						0.316734
100						0.354144
101						0.394254
102						0.433840
103						0.472880
104						0.511349
105						0.549222
106						0.586469
107						0.623055
108						0.658944
109						0.694093
110						0.728451
111						0.761959
112						0.794548
113						0.826131
114						0.856604
115						0.885828
116						0.913618
117						0.939709
118						0.963681
119						0.984730
120						1.000000

Table A21. Temporary Assurances, females, smokers – TFS00 five years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000052	0.000078	0.000104	0.000130	0.000156	0.000250
18	0.000052	0.000079	0.000105	0.000132	0.000158	0.000253
19	0.000053	0.000080	0.000106	0.000133	0.000160	0.000256
20	0.000054	0.000081	0.000108	0.000135	0.000163	0.000260
21	0.000055	0.000082	0.000110	0.000138	0.000166	0.000265
22	0.000056	0.000084	0.000112	0.000141	0.000169	0.000270
23	0.000057	0.000086	0.000115	0.000144	0.000173	0.000276
24	0.000059	0.000088	0.000118	0.000148	0.000178	0.000284
25	0.000060	0.000091	0.000122	0.000153	0.000183	0.000293
26	0.000063	0.000094	0.000126	0.000158	0.000190	0.000303
27	0.000065	0.000098	0.000131	0.000164	0.000197	0.000315
28	0.000068	0.000102	0.000137	0.000171	0.000206	0.000329
29	0.000072	0.000108	0.000144	0.000180	0.000216	0.000345
30	0.000077	0.000116	0.000154	0.000192	0.000230	0.000364
31	0.000086	0.000126	0.000166	0.000207	0.000247	0.000385
32	0.000097	0.000140	0.000183	0.000226	0.000269	0.000411
33	0.000110	0.000156	0.000202	0.000248	0.000294	0.000440
34	0.000125	0.000175	0.000225	0.000274	0.000324	0.000474
35	0.000143	0.000197	0.000251	0.000305	0.000358	0.000513
36	0.000164	0.000223	0.000281	0.000340	0.000398	0.000558
37	0.000189	0.000253	0.000317	0.000381	0.000444	0.000610
38	0.000217	0.000287	0.000357	0.000427	0.000498	0.000669
39	0.000251	0.000328	0.000405	0.000483	0.000560	0.000738
40	0.000289	0.000375	0.000460	0.000546	0.000631	0.000816
41	0.000335	0.000430	0.000525	0.000619	0.000714	0.000906
42	0.000387	0.000493	0.000599	0.000705	0.000810	0.001009
43	0.000449	0.000567	0.000685	0.000803	0.000921	0.001127
44	0.000520	0.000652	0.000784	0.000916	0.001048	0.001261
45	0.000602	0.000751	0.000899	0.001047	0.001195	0.001415
46	0.000697	0.000864	0.001030	0.001197	0.001363	0.001589
47	0.000807	0.000994	0.001182	0.001369	0.001556	0.001788
48	0.000932	0.001143	0.001354	0.001565	0.001776	0.002013
49	0.001076	0.001314	0.001552	0.001789	0.002027	0.002269
50	0.001240	0.001508	0.001776	0.002044	0.002312	0.002558
51	0.001426	0.001729	0.002031	0.002334	0.002636	0.002886
52	0.001638	0.001979	0.002320	0.002661	0.003003	0.003257
53	0.001875	0.002260	0.002645	0.003030	0.003415	0.003674
54	0.002142	0.002577	0.003011	0.003446	0.003880	0.004146

Table A21. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.002441	0.002931	0.003421	0.003911	0.004401	0.004676
56	0.002772	0.003325	0.003877	0.004430	0.004982	0.005272
57	0.003139	0.003762	0.004384	0.005007	0.005629	0.005941
58	0.003542	0.004243	0.004944	0.005646	0.006347	0.006691
59	0.003982	0.004771	0.005560	0.006349	0.007138	0.007530
60	0.004459	0.005346	0.006234	0.007121	0.008009	0.008469
61	0.004972	0.005969	0.006966	0.007964	0.008961	0.009517
62	0.005518	0.006638	0.007758	0.008878	0.009997	0.010686
63	0.006094	0.007350	0.008606	0.009862	0.011118	0.011987
64	0.006692	0.008100	0.009507	0.010915	0.012323	0.013433
65	0.007305	0.008881	0.010457	0.012033	0.013609	0.015039
66	0.007921	0.009684	0.011446	0.013209	0.014971	0.016819
67	0.008525	0.010493	0.012462	0.014431	0.016400	0.018789
68	0.009096	0.011293	0.013490	0.015687	0.017884	0.020967
69	0.009683	0.012132	0.014581	0.017030	0.019479	0.023370
70	0.010373	0.013099	0.015826	0.018552	0.021279	0.026019
71	0.011298	0.014330	0.017362	0.020393	0.023425	0.028932
72	0.012458	0.015825	0.019192	0.022559	0.025926	0.032133
73	0.013818	0.017553	0.021288	0.025023	0.028758	0.035643
74	0.015308	0.019446	0.023584	0.027721	0.031859	0.039486
75	0.016937	0.021514	0.026092	0.030670	0.035248	0.043686
76	0.018714	0.023772	0.028830	0.033888	0.038946	0.048270
77	0.020649	0.026230	0.031812	0.037393	0.042974	0.053262
78	0.022754	0.028904	0.035054	0.041204	0.047354	0.058691
79	0.025038	0.031806	0.038573	0.045341	0.052108	0.064583
80	0.027513	0.034949	0.042385	0.049821	0.057258	0.070965
81	0.030188	0.038348	0.046507	0.054667	0.062826	0.077867
82	0.033075	0.042015	0.050955	0.059895	0.068835	0.085314
83	0.036185	0.045965	0.055745	0.065526	0.075306	0.093334
84	0.039527	0.050210	0.060894	0.071577	0.082261	0.101954
85	0.043111	0.054763	0.066415	0.078068	0.089720	0.111199
86	0.046947	0.059636	0.072325	0.085014	0.097703	0.121093
87	0.051043	0.064839	0.078635	0.092431	0.106227	0.131658
88	0.055407	0.070382	0.085358	0.100333	0.115309	0.142914
89	0.060044	0.076274	0.092503	0.108732	0.124961	0.154877
90	0.064963	0.082521	0.100080	0.117638	0.135197	0.167563
91		0.089129	0.108094	0.127059	0.146023	0.180981
92			0.116549	0.136998	0.157446	0.195138
93				0.147457	0.169466	0.210036
94					0.182082	0.225672

Table A21. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.242039
96						0.259122
97						0.276902
98						0.295354
99						0.314444
100						0.336839
101						0.361264
102						0.384479
103						0.406538
104						0.427492
105						0.447389
106						0.466271
107						0.484178
108						0.501148
109						0.517211
110						0.532397
111						0.546727
112						0.560221
113						0.572889
114						0.584732
115						0.595738
116						0.605875
117						0.615073
118						0.623181
119						0.629760
120						1.000000

Table A22. Temporary Assurances, females, smokers – TFS00 five years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000039	0.000065	0.000091	0.000117	0.000143	0.000248
18	0.000038	0.000066	0.000092	0.000118	0.000144	0.000251
19	0.000039	0.000066	0.000093	0.000119	0.000146	0.000254
20	0.000040	0.000067	0.000094	0.000121	0.000148	0.000258
21	0.000041	0.000068	0.000096	0.000123	0.000151	0.000262
22	0.000041	0.000070	0.000097	0.000126	0.000154	0.000267
23	0.000042	0.000071	0.000100	0.000128	0.000157	0.000273
24	0.000043	0.000073	0.000102	0.000132	0.000161	0.000280
25	0.000043	0.000075	0.000105	0.000136	0.000166	0.000288
26	0.000046	0.000077	0.000109	0.000140	0.000172	0.000298
27	0.000047	0.000081	0.000113	0.000145	0.000178	0.000309
28	0.000048	0.000084	0.000118	0.000151	0.000185	0.000322
29	0.000050	0.000088	0.000123	0.000159	0.000194	0.000336
30	0.000053	0.000094	0.000131	0.000168	0.000205	0.000354
31	0.000059	0.000102	0.000141	0.000181	0.000220	0.000374
32	0.000068	0.000113	0.000155	0.000196	0.000238	0.000398
33	0.000078	0.000127	0.000171	0.000216	0.000260	0.000425
34	0.000089	0.000143	0.000191	0.000238	0.000286	0.000456
35	0.000103	0.000161	0.000213	0.000265	0.000316	0.000492
36	0.000120	0.000183	0.000239	0.000296	0.000352	0.000534
37	0.000140	0.000209	0.000270	0.000331	0.000392	0.000583
38	0.000162	0.000238	0.000305	0.000372	0.000440	0.000638
39	0.000189	0.000273	0.000346	0.000420	0.000494	0.000702
40	0.000219	0.000313	0.000394	0.000476	0.000557	0.000775
41	0.000256	0.000360	0.000450	0.000540	0.000630	0.000859
42	0.000297	0.000414	0.000515	0.000615	0.000715	0.000956
43	0.000348	0.000477	0.000589	0.000701	0.000813	0.001066
44	0.000405	0.000551	0.000676	0.000801	0.000926	0.001192
45	0.000471	0.000636	0.000776	0.000916	0.001056	0.001335
46	0.000549	0.000733	0.000891	0.001049	0.001206	0.001499
47	0.000639	0.000846	0.001024	0.001200	0.001377	0.001685
48	0.000741	0.000975	0.001175	0.001374	0.001574	0.001897
49	0.000860	0.001124	0.001348	0.001573	0.001798	0.002138
50	0.000996	0.001293	0.001546	0.001800	0.002053	0.002410
51	0.001150	0.001486	0.001771	0.002057	0.002343	0.002719
52	0.001328	0.001704	0.002027	0.002349	0.002672	0.003069
53	0.001525	0.001951	0.002315	0.002679	0.003043	0.003463
54	0.001749	0.002229	0.002639	0.003050	0.003461	0.003908

Table A22. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.002001	0.002540	0.003004	0.003467	0.003931	0.004410
56	0.002279	0.002887	0.003410	0.003933	0.004457	0.004975
57	0.002590	0.003272	0.003862	0.004452	0.005042	0.005609
58	0.002931	0.003698	0.004363	0.005028	0.005693	0.006322
59	0.003305	0.004165	0.004914	0.005663	0.006413	0.007120
60	0.003710	0.004675	0.005518	0.006361	0.007205	0.008014
61	0.004147	0.005228	0.006175	0.007125	0.008074	0.009015
62	0.004611	0.005822	0.006888	0.007954	0.009022	0.010132
63	0.005102	0.006455	0.007652	0.008850	0.010049	0.011378
64	0.005611	0.007123	0.008465	0.009809	0.011155	0.012766
65	0.006132	0.007818	0.009323	0.010829	0.012339	0.014310
66	0.006655	0.008532	0.010216	0.011905	0.013595	0.016026
67	0.007164	0.009250	0.011136	0.013024	0.014916	0.017930
68	0.007603	0.009959	0.012065	0.014176	0.016291	0.020041
69	0.008003	0.010672	0.013023	0.015379	0.017741	0.022378
70	0.008424	0.011458	0.014079	0.016707	0.019343	0.024961
71	0.009068	0.012430	0.015350	0.018278	0.021215	0.027812
72	0.009950	0.013657	0.016906	0.020166	0.023436	0.030957
73	0.011053	0.015123	0.018735	0.022360	0.025998	0.034420
74	0.012265	0.016776	0.020788	0.024815	0.028859	0.038228
75	0.013594	0.018588	0.023038	0.027508	0.031998	0.042410
76	0.015047	0.020571	0.025501	0.030457	0.035437	0.046999
77	0.016633	0.022736	0.028194	0.033682	0.039200	0.052025
78	0.018364	0.025098	0.031132	0.037203	0.043311	0.057524
79	0.020248	0.027670	0.034333	0.041042	0.047796	0.063532
80	0.022297	0.030466	0.037816	0.045221	0.052682	0.070088
81	0.024518	0.033501	0.041599	0.049764	0.057996	0.077232
82	0.026924	0.036788	0.045701	0.054693	0.063768	0.085007
83	0.029527	0.040345	0.050141	0.060035	0.070028	0.093458
84	0.032334	0.044185	0.054941	0.065813	0.076807	0.102630
85	0.035358	0.048324	0.060119	0.072055	0.084135	0.112572
86	0.038609	0.052778	0.065697	0.078785	0.092048	0.123334
87	0.042097	0.057561	0.071694	0.086030	0.100575	0.134969
88	0.045832	0.062687	0.078130	0.093815	0.109751	0.147530
89	0.049821	0.068170	0.085023	0.102166	0.119609	0.161072
90	0.054077	0.074024	0.092395	0.111109	0.130182	0.175652
91		0.080262	0.100260	0.120668	0.141502	0.191330
92			0.108637	0.130866	0.153602	0.208163
93				0.141726	0.166512	0.226213
94					0.180262	0.245541

Table A22. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.266208
96						0.288278
97						0.311811
98						0.336870
99						0.363517
100						0.391812
101						0.429583
102						0.466860
103						0.503623
104						0.539849
105						0.575513
106						0.610587
107						0.645040
108						0.678836
109						0.711935
110						0.744288
111						0.775842
112						0.806530
113						0.836272
114						0.864967
115						0.892487
116						0.918656
117						0.943226
118						0.965799
119						0.985620
120						1.000000

Table A23. Temporary Assurances, females, non-smokers – TFN00 five years select: values of $q_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000037	0.000056	0.000075	0.000093	0.000112	0.000179
18	0.000038	0.000057	0.000077	0.000096	0.000115	0.000184
19	0.000039	0.000059	0.000078	0.000098	0.000118	0.000188
20	0.000040	0.000061	0.000081	0.000101	0.000122	0.000194
21	0.000041	0.000062	0.000083	0.000104	0.000125	0.000199
22	0.000043	0.000064	0.000086	0.000108	0.000129	0.000206
23	0.000044	0.000066	0.000089	0.000111	0.000134	0.000213
24	0.000046	0.000069	0.000092	0.000115	0.000139	0.000221
25	0.000048	0.000072	0.000096	0.000120	0.000144	0.000230
26	0.000050	0.000075	0.000100	0.000126	0.000151	0.000241
27	0.000052	0.000079	0.000105	0.000132	0.000158	0.000252
28	0.000055	0.000083	0.000110	0.000138	0.000166	0.000265
29	0.000058	0.000087	0.000117	0.000146	0.000175	0.000279
30	0.000063	0.000094	0.000125	0.000156	0.000187	0.000295
31	0.000070	0.000103	0.000135	0.000168	0.000201	0.000313
32	0.000078	0.000113	0.000148	0.000183	0.000218	0.000333
33	0.000089	0.000126	0.000163	0.000201	0.000238	0.000355
34	0.000101	0.000140	0.000180	0.000220	0.000260	0.000375
35	0.000112	0.000153	0.000195	0.000237	0.000279	0.000394
36	0.000124	0.000168	0.000213	0.000257	0.000301	0.000416
37	0.000138	0.000185	0.000232	0.000278	0.000325	0.000440
38	0.000154	0.000203	0.000253	0.000303	0.000352	0.000467
39	0.000172	0.000224	0.000277	0.000330	0.000383	0.000498
40	0.000191	0.000248	0.000304	0.000361	0.000417	0.000532
41	0.000214	0.000275	0.000335	0.000396	0.000457	0.000571
42	0.000239	0.000304	0.000370	0.000435	0.000500	0.000614
43	0.000268	0.000338	0.000409	0.000479	0.000550	0.000663
44	0.000300	0.000376	0.000453	0.000529	0.000605	0.000718
45	0.000337	0.000420	0.000502	0.000585	0.000668	0.000780
46	0.000378	0.000468	0.000559	0.000649	0.000739	0.000850
47	0.000425	0.000523	0.000622	0.000720	0.000819	0.000928
48	0.000477	0.000585	0.000692	0.000800	0.000908	0.001015
49	0.000536	0.000654	0.000773	0.000891	0.001009	0.001114
50	0.000602	0.000732	0.000862	0.000993	0.001123	0.001225
51	0.000676	0.000819	0.000963	0.001106	0.001249	0.001349
52	0.000759	0.000917	0.001076	0.001234	0.001392	0.001489
53	0.000852	0.001027	0.001202	0.001377	0.001552	0.001647
54	0.000956	0.001150	0.001343	0.001537	0.001731	0.001824

Table A23. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.001070	0.001285	0.001500	0.001715	0.001930	0.002022
56	0.001198	0.001436	0.001675	0.001914	0.002152	0.002246
57	0.001338	0.001603	0.001869	0.002134	0.002399	0.002497
58	0.001492	0.001787	0.002082	0.002378	0.002673	0.002779
59	0.001660	0.001989	0.002318	0.002647	0.002976	0.003096
60	0.001844	0.002210	0.002577	0.002944	0.003311	0.003453
61	0.002041	0.002451	0.002860	0.003269	0.003679	0.003853
62	0.002253	0.002710	0.003168	0.003625	0.004082	0.004303
63	0.002479	0.002990	0.003501	0.004012	0.004523	0.004809
64	0.002716	0.003288	0.003859	0.004430	0.005002	0.005377
65	0.002963	0.003602	0.004241	0.004880	0.005519	0.006015
66	0.003215	0.003930	0.004646	0.005361	0.006076	0.006732
67	0.003468	0.004269	0.005070	0.005871	0.006672	0.007538
68	0.003714	0.004611	0.005508	0.006405	0.007302	0.008442
69	0.003974	0.004979	0.005984	0.006989	0.007994	0.009458
70	0.004285	0.005411	0.006537	0.007663	0.008790	0.010599
71	0.004704	0.005967	0.007229	0.008491	0.009754	0.011880
72	0.005236	0.006651	0.008066	0.009481	0.010896	0.013318
73	0.005870	0.007456	0.009043	0.010629	0.012216	0.014931
74	0.006582	0.008361	0.010140	0.011919	0.013698	0.016742
75	0.007381	0.009376	0.011370	0.013365	0.015360	0.018774
76	0.008277	0.010514	0.012751	0.014988	0.017225	0.021053
77	0.009281	0.011790	0.014299	0.016807	0.019316	0.023609
78	0.010407	0.013220	0.016033	0.018846	0.021659	0.026473
79	0.011670	0.014824	0.017978	0.021132	0.024286	0.029684
80	0.013083	0.016620	0.020156	0.023692	0.027229	0.033280
81	0.014667	0.018631	0.022595	0.026559	0.030523	0.037307
82	0.016438	0.020881	0.025324	0.029767	0.034210	0.041813
83	0.018420	0.023398	0.028377	0.033356	0.038334	0.046854
84	0.020635	0.026213	0.031790	0.037367	0.042945	0.052489
85	0.023109	0.029356	0.035602	0.041848	0.048094	0.058783
86	0.025872	0.032865	0.039858	0.046851	0.053843	0.065810
87	0.028952	0.036778	0.044603	0.052428	0.060254	0.073645
88	0.032384	0.041137	0.049890	0.058643	0.067396	0.082375
89	0.036204	0.045989	0.055774	0.065560	0.075345	0.092090
90	0.040449	0.051382	0.062315	0.073247	0.084180	0.102889
91		0.057367	0.069573	0.081780	0.093986	0.114874
92			0.077618	0.091236	0.104854	0.128157
93				0.101696	0.116875	0.142850
94					0.130147	0.159072

Table A23. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.176942
96						0.196576
97						0.218089
98						0.241586
99						0.267157
100						0.295467
101						0.324026
102						0.351066
103						0.376663
104						0.400888
105						0.423806
106						0.445478
107						0.465958
108						0.485298
109						0.503543
110						0.520734
111						0.536905
112						0.552084
113						0.566290
114						0.579532
115						0.591804
116						0.603076
117						0.613278
118						0.622251
119						0.629516
120						1.000000

Table A24. Temporary Assurances, females, non-smokers – TFN00 five years select: values of $\mu_{[x-t]+t}$

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
17	0.000027	0.000046	0.000065	0.000083	0.000102	0.000178
18	0.000028	0.000047	0.000067	0.000086	0.000104	0.000182
19	0.000028	0.000049	0.000068	0.000088	0.000107	0.000186
20	0.000029	0.000050	0.000070	0.000090	0.000110	0.000191
21	0.000030	0.000051	0.000072	0.000093	0.000113	0.000196
22	0.000032	0.000053	0.000074	0.000096	0.000117	0.000203
23	0.000032	0.000055	0.000077	0.000099	0.000121	0.000209
24	0.000033	0.000057	0.000079	0.000102	0.000125	0.000217
25	0.000035	0.000059	0.000083	0.000106	0.000130	0.000226
26	0.000036	0.000062	0.000086	0.000111	0.000136	0.000235
27	0.000037	0.000065	0.000090	0.000116	0.000142	0.000246
28	0.000039	0.000068	0.000095	0.000122	0.000149	0.000258
29	0.000040	0.000071	0.000100	0.000128	0.000157	0.000272
30	0.000043	0.000076	0.000106	0.000137	0.000167	0.000287
31	0.000049	0.000083	0.000115	0.000147	0.000179	0.000304
32	0.000054	0.000092	0.000126	0.000159	0.000193	0.000322
33	0.000064	0.000102	0.000138	0.000175	0.000211	0.000343
34	0.000075	0.000115	0.000153	0.000192	0.000231	0.000366
35	0.000084	0.000127	0.000168	0.000209	0.000250	0.000384
36	0.000094	0.000140	0.000183	0.000226	0.000269	0.000405
37	0.000106	0.000155	0.000200	0.000246	0.000291	0.000427
38	0.000119	0.000171	0.000219	0.000268	0.000315	0.000453
39	0.000134	0.000189	0.000240	0.000292	0.000343	0.000482
40	0.000149	0.000210	0.000264	0.000319	0.000374	0.000515
41	0.000169	0.000233	0.000292	0.000350	0.000409	0.000551
42	0.000190	0.000259	0.000323	0.000385	0.000448	0.000592
43	0.000214	0.000289	0.000357	0.000425	0.000493	0.000638
44	0.000240	0.000322	0.000396	0.000469	0.000542	0.000690
45	0.000272	0.000360	0.000439	0.000519	0.000599	0.000748
46	0.000306	0.000403	0.000490	0.000576	0.000662	0.000814
47	0.000345	0.000451	0.000545	0.000640	0.000734	0.000887
48	0.000389	0.000505	0.000608	0.000711	0.000814	0.000970
49	0.000438	0.000566	0.000679	0.000792	0.000905	0.001063
50	0.000494	0.000634	0.000758	0.000883	0.001008	0.001168
51	0.000556	0.000711	0.000848	0.000984	0.001122	0.001285
52	0.000625	0.000797	0.000948	0.001099	0.001250	0.001418
53	0.000703	0.000893	0.001060	0.001227	0.001394	0.001566
54	0.000792	0.001002	0.001186	0.001370	0.001555	0.001733

Table A24. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
55	0.000887	0.001121	0.001326	0.001530	0.001735	0.001921
56	0.000996	0.001254	0.001481	0.001708	0.001935	0.002132
57	0.001114	0.001402	0.001654	0.001906	0.002159	0.002369
58	0.001244	0.001564	0.001844	0.002126	0.002406	0.002636
59	0.001386	0.001742	0.002055	0.002367	0.002681	0.002936
60	0.001542	0.001937	0.002286	0.002635	0.002984	0.003273
61	0.001708	0.002150	0.002538	0.002927	0.003317	0.003652
62	0.001886	0.002378	0.002814	0.003248	0.003682	0.004078
63	0.002076	0.002625	0.003110	0.003597	0.004082	0.004557
64	0.002275	0.002888	0.003430	0.003973	0.004517	0.005095
65	0.002482	0.003164	0.003772	0.004379	0.004987	0.005700
66	0.002691	0.003453	0.004133	0.004813	0.005493	0.006380
67	0.002900	0.003749	0.004510	0.005273	0.006035	0.007145
68	0.003086	0.004048	0.004901	0.005754	0.006609	0.008005
69	0.003260	0.004356	0.005312	0.006268	0.007226	0.008971
70	0.003449	0.004704	0.005775	0.006847	0.007921	0.010057
71	0.003736	0.005140	0.006340	0.007543	0.008747	0.011278
72	0.004133	0.005694	0.007042	0.008391	0.009742	0.012651
73	0.004633	0.006367	0.007879	0.009392	0.010909	0.014194
74	0.005196	0.007142	0.008838	0.010537	0.012239	0.015928
75	0.005828	0.008012	0.009916	0.011823	0.013735	0.017878
76	0.006537	0.008989	0.011127	0.013268	0.015415	0.020070
77	0.007332	0.010086	0.012486	0.014891	0.017303	0.022534
78	0.008225	0.011316	0.014011	0.016714	0.019423	0.025304
79	0.009228	0.012698	0.015725	0.018761	0.021806	0.028417
80	0.010351	0.014249	0.017648	0.021059	0.024483	0.031917
81	0.011612	0.015988	0.019807	0.023640	0.027488	0.035852
82	0.013024	0.017939	0.022228	0.026537	0.030863	0.040275
83	0.014606	0.020125	0.024945	0.029788	0.034654	0.045247
84	0.016379	0.022577	0.027991	0.033435	0.038910	0.050836
85	0.018362	0.025323	0.031407	0.037528	0.043686	0.057119
86	0.020583	0.028399	0.035235	0.042118	0.049048	0.064182
87	0.023066	0.031842	0.039523	0.047263	0.055065	0.072122
88	0.025840	0.035693	0.044324	0.053031	0.061813	0.081048
89	0.028939	0.040000	0.049698	0.059493	0.069384	0.091081
90	0.032396	0.044812	0.055711	0.066729	0.077872	0.102360
91		0.050184	0.062430	0.074830	0.087384	0.115038
92			0.069937	0.083891	0.098043	0.129291
93				0.094021	0.109979	0.145313
94					0.123339	0.163324

Table A24. (continued)

Age x	Duration 0	Duration 1	Duration 2	Duration 3	Duration 4	Durations 5+
95						0.183570
96						0.206330
97						0.231915
98						0.260675
99						0.293006
100						0.329351
101						0.371001
102						0.412107
103						0.452645
104						0.492591
105						0.531918
106						0.570594
107						0.608585
108						0.645852
109						0.682350
110						0.718027
111						0.752821
112						0.786661
113						0.819457
114						0.851099
115						0.881445
116						0.910302
117						0.937395
118						0.962287
119						0.984143
120						1.000000