

**Worklife Expectancies of Railroad Workers  
Based on the Twenty-Fifth Actuarial Valuation**

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## Preface

The Bureau of the Actuary of US Railroad Retirement Board released *The Twenty-Fifth Actuarial Valuation* in August, 2012. This valuation meets three legal requirements. (1) The Railroad Retirement Board must estimate liabilities at least every three years under Section 15(g) of the Railroad Retirement Act of 1974. (2) Each year the Railroad Retirement Board must submit, to the President and Congress, five-year projections of revenues and payments from the Railroad Retirement Account under Section 22 of the 1974 Act. (3) A report on the actuarial status of the railroad retirement system must be submitted to Congress each year under the Railroad Retirement Solvency Act of 1983. The Railroad Retirement Board endorses *The Twenty-Fifth Actuarial Valuation* as a fair picture of the financial condition of the railroad retirement system.

The statement of the independent Actuarial Advisory Committee indicates that it was consulted in the planning and the execution stages of the preparation of *The Twenty-Fifth Actuarial Valuation*, and it was consulted on the structure, scope, content, and actuarial assumptions and methodology. As does the Railroad Retirement Board, The Actuarial Advisory Committee believes *The Twenty-Fifth Actuarial Valuation* to be a fair picture of the financial condition of the railroad retirement system. This includes the valuation of future contributions, investment income from the assets of the system, future expenses, and benefit payouts to participants. The latter particularly is affected by mortality experience of railroad workers (Table S-4 in *The Twenty-Fifth Actuarial Valuation*), age retirements (Table S-10), disability retirements (Table S-11), and other withdrawals (Table S-12). The information in these tables provides the fundamental data set for the worklife expectancies and standard deviations calculated in this monograph.

## I. Introduction

This monograph describes years of activity in railroad work by utilizing data from the *Twenty-Fifth Actuarial Valuation* (2012), specifically Table-4 (mortality rates), Table S-10 (age retirement probabilities), Table S-11 (disability retirement probabilities), and Table S-12 (final withdrawal probabilities). The main tabular results in Section III show the average number of years of railroad activity (*i.e.*, worklife expectancy) and the standard deviation of years devoted to railroad work for each exact (integer) age from 17 to 75 and for exact years of service. Competing risks, or the multiple decrement model, and the Markov/Increment-Decrement model provide the theoretical basis for these results. The competing risks model contains four decrements<sup>1</sup> – mortality, age retirement, disability retirement, and other final withdrawals taken from Tables S-4, S-10, S-11, and S-12, all reprinted here in Appendix A. The Markov process model results utilize economy wide transition probabilities (adjusted for the mortality experience of railroad workers from Table S-4) and Table S-10.

The familiar concept of life expectancy measures the average number of additional years of life for people in a particular group. Worklife expectancy is analogous to life expectancy but worklife refers to the average number of additional years in labor market activity. The concept refers to time spent in the labor force; and, in this case, the average, or mean, amount of time spent in railroad activity. Regarding life expectancy, we note that although everyone in a particular group possesses the same life expectancy, not everyone in that group will live the same number of years. In other words, variation around life expectancy occurs. Similarly, variation occurs around the mean years devoted to railroad work; and we report this variation in the standard deviation columns of our worklife table. We also show a few probability mass functions (pmfs) for additional years of railroad activity in Appendix B in order to illustrate this variation.

Section II explains the competing risks/multiple decrement and Markov/Increment-Decrement models in some detail (Skoog and Ciecka, 2007). This section is proffered in the spirit of completeness and to enable anyone with an understanding of the underlying mathematics and probability theory to replicate our results. However, one could skip Section II but still productively use the tables in this monograph. Section III contains our main results presented in tabular form. The extended table in this section contains worklife expectancies and standard deviations at exact ages and years of service based on the four decrement competing risks model and the Markov model. This section also explains the interpolation procedure for non-integer ages and non-integer years of service. Section IV contains concluding remarks.

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<sup>1</sup> In Appendix C we provide another set of worklife expectancies and standard deviations based on competing risk theory but utilizing only three decrements – mortality, age retirement, and disability retirement. These results are reminiscent of earlier worklife expectancies prepared for the Association of American Railroads. However, Appendix C worklife expectancies are based on the *Twenty-Fifth Actuarial Valuation* and therefore supersede previous calculations of this type.

## II. Competing Risks and Markov Process Models

We use the following notation in our competing risks/multiple decrement formulation:

$x$  denotes exact age,  $x = 17, \dots, 75$ ;

$\omega$  denotes the youngest age for which the probability of being active in the railroad industry is zero,  $\omega = 95$ ;

$s$  denotes years of railroad service,  $s = 0, \dots, x - 17$ ;

$q_x^{(1)}$  denotes the mortality rate of railroad employees between age  $x$  and  $x+1$ ;

$q_{x,s}^{(2)}$  denotes the probability of a railroad age retirement between  $x$  and  $x+1$  given  $s$  years of service;

$q_{x,s}^{(3)}$  denotes the probability of a railroad disability retirement between  $x$  and  $x+1$  given  $s$  years of service;

$q_{x,s}^{(4)}$  denotes the probability of withdrawal from railroad work (for reasons other than death, age retirement, or disability retirement) between  $x$  and  $x+1$  given  $s$  years of service;

$q_x^{(1)} = q_x'^{(1)} [1 - .5(q_{x,s}^{(2)} + q_{x,s}^{(3)} + q_{x,s}^{(4)})]$ ,  $q_x^{(1)}$  denotes mortality probability, where  $q_x'^{(1)}$  measures the net rate of mortality; this formula transforms  $q_x'^{(1)}$  into  $q_x^{(1)}$ ;

$WLE_{x,s}^{CR}$  denotes competing risks railroad worklife expectancy for an individual at age  $x$  with  $s$  years of railroad service under the assumption of mortality, age retirement, disability retirement, and withdrawal as competing risks.

As the notation suggests, in *The Twenty-Fifth Actuarial Valuation* the mortality rate  $q_x'^{(1)}$  is invariant to years of service; age retirement probability  $q_{x,s}^{(2)}$  is zero prior to age 60 and it depends upon both  $x$  and  $s$  at age 60 and beyond; disability retirement probability  $q_{x,s}^{(3)}$  depends on both age and years of service; and the withdrawal probability  $q_{x,s}^{(4)}$  is a function of both age and years of service. Age and disability retirements and withdrawals are reported as probabilities; but mortality is given as a net rate in *The Twenty-Fifth Actuarial Valuation*, requiring a conversion to a probability.

Consider a person who is in the railroad industry at age  $x$  and has  $s$  years of service. Then the probability of that individual remaining in the railroad industry at age  $x+1$  is

$$(1) \quad {}_1p_{x,s} = 1 - (q_x^{(1)} + q_{x,s}^{(2)} + q_{x,s}^{(3)} + q_{x,s}^{(4)}).$$

The probability of continuing as a railroad worker is defined recursively by

$$(2) \quad {}_{i+1}p_{x,s} = {}_i p_{x,s} [1 - (q_{x+i,s+i}^{(1)} + q_{x+i,s+i}^{(2)} + q_{x+i,s+i}^{(3)} + q_{x+i,s+i}^{(4)})]$$

where  $i = 1, \dots, \omega - x - 1$  and  ${}_{\omega-x}p_{x,s} = 0$ . The worklife expectancy in railroad service at exact age  $x$  for an individual with  $s$  years of railroad service is

$$(3) \quad WLE_{x,s}^{CR} = .5(1 + {}_1p_{x,s}) + .5({}_1p_{x,s} + {}_2p_{x,s}) + \dots + .5({}_{\omega-x-1}p_{x,s} + {}_{\omega-x}p_{x,s})$$

$$= .5 + \sum_{i=1}^{\omega-x-1} i p_{x,s}$$

where each term on the right hand side of (3) reflects the usual averaging of beginning and ending period probabilities (*i.e.*, assuming mid-period transitions) typically used in expectancy calculations, such as average years of life calculations (Bowers, 1987 and Jordan, 1991). The extended table in Section III below contains railroad worklife expectancies computed with formulae (1) – (3).

Formulae (1) and (2) induce probability mass functions (pmfs) on years of railroad activity (See Appendix B for illustrations of pmfs.). Here we think of additional years of railroad work  $YA_{x,s}^{CR}$  as a random variable with pmf  $p_{YA}^{CR}(x, s, y)$ , which denotes the probability that a railroad worker age  $x$  with  $s$  service years will accumulate  $y$  additional years of railroad service. This pmf at age  $x$  and  $s$  service years consists of the boundary condition and a main recursion in (4).

$$(4) \quad \text{Boundary Condition: } p_{YA}^{CR}(x, s, .5) = 1 - {}_1p_{x,s}$$

$$\text{Main Recursion: } p_{YA}^{CR}(x, s, y) = {}_{y-.5}p_{x,s} - {}_{y+.5}p_{x,s} \quad y = 1.5, 2.5, \dots, \omega - x - .5$$

Of course,  $E(YA_{x,s}^{CR}) = WLE_{x,s}^{CR}$  as previously calculated in (3).<sup>2</sup> The pmfs defined in (4) capture entire probability distributions of time spent in railroad activity and therefore one can compute any parameter of interest, such as the standard deviations reported in the Section III and computed as

$$(5) \quad SD(YA_{x,s}^{CR}) = \sqrt{\sum_{y=.5}^{\omega-x-.5} (y - WLE_{x,s}^{CR})^2 p_{YA}^{CR}(x, s, y)}.$$

If withdrawals  $q_{x,s}^{(4)}$  were excluded from formulae (1) – (3), then worklife expectancies and standard deviations depend only on three competing risks:  $q_x^{(1)}$ ,  $q_{x,s}^{(2)}$ , and  $q_{x,s}^{(3)}$ . These expectancies appear in the Appendix C. The worklife expectancies computed

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<sup>2</sup> Since  $E(YA_{x,s}^{CR}) = .5(1 - {}_1p_{x,s}) + 1.5({}_1p_{x,s} - {}_2p_{x,s}) + 2.5({}_2p_{x,s} - {}_3p_{x,s}) + \dots + (\omega - x - .5)({}_{\omega-x-1}p_{x,s} - {}_{\omega-x}p_{x,s})$ , we have after collecting terms,  
 $E(YA_{x,s}^{CR}) = .5 + {}_1p_{x,s} + {}_2p_{x,s} + {}_3p_{x,s} + \dots + {}_{\omega-x-1}p_{x,s} = WLE_{x,s}^{CR}$

in this manner resemble those previously prepared for the Association of American Railroads, and they are substantially larger than worklives based on the four decrements presented in the extended table in Section III.

The Markov/Increment-Decrement (ID) model produces the last two columns in the extended table in Section III. In (6)  $Y_{x,s}^{ID}$  denotes the random variable measuring additional time spent in railroad activity. Transitions from  $a$  (active) and  $i$  (inactive) occur at the midpoint of any year using economy-wide transition probabilities until a worker qualifies for railroad age retirement; at that point railroad transition probabilities from Table S-10 govern transitions to inactivity (See Skoog and Ciecka, 1998, 2001a, 2001b, 2002, and 2004 for background on the Markov model in this context.).<sup>3</sup> The boundary conditions and recursions in (6) define pmfs for beginning age  $BA = 17$  to age 110 where everyone is assumed to be dead at truncation age  $TA = 111$ .

Boundary Conditions:

$$p_{YA}^{ID}(x, a, 0) = 0$$

$$p_{YA}^{ID}(x, a, .5) = {}^a p_x^d + {}^a p_x^i p_{YA}^{ID}(x+1, i, 0)$$

$$p_{YA}^{ID}(x, i, 0) = {}^i p_x^d + {}^i p_x^i p_{YA}^{ID}(x+1, i, 0), \text{ for } x = BA, \dots, TA - 1$$

(6)

Main Recursions:

$$p_{YA}^{ID}(x, a, y) = {}^a p_x^a p_{YA}^{ID}(x+1, a, y-1) + {}^a p_x^i p_{YA}^{ID}(x+1, i, y-.5),$$

$$y = 1.5, 2.5, 3.5, \dots, TA - x - .5$$

$$p_{YA}^{ID}(x, i, y) = {}^i p_x^a p_{YA}^{ID}(x+1, a, y-.5) + {}^i p_x^i p_{YA}^{ID}(x+1, i, y),$$

$$y = 1, 2, 3, \dots, TA - x - .5 \text{ and for } x = BA, \dots, TA - 1$$

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<sup>3</sup> The Markov calculations also utilize data from the *Twenty-Fifth Actuarial Valuation* for mortality probabilities and retirement probabilities. Transition probabilities for all males in the US population prior to age 60 are from Skoog, Ciecka, and Krueger (2011). Transition probabilities are scaled to the mortality experience of railroad workers, and we set active-to-inactive transition probabilities equal to retirement probabilities (adjusted for mortality) of railroad workers for ages 60 and above if they have sufficient service credits to retire within railroad pension rules. Active-to-active transition probabilities are thereby also determined. For example, consider a 45 year old with 16 years of service. In 15 years, at age 60, such a person will have accumulated approximately an additional 13 years of service (using the Skoog (2002) decomposition method), on average; reaching a total service accumulation of 29 years but insufficient for railroad retirement at age 60. This person would be eligible for railroad retirement in approximately one year; and, at that point, Table S-10, “30 & Over” probabilities are used. However, a 45-year-old with 10 years of service will have accumulated service of approximately 23 years at age 60; and, at age 62, would still have less than 30 years of service. This person would qualify for railroad retirement at age 62, but we then use the “5-29” years of service column probabilities in Table S-10, noting that this person will never accumulate 30 years of service since worklife expectancy for such a person is only 16.74 years. We assume inactive-to-active transition probabilities are zero once a person qualifies for retirement; this can occur at age 60 at the earliest. However, it may occur later as indicated in the above examples. In the case of a 45 year old with 10 service years, early retirement occurs at age 62 and active-to-active and inactive-to-active transition probabilities are the economy wide probabilities for ages 60 and 61; inactive-to active probabilities are zero for age 62 and beyond and active-to-inactive probabilities are taken from Table S-10.

Worklife expectancies and standard deviations are computed in the usual manner specified in (7) and (8).

$$(7) \quad WLE_{x,s}^{ID} = E(YA_{x,s}^{ID}) = \sum_{y=5}^{TA-x-.5} y P_{YA}^{ID}(x, a, y)$$

$$(8) \quad SD(YA_{x,s}^{ID}) = \sqrt{\sum_{y=5}^{TA-x-.5} (y - WLE_{x,s}^{ID})^2 P_{YA}^{ID}(x, s, y)} .$$

### **III. Worklife Expectancies and Standard Deviations from Competing Risks Model Using Four Decrements from Tables S-4, S-10, S-11 and S-12 and the Markov Model Using Tables S-4 and S-10**

This section contains worklife expectancies (WLE) and standard deviations (SD) computed with the formulae in Section II. Table entries are at exact ages and years of service. For example, a railroad worker age 26.0 with 3.0 years of service has a worklife expectancy of 22.13 years, with a standard deviation of 13.25 years based on the four competing risks of mortality, age retirement, disability, and other final withdrawals. Formulae (1) – (5) generate these results using four decrements. The Markov/Increment-Decrement (ID) worklife and standard deviation are 30.10 and 6.10, respectively. Formulae (6) – (8) yield these values. The competing risks and Markov worklife expectancies often differ significantly, especially at young ages and little service when the Markov expectancy can be almost double the competing risks expectancy.<sup>4</sup> What accounts for this? The most important factors are disability retirements and other final withdrawals from railroad work which are incorporated into the competing risks expectancy calculations; these departures from railroad activity are viewed as final and irreversible like death and age retirements. In the Markov model, death and age retirement are final as well; but other transitions to inactivity are based on economy-wide probabilities (not the disability probabilities in Table S-11 nor the final withdrawal probabilities from railroad work in Table S-12) and transitions from inactivity back to activity also occur prior to qualifying for railroad age retirement.

When neither age nor service years is an integer, a double interpolation must be made. For example, consider a railroad worker who is age 26.7 and who has 3.2 years of service credit. The four decrement competing risk model shows the following worklife expectancies at ages 26.0 and 27.0 with 3.0 and 4.0 years of service.

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<sup>4</sup> Worklife expectancies differ less at older ages and large amounts of service. Competing risks expectancies at older ages can exceed Markov expectancies, especially when service years are small. Standard deviations from the competing risks model exceed Markov standard deviations at younger ages; the former are more than double the latter until approximately age 30. Markov standard deviations are slightly bigger than competing risks standard deviation after approximately age 50.

Age	Service Years	WLE
26.0	3.0	22.13
26.0	4.0	22.84
27.0	3.0	21.60
27.0	4.0	22.28

First, interpolate relative to age with 3.0 years of service:

$$22.13 - .7(22.13 - 21.60) = 21.759$$

which is the worklife expectancy at age 26.7 and exactly 3.0 years of service. Interpolating relative to age once again but for 4.0 years of service gives the worklife expectancy at age 26.7 with 4.0 service years

$$22.84 - .7(22.84 - 22.28) = 22.448.$$

Finally, interpolating across service years yields

$$21.759 - .2(21.759 - 22.448) = 21.897$$

as the worklife expectancy for a person age 26.7 with 3.2 years of service. Interpolating across age yields two intermediate worklife expectancies and then a final interpolation across service years occurs. Of course, the final interpolated worklife must be the same number if one were to first interpolate relative to service years and then across age as shown below.

Interpolation across service years at age 26.0:  $22.13 - .2(22.13 - 22.84) = 22.272$

Interpolation across service years at age 27.0:  $21.60 - .2(21.60 - 22.28) = 21.736$

Final interpolation across age yields the worklife:  $22.272 - .7(22.272 - 21.736) = 21.897$

In general, consider a person who is age  $x + \alpha$  with  $s + \beta$  years of service, where  $x$  and  $s$  are integers. Assume that the extended table in this section shows a worklife of  $A$  at age  $x$  with  $s$  service years, a worklife of  $B$  at age  $x$  with  $s+1$  service years, a worklife of  $C$  at age  $x+1$  with  $s$  service years, and a worklife of  $D$  at age  $x+1$  with  $s+1$  years of service. Then, interpolating across age with  $s$  service years yields  $A - \alpha(A - C)$ ; and interpolating across age with  $s+1$  service years yields  $B - \alpha(B - D)$ . Combining these results across service years yields

$$A - \alpha(A - C) - \beta\{[A - \alpha(A - C)] - [B - \alpha(B - D)]\} =$$

$$(9) \quad (1 - \alpha)(1 - \beta)A + (1 - \alpha)\beta B + \alpha(1 - \beta)C + \alpha\beta D.$$



Applying (9) to the above example also gives us the final interpolated worklife expectancy of 21.897 years. In that example  $\alpha = .7$ ,  $\beta = .2$  and  $A = 22.13$ ,  $B = 22.84$ ,  $C = 21.60$ , and  $D = 22.28$ . Substituting into formula (9) gives us

$$(1-.7)(1-.2)22.13 + (1-.7)(.2)22.84 + (.7)(1-.2)21.60 + (.7)(.2)22.28 = 21.897.$$

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	Competing Risks		Markov Model	
		WLE	SD	WLE	SD
17	0	19.32	18.15	36.10	7.29
18	0	19.01	17.73	35.59	7.15
18	1	22.05	17.63	35.59	7.15
19	0	18.69	17.31	35.05	7.01
19	1	21.69	17.19	35.05	7.01
19	2	23.90	16.80	35.05	7.01
20	0	18.38	16.89	34.49	6.87
20	1	21.30	16.75	34.49	6.87
20	2	23.49	16.35	34.49	6.87
20	3	24.87	16.01	34.49	6.87
21	0	18.09	16.47	33.87	6.73
21	1	20.92	16.31	33.87	6.73
21	2	23.06	15.90	33.87	6.73
21	3	24.43	15.55	33.87	6.73
21	4	25.39	15.26	33.87	6.73
22	0	17.91	16.05	33.19	6.60
22	1	20.58	15.86	33.19	6.60
22	2	22.63	15.46	33.19	6.60
22	3	23.95	15.10	33.19	6.60
22	4	24.92	14.80	33.19	6.60
22	5	25.67	14.55	33.19	6.60
23	0	17.87	15.62	32.47	6.46
23	1	20.36	15.39	32.47	6.46
23	2	22.24	14.99	32.47	6.46
23	3	23.49	14.64	32.47	6.46
23	4	24.42	14.34	32.47	6.46
23	5	25.17	14.08	32.47	6.46
23	6	25.80	13.83	32.47	6.46
24	0	18.24	15.12	31.71	6.34
24	1	20.32	14.86	31.71	6.34
24	2	21.99	14.47	31.71	6.34
24	3	23.06	14.16	31.71	6.34
24	4	23.92	13.89	31.71	6.34
24	5	24.64	13.62	31.71	6.34
24	6	25.28	13.36	31.71	6.34
24	7	25.85	13.10	31.71	6.34

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
25	0	18.27	14.63	30.91	6.22
25	1	20.28	14.31	30.91	6.22
25	2	21.71	13.95	30.91	6.22
25	3	22.66	13.67	30.91	6.22
25	4	23.41	13.43	30.91	6.22
25	5	24.08	13.19	30.91	6.22
25	6	24.69	12.93	30.91	6.22
25	7	25.25	12.67	30.91	6.22
25	8	25.75	12.42	30.91	6.22
26	0	17.90	14.23	30.94	6.49
26	1	19.83	13.89	30.10	6.10
26	2	21.21	13.53	30.10	6.10
26	3	22.13	13.25	30.10	6.10
26	4	22.84	13.01	30.10	6.10
26	5	23.48	12.77	30.10	6.10
26	6	24.07	12.53	30.10	6.10
26	7	24.60	12.27	30.10	6.10
26	8	25.08	12.03	30.10	6.10
26	9	25.50	11.80	30.10	6.10
27	0	17.54	13.82	30.77	6.69
27	1	19.41	13.48	30.11	6.39
27	2	20.72	13.11	29.26	5.99
27	3	21.60	12.83	29.26	5.99
27	4	22.28	12.60	29.26	5.99
27	5	22.89	12.36	29.26	5.99
27	6	23.44	12.12	29.26	5.99
27	7	23.96	11.88	29.26	5.99
27	8	24.41	11.65	29.26	5.99
27	9	24.81	11.43	29.26	5.99
27	10	25.16	11.23	29.26	5.99
28	0	17.19	13.41	29.93	6.59
28	1	18.99	13.06	29.26	6.28
28	2	20.26	12.70	28.42	5.88
28	3	21.08	12.42	28.42	5.88
28	4	21.72	12.18	28.42	5.88
28	5	22.30	11.96	28.42	5.88
28	6	22.83	11.72	28.42	5.88
28	7	23.31	11.49	28.42	5.88
28	8	23.74	11.27	28.42	5.88
28	9	24.11	11.06	28.42	5.88

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
28	10	24.45	10.87	28.42	5.88
28	11	24.74	10.69	28.42	5.88
29	0	16.86	13.00	29.53	6.75
29	1	18.60	12.64	29.07	6.49
29	2	19.80	12.28	28.41	6.18
29	3	20.58	12.01	27.56	5.78
29	4	21.17	11.77	27.56	5.78
29	5	21.72	11.55	27.56	5.78
29	6	22.22	11.32	27.56	5.78
29	7	22.67	11.10	27.56	5.78
29	8	23.07	10.88	27.56	5.78
29	9	23.43	10.69	27.56	5.78
29	10	23.74	10.51	27.56	5.78
29	11	24.02	10.34	27.56	5.78
29	12	24.28	10.17	27.56	5.78
30	0	16.55	12.59	29.08	6.93
30	1	18.22	12.22	28.67	6.66
30	2	19.37	11.85	28.21	6.39
30	3	20.09	11.59	27.54	6.08
30	4	20.65	11.37	26.69	5.67
30	5	21.14	11.14	26.69	5.67
30	6	21.61	10.92	26.69	5.67
30	7	22.03	10.71	26.69	5.67
30	8	22.41	10.50	26.69	5.67
30	9	22.73	10.32	26.69	5.67
30	10	23.03	10.15	26.69	5.67
30	11	23.29	9.99	26.69	5.67
30	12	23.54	9.84	26.69	5.67
30	13	23.77	9.68	26.69	5.67
31	0	16.70	12.70	28.59	7.12
31	1	17.86	11.79	28.22	6.84
31	2	18.95	11.42	27.80	6.56
31	3	19.63	11.16	27.34	6.30
31	4	20.14	10.95	26.67	5.98
31	5	20.60	10.74	25.82	5.57
31	6	21.01	10.52	25.82	5.57
31	7	21.40	10.32	25.82	5.57
31	8	21.75	10.12	25.82	5.57
31	9	22.06	9.95	25.82	5.57
31	10	22.32	9.79	25.82	5.57
31	11	22.57	9.65	25.82	5.57

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
31	12	22.80	9.50	25.82	5.57
31	13	23.02	9.36	25.82	5.57
31	14	23.22	9.22	25.82	5.57
32	0	16.76	12.74	28.01	7.29
32	1	18.04	11.89	27.71	7.04
32	2	18.56	10.97	27.34	6.75
32	3	19.19	10.72	26.92	6.47
32	4	19.65	10.52	26.47	6.20
32	5	20.06	10.33	25.80	5.88
32	6	20.44	10.13	24.95	5.47
32	7	20.78	9.93	24.95	5.47
32	8	21.10	9.74	24.95	5.47
32	9	21.38	9.58	24.95	5.47
32	10	21.63	9.43	24.95	5.47
32	11	21.84	9.30	24.95	5.47
32	12	22.06	9.17	24.95	5.47
32	13	22.26	9.04	24.95	5.47
32	14	22.45	8.91	24.95	5.47
32	15	22.63	8.77	24.95	5.47
33	0	16.59	12.59	27.16	7.23
33	1	18.11	11.92	27.14	7.21
33	2	18.75	11.06	26.84	6.95
33	3	18.77	10.25	26.47	6.67
33	4	19.18	10.07	26.05	6.38
33	5	19.55	9.89	25.59	6.11
33	6	19.88	9.72	24.92	5.79
33	7	20.19	9.53	24.07	5.37
33	8	20.46	9.36	24.07	5.37
33	9	20.71	9.21	24.07	5.37
33	10	20.93	9.07	24.07	5.37
33	11	21.13	8.96	24.07	5.37
33	12	21.32	8.84	24.07	5.37
33	13	21.51	8.72	24.07	5.37
33	14	21.67	8.60	24.07	5.37
33	15	21.85	8.48	24.07	5.37
33	16	22.00	8.37	24.07	5.37
34	0	16.24	12.45	26.03	7.27
34	1	17.91	11.78	26.28	7.15
34	2	18.84	11.08	26.26	7.13
34	3	18.98	10.33	25.96	6.87
34	4	18.75	9.59	25.59	6.58

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
34	5	19.06	9.43	25.17	6.29
34	6	19.35	9.28	24.71	6.02
34	7	19.61	9.13	24.04	5.69
34	8	19.85	8.98	23.19	5.27
34	9	20.05	8.84	23.19	5.27
34	10	20.24	8.72	23.19	5.27
34	11	20.42	8.61	23.19	5.27
34	12	20.59	8.50	23.19	5.27
34	13	20.75	8.40	23.19	5.27
34	14	20.91	8.30	23.19	5.27
34	15	21.06	8.19	23.19	5.27
34	16	21.20	8.09	23.19	5.27
34	17	21.32	8.00	23.19	5.27
35	0	15.69	12.31	25.15	7.19
35	1	17.58	11.65	25.40	7.07
35	2	18.60	10.95	25.38	7.04
35	3	19.00	10.39	25.08	6.78
35	4	18.89	9.72	24.70	6.49
35	5	18.54	9.00	24.28	6.20
35	6	18.79	8.86	23.83	5.93
35	7	19.02	8.72	23.15	5.60
35	8	19.23	8.59	22.30	5.18
35	9	19.41	8.47	22.30	5.18
35	10	19.57	8.35	22.30	5.18
35	11	19.72	8.26	22.30	5.18
35	12	19.87	8.17	22.30	5.18
35	13	20.01	8.08	22.30	5.18
35	14	20.14	7.99	22.30	5.18
35	15	20.28	7.90	22.30	5.18
35	16	20.40	7.81	22.30	5.18
35	17	20.51	7.74	22.30	5.18
35	18	20.61	7.66	22.30	5.18
36	0	15.40	12.09	24.59	7.08
36	1	17.28	11.46	24.26	7.11
36	2	18.32	10.81	24.52	6.99
36	3	18.75	10.28	24.49	6.96
36	4	18.86	9.82	24.19	6.70
36	5	18.60	9.19	23.82	6.41
36	6	18.18	8.47	23.40	6.11
36	7	18.40	8.34	22.94	5.84
36	8	18.59	8.22	22.27	5.51
36	9	18.76	8.10	21.41	5.08

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
36	10	18.91	8.00	21.41	5.08
36	11	19.03	7.90	21.41	5.08
36	12	19.15	7.83	21.41	5.08
36	13	19.27	7.75	21.41	5.08
36	14	19.39	7.68	21.41	5.08
36	15	19.50	7.61	21.41	5.08
36	16	19.61	7.53	21.41	5.08
36	17	19.71	7.47	21.41	5.08
36	18	19.80	7.41	21.41	5.08
36	19	19.89	7.34	21.41	5.08
37	0	15.00	11.71	23.76	7.07
37	1	16.95	11.26	23.71	7.00
37	2	17.99	10.65	23.38	7.03
37	3	18.45	10.15	23.63	6.91
37	4	18.60	9.72	23.61	6.88
37	5	18.58	9.30	23.31	6.62
37	6	18.25	8.67	22.93	6.32
37	7	17.77	7.96	22.51	6.03
37	8	17.95	7.85	22.05	5.75
37	9	18.10	7.74	21.38	5.41
37	10	18.24	7.64	20.52	4.98
37	11	18.36	7.55	20.52	4.98
37	12	18.45	7.48	20.52	4.98
37	13	18.55	7.42	20.52	4.98
37	14	18.64	7.36	20.52	4.98
37	15	18.74	7.30	20.52	4.98
37	16	18.82	7.25	20.52	4.98
37	17	18.91	7.20	20.52	4.98
37	18	18.98	7.16	20.52	4.98
37	19	19.07	7.10	20.52	4.98
37	20	19.17	7.00	20.52	4.98
38	0	14.60	11.35	22.92	7.06
38	1	16.49	10.88	22.87	6.99
38	2	17.63	10.46	22.82	6.92
38	3	18.11	10.00	22.49	6.95
38	4	18.29	9.60	22.75	6.83
38	5	18.31	9.20	22.72	6.80
38	6	18.23	8.79	22.42	6.53
38	7	17.85	8.18	22.05	6.23
38	8	17.30	7.48	21.63	5.94
38	9	17.45	7.38	21.17	5.65
38	10	17.57	7.28	20.49	5.32

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
38	11	17.68	7.21	19.64	4.89
38	12	17.77	7.13	19.64	4.89
38	13	17.83	7.08	19.64	4.89
38	14	17.90	7.04	19.64	4.89
38	15	17.98	6.99	19.64	4.89
38	16	18.05	6.96	19.64	4.89
38	17	18.11	6.93	19.64	4.89
38	18	18.18	6.90	19.64	4.89
38	19	18.24	6.86	19.64	4.89
38	20	18.35	6.77	19.64	4.89
38	21	18.47	6.66	19.64	4.89
39	0	14.20	10.99	22.04	6.98
39	1	16.02	10.54	22.04	6.98
39	2	17.12	10.09	21.99	6.91
39	3	17.73	9.82	21.94	6.84
39	4	17.93	9.46	21.61	6.87
39	5	17.99	9.10	21.87	6.74
39	6	17.96	8.71	21.84	6.72
39	7	17.83	8.31	21.54	6.45
39	8	17.39	7.70	21.17	6.15
39	9	16.79	7.01	20.74	5.85
39	10	16.90	6.92	20.28	5.56
39	11	16.99	6.85	19.61	5.22
39	12	17.07	6.79	18.75	4.79
39	13	17.14	6.74	18.75	4.79
39	14	17.18	6.71	18.75	4.79
39	15	17.23	6.68	18.75	4.79
39	16	17.29	6.66	18.75	4.79
39	17	17.33	6.65	18.75	4.79
39	18	17.37	6.64	18.75	4.79
39	19	17.43	6.62	18.75	4.79
39	20	17.52	6.54	18.75	4.79
39	21	17.64	6.43	18.75	4.79
39	22	17.74	6.32	18.75	4.79
40	0	13.79	10.66	21.16	6.90
40	1	15.56	10.20	21.16	6.90
40	2	16.62	9.76	21.16	6.90
40	3	17.19	9.47	21.12	6.83
40	4	17.54	9.29	21.07	6.75
40	5	17.63	8.97	20.74	6.79
40	6	17.63	8.61	20.99	6.66
40	7	17.55	8.23	20.97	6.63



Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
40	8	17.37	7.84	20.67	6.36
40	9	16.88	7.24	20.29	6.05
40	10	16.23	6.56	19.87	5.75
40	11	16.31	6.50	19.41	5.46
40	12	16.38	6.45	18.73	5.12
40	13	16.44	6.40	17.87	4.68
40	14	16.48	6.37	17.87	4.68
40	15	16.50	6.35	17.87	4.68
40	16	16.53	6.36	17.87	4.68
40	17	16.56	6.36	17.87	4.68
40	18	16.58	6.37	17.87	4.68
40	19	16.62	6.37	17.87	4.68
40	20	16.71	6.30	17.87	4.68
40	21	16.82	6.19	17.87	4.68
40	22	16.92	6.09	17.87	4.68
40	23	17.01	5.99	17.87	4.68
41	0	13.35	10.29	20.29	6.81
41	1	15.09	9.88	20.29	6.81
41	2	16.11	9.44	20.29	6.81
41	3	16.66	9.15	20.29	6.81
41	4	16.98	8.95	20.25	6.74
41	5	17.22	8.82	20.20	6.66
41	6	17.26	8.49	19.87	6.70
41	7	17.22	8.14	20.13	6.57
41	8	17.09	7.77	20.10	6.54
41	9	16.87	7.39	19.80	6.27
41	10	16.33	6.81	19.42	5.96
41	11	15.63	6.15	19.00	5.65
41	12	15.69	6.10	18.54	5.36
41	13	15.73	6.07	17.86	5.02
41	14	15.76	6.04	17.00	4.57
41	15	15.79	6.03	17.00	4.57
41	16	15.79	6.04	17.00	4.57
41	17	15.79	6.06	17.00	4.57
41	18	15.80	6.09	17.00	4.57
41	19	15.82	6.11	17.00	4.57
41	20	15.90	6.06	17.00	4.57
41	21	16.02	5.95	17.00	4.57
41	22	16.11	5.85	17.00	4.57
41	23	16.20	5.75	17.00	4.57
41	24	16.27	5.67	17.00	4.57
42	0	12.90	9.90	19.43	6.72

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
42	1	14.58	9.53	19.43	6.72
42	2	15.59	9.14	19.43	6.72
42	3	16.12	8.83	19.43	6.72
42	4	16.43	8.64	19.43	6.72
42	5	16.65	8.48	19.39	6.65
42	6	16.84	8.36	19.34	6.57
42	7	16.84	8.04	19.01	6.61
42	8	16.75	7.70	19.26	6.48
42	9	16.58	7.33	19.24	6.45
42	10	16.32	6.97	18.94	6.17
42	11	15.73	6.40	18.56	5.86
42	12	14.99	5.75	18.13	5.55
42	13	15.03	5.72	17.67	5.25
42	14	15.05	5.71	16.99	4.91
42	15	15.07	5.71	16.13	4.45
42	16	15.07	5.71	16.13	4.45
42	17	15.04	5.75	16.13	4.45
42	18	15.03	5.80	16.13	4.45
42	19	15.04	5.83	16.13	4.45
42	20	15.10	5.79	16.13	4.45
42	21	15.21	5.70	16.13	4.45
42	22	15.32	5.60	16.13	4.45
42	23	15.40	5.51	16.13	4.45
42	24	15.47	5.42	16.13	4.45
42	25	15.50	5.37	16.13	4.45
43	0	12.45	9.52	18.58	6.63
43	1	14.06	9.15	18.58	6.63
43	2	15.04	8.81	18.58	6.63
43	3	15.58	8.56	18.58	6.63
43	4	15.87	8.34	18.58	6.63
43	5	16.08	8.18	18.58	6.63
43	6	16.26	8.02	18.54	6.55
43	7	16.42	7.91	18.49	6.47
43	8	16.37	7.60	18.16	6.52
43	9	16.24	7.27	18.41	6.38
43	10	16.03	6.91	18.39	6.35
43	11	15.73	6.57	18.09	6.07
43	12	15.10	6.02	17.71	5.75
43	13	14.32	5.38	17.28	5.44
43	14	14.33	5.37	16.82	5.14
43	15	14.34	5.38	16.14	4.79
43	16	14.34	5.40	15.28	4.32
43	17	14.32	5.43	15.28	4.32

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
43	18	14.28	5.49	15.28	4.32
43	19	14.26	5.55	15.28	4.32
43	20	14.32	5.52	15.28	4.32
43	21	14.42	5.43	15.28	4.32
43	22	14.52	5.34	15.28	4.32
43	23	14.61	5.24	15.28	4.32
43	24	14.68	5.16	15.28	4.32
43	25	14.71	5.11	15.28	4.32
43	26	14.71	5.10	15.28	4.32
44	0	11.94	9.15	17.74	6.52
44	1	13.54	8.80	17.74	6.52
44	2	14.47	8.45	17.74	6.52
44	3	15.00	8.25	17.74	6.52
44	4	15.31	8.08	17.74	6.52
44	5	15.51	7.89	17.74	6.52
44	6	15.67	7.74	17.70	6.45
44	7	15.81	7.59	17.65	6.37
44	8	15.94	7.49	17.32	6.41
44	9	15.85	7.19	17.57	6.27
44	10	15.69	6.86	17.55	6.24
44	11	15.44	6.52	17.24	5.96
44	12	15.11	6.19	16.87	5.64
44	13	14.44	5.65	16.44	5.32
44	14	13.62	5.03	15.97	5.02
44	15	13.62	5.04	15.29	4.66
44	16	13.61	5.07	14.43	4.19
44	17	13.58	5.12	14.43	4.19
44	18	13.55	5.18	14.43	4.19
44	19	13.50	5.25	14.43	4.19
44	20	13.54	5.24	14.43	4.19
44	21	13.64	5.16	14.43	4.19
44	22	13.74	5.07	14.43	4.19
44	23	13.82	4.98	14.43	4.19
44	24	13.90	4.89	14.43	4.19
44	25	13.93	4.85	14.43	4.19
44	26	13.93	4.84	14.43	4.19
44	27	13.91	4.85	14.43	4.19
45	0	11.27	8.81	16.91	6.42
45	1	12.97	8.45	16.91	6.42
45	2	13.90	8.12	16.91	6.42
45	3	14.39	7.91	16.91	6.42
45	4	14.71	7.78	16.91	6.42

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
45	5	14.94	7.63	16.91	6.42
45	6	15.09	7.46	16.91	6.42
45	7	15.22	7.31	16.86	6.34
45	8	15.32	7.18	16.81	6.26
45	9	15.41	7.09	16.48	6.31
45	10	15.29	6.80	16.74	6.16
45	11	15.09	6.49	16.71	6.13
45	12	14.81	6.17	16.41	5.84
45	13	14.44	5.85	16.03	5.52
45	14	13.74	5.33	15.60	5.20
45	15	12.88	4.72	15.13	4.89
45	16	12.86	4.76	14.45	4.53
45	17	12.83	4.82	13.58	4.05
45	18	12.79	4.89	13.58	4.05
45	19	12.74	4.96	13.58	4.05
45	20	12.76	4.97	13.58	4.05
45	21	12.86	4.89	13.58	4.05
45	22	12.95	4.80	13.58	4.05
45	23	13.04	4.72	13.58	4.05
45	24	13.11	4.63	13.58	4.05
45	25	13.15	4.58	13.58	4.05
45	26	13.14	4.58	13.58	4.05
45	27	13.13	4.59	13.58	4.05
45	28	13.11	4.61	13.58	4.05
46	0	10.80	8.43	16.08	6.31
46	1	12.43	8.09	16.08	6.31
46	2	13.32	7.78	16.08	6.31
46	3	13.80	7.59	16.08	6.31
46	4	14.08	7.46	16.08	6.31
46	5	14.32	7.36	16.08	6.31
46	6	14.51	7.21	16.08	6.31
46	7	14.62	7.04	16.08	6.31
46	8	14.71	6.91	16.03	6.23
46	9	14.77	6.80	15.98	6.15
46	10	14.84	6.72	15.65	6.19
46	11	14.68	6.44	15.91	6.05
46	12	14.45	6.15	15.88	6.02
46	13	14.13	5.85	15.58	5.72
46	14	13.73	5.55	15.19	5.40
46	15	13.00	5.05	14.76	5.07
46	16	12.11	4.46	14.30	4.76
46	17	12.07	4.53	13.61	4.39
46	18	12.02	4.60	12.74	3.90

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
46	19	11.97	4.69	12.74	3.90
46	20	11.98	4.70	12.74	3.90
46	21	12.06	4.63	12.74	3.90
46	22	12.16	4.55	12.74	3.90
46	23	12.24	4.46	12.74	3.90
46	24	12.32	4.37	12.74	3.90
46	25	12.36	4.32	12.74	3.90
46	26	12.35	4.32	12.74	3.90
46	27	12.34	4.32	12.74	3.90
46	28	12.32	4.34	12.74	3.90
46	29	12.29	4.37	12.74	3.90
47	0	10.30	8.02	15.25	6.20
47	1	11.88	7.74	15.25	6.20
47	2	12.73	7.45	15.25	6.20
47	3	13.18	7.27	15.25	6.20
47	4	13.46	7.16	15.25	6.20
47	5	13.67	7.05	15.25	6.20
47	6	13.88	6.95	15.25	6.20
47	7	14.04	6.81	15.25	6.20
47	8	14.10	6.65	15.25	6.20
47	9	14.15	6.54	15.21	6.12
47	10	14.19	6.44	15.15	6.03
47	11	14.22	6.38	14.83	6.08
47	12	14.03	6.11	15.08	5.93
47	13	13.77	5.84	15.06	5.90
47	14	13.42	5.56	14.75	5.60
47	15	13.00	5.28	14.36	5.27
47	16	12.23	4.80	13.93	4.94
47	17	11.31	4.23	13.46	4.62
47	18	11.25	4.32	12.78	4.25
47	19	11.20	4.41	11.90	3.75
47	20	11.21	4.43	11.90	3.75
47	21	11.29	4.36	11.90	3.75
47	22	11.37	4.28	11.90	3.75
47	23	11.46	4.20	11.90	3.75
47	24	11.54	4.11	11.90	3.75
47	25	11.58	4.06	11.90	3.75
47	26	11.57	4.05	11.90	3.75
47	27	11.56	4.06	11.90	3.75
47	28	11.54	4.08	11.90	3.75
47	29	11.52	4.10	11.90	3.75
47	30	11.50	4.12	11.90	3.75

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
48	0	9.80	7.62	14.43	6.08
48	1	11.29	7.35	14.43	6.08
48	2	12.13	7.12	14.43	6.08
48	3	12.57	6.96	14.43	6.08
48	4	12.82	6.86	14.43	6.08
48	5	13.03	6.76	14.43	6.08
48	6	13.21	6.66	14.43	6.08
48	7	13.38	6.56	14.43	6.08
48	8	13.50	6.43	14.43	6.08
48	9	13.54	6.29	14.43	6.08
48	10	13.56	6.19	14.39	6.00
48	11	13.57	6.10	14.34	5.92
48	12	13.58	6.07	14.01	5.96
48	13	13.35	5.82	14.26	5.81
48	14	13.06	5.56	14.24	5.78
48	15	12.69	5.29	13.93	5.48
48	16	12.24	5.03	13.54	5.14
48	17	11.44	4.57	13.11	4.80
48	18	10.49	4.02	12.64	4.48
48	19	10.42	4.13	11.95	4.10
48	20	10.43	4.16	11.07	3.59
48	21	10.52	4.09	11.07	3.59
48	22	10.60	4.01	11.07	3.59
48	23	10.67	3.94	11.07	3.59
48	24	10.75	3.84	11.07	3.59
48	25	10.79	3.79	11.07	3.59
48	26	10.79	3.79	11.07	3.59
48	27	10.78	3.79	11.07	3.59
48	28	10.76	3.81	11.07	3.59
48	29	10.74	3.83	11.07	3.59
48	30	10.72	3.85	11.07	3.59
48	31	10.72	3.85	11.07	3.59
49	0	9.30	7.21	13.63	5.96
49	1	10.70	6.98	13.63	5.96
49	2	11.49	6.77	13.63	5.96
49	3	11.93	6.66	13.63	5.96
49	4	12.19	6.57	13.63	5.96
49	5	12.38	6.48	13.63	5.96
49	6	12.56	6.39	13.63	5.96
49	7	12.70	6.29	13.63	5.96
49	8	12.84	6.20	13.63	5.96
49	9	12.93	6.08	13.63	5.96
49	10	12.94	5.95	13.63	5.96

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
49	11	12.94	5.87	13.58	5.88
49	12	12.91	5.79	13.53	5.79
49	13	12.90	5.78	13.20	5.84
49	14	12.65	5.55	13.45	5.68
49	15	12.33	5.30	13.43	5.66
49	16	11.93	5.05	13.12	5.35
49	17	11.46	4.81	12.73	5.00
49	18	10.64	4.37	12.29	4.66
49	19	9.65	3.84	11.82	4.33
49	20	9.66	3.88	11.13	3.94
49	21	9.75	3.82	10.24	3.42
49	22	9.83	3.74	10.24	3.42
49	23	9.91	3.66	10.24	3.42
49	24	9.97	3.58	10.24	3.42
49	25	10.01	3.52	10.24	3.42
49	26	10.01	3.52	10.24	3.42
49	27	10.00	3.52	10.24	3.42
49	28	9.99	3.54	10.24	3.42
49	29	9.96	3.56	10.24	3.42
49	30	9.95	3.58	10.24	3.42
49	31	9.95	3.58	10.24	3.42
49	32	9.95	3.58	10.24	3.42
50	0	8.78	6.82	12.83	5.83
50	1	10.11	6.61	12.83	5.83
50	2	10.85	6.42	12.83	5.83
50	3	11.26	6.33	12.83	5.83
50	4	11.53	6.28	12.83	5.83
50	5	11.73	6.20	12.83	5.83
50	6	11.89	6.12	12.83	5.83
50	7	12.04	6.03	12.83	5.83
50	8	12.15	5.95	12.83	5.83
50	9	12.26	5.87	12.83	5.83
50	10	12.33	5.76	12.83	5.83
50	11	12.30	5.64	12.78	5.75
50	12	12.28	5.57	12.73	5.66
50	13	12.23	5.52	12.41	5.70
50	14	12.19	5.52	12.65	5.55
50	15	11.92	5.29	12.63	5.52
50	16	11.58	5.06	12.32	5.21
50	17	11.16	4.83	11.93	4.86
50	18	10.66	4.62	11.49	4.51
50	19	9.81	4.20	11.01	4.18
50	20	8.89	3.59	10.31	3.78

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
50	21	8.98	3.54	9.42	3.25
50	22	9.06	3.47	9.42	3.25
50	23	9.14	3.40	9.42	3.25
50	24	9.21	3.30	9.42	3.25
50	25	9.23	3.26	9.42	3.25
50	26	9.23	3.26	9.42	3.25
50	27	9.22	3.26	9.42	3.25
50	28	9.21	3.27	9.42	3.25
50	29	9.19	3.29	9.42	3.25
50	30	9.17	3.31	9.42	3.25
50	31	9.17	3.31	9.42	3.25
50	32	9.17	3.31	9.42	3.25
50	33	9.17	3.31	9.42	3.25
51	0	8.25	6.43	12.04	5.70
51	1	9.50	6.25	12.04	5.70
51	2	10.20	6.09	12.04	5.70
51	3	10.58	6.01	12.04	5.70
51	4	10.84	5.97	12.04	5.70
51	5	11.05	5.94	12.04	5.70
51	6	11.22	5.86	12.04	5.70
51	7	11.36	5.78	12.04	5.70
51	8	11.47	5.71	12.04	5.70
51	9	11.56	5.63	12.04	5.70
51	10	11.65	5.56	12.04	5.70
51	11	11.69	5.45	12.04	5.70
51	12	11.64	5.34	12.00	5.62
51	13	11.59	5.29	11.94	5.53
51	14	11.52	5.26	11.62	5.57
51	15	11.47	5.28	11.87	5.42
51	16	11.18	5.07	11.84	5.39
51	17	10.81	4.85	11.52	5.07
51	18	10.37	4.64	11.13	4.71
51	19	9.85	4.44	10.69	4.36
51	20	9.07	3.95	10.21	4.02
51	21	8.20	3.27	9.50	3.62
51	22	8.29	3.21	8.61	3.08
51	23	8.37	3.13	8.61	3.08
51	24	8.44	3.04	8.61	3.08
51	25	8.47	2.99	8.61	3.08
51	26	8.44	3.00	8.61	3.08
51	27	8.44	3.00	8.61	3.08
51	28	8.42	3.01	8.61	3.08
51	29	8.41	3.03	8.61	3.08



Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
51	30	8.39	3.04	8.61	3.08
51	31	8.39	3.04	8.61	3.08
51	32	8.39	3.04	8.61	3.08
51	33	8.39	3.04	8.61	3.08
51	34	8.39	3.04	8.61	3.08
52	0	7.74	6.05	11.27	5.57
52	1	8.88	5.91	11.27	5.57
52	2	9.54	5.77	11.27	5.57
52	3	9.90	5.70	11.27	5.57
52	4	10.14	5.67	11.27	5.57
52	5	10.34	5.65	11.27	5.57
52	6	10.54	5.62	11.27	5.57
52	7	10.68	5.55	11.27	5.57
52	8	10.78	5.48	11.27	5.57
52	9	10.87	5.40	11.27	5.57
52	10	10.94	5.33	11.27	5.57
52	11	11.00	5.27	11.27	5.57
52	12	11.03	5.17	11.27	5.57
52	13	10.95	5.08	11.22	5.48
52	14	10.88	5.05	11.17	5.39
52	15	10.80	5.02	10.86	5.43
52	16	10.73	5.06	11.09	5.27
52	17	10.41	4.87	11.07	5.24
52	18	10.03	4.66	10.75	4.92
52	19	9.56	4.47	10.35	4.56
52	20	9.13	4.20	9.90	4.20
52	21	8.41	3.63	9.42	3.85
52	22	7.51	2.94	8.71	3.45
52	23	7.59	2.87	7.80	2.89
52	24	7.67	2.78	7.80	2.89
52	25	7.70	2.73	7.80	2.89
52	26	7.68	2.73	7.80	2.89
52	27	7.65	2.75	7.80	2.89
52	28	7.63	2.76	7.80	2.89
52	29	7.62	2.77	7.80	2.89
52	30	7.61	2.78	7.80	2.89
52	31	7.61	2.78	7.80	2.89
52	32	7.61	2.78	7.80	2.89
52	33	7.61	2.78	7.80	2.89
52	34	7.61	2.78	7.80	2.89
52	35	7.61	2.78	7.80	2.89
53	0	7.23	5.69	10.52	5.43

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
53	1	8.27	5.57	10.52	5.43
53	2	8.86	5.46	10.52	5.43
53	3	9.21	5.41	10.52	5.43
53	4	9.43	5.39	10.52	5.43
53	5	9.62	5.38	10.52	5.43
53	6	9.80	5.35	10.52	5.43
53	7	9.97	5.33	10.52	5.43
53	8	10.09	5.26	10.52	5.43
53	9	10.17	5.19	10.52	5.43
53	10	10.24	5.13	10.52	5.43
53	11	10.29	5.06	10.52	5.43
53	12	10.33	5.01	10.52	5.43
53	13	10.33	4.92	10.52	5.43
53	14	10.24	4.84	10.47	5.34
53	15	10.16	4.82	10.42	5.24
53	16	10.06	4.81	10.11	5.27
53	17	9.97	4.87	10.34	5.12
53	18	9.64	4.69	10.31	5.09
53	19	9.23	4.50	9.99	4.76
53	20	8.85	4.23	9.59	4.40
53	21	8.50	3.87	9.13	4.03
53	22	7.75	3.31	8.64	3.68
53	23	6.80	2.62	7.92	3.27
53	24	6.88	2.54	7.00	2.71
53	25	6.91	2.49	7.00	2.71
53	26	6.90	2.49	7.00	2.71
53	27	6.87	2.50	7.00	2.71
53	28	6.84	2.52	7.00	2.71
53	29	6.82	2.53	7.00	2.71
53	30	6.81	2.54	7.00	2.71
53	31	6.81	2.54	7.00	2.71
53	32	6.81	2.54	7.00	2.71
53	33	6.81	2.54	7.00	2.71
53	34	6.81	2.54	7.00	2.71
53	35	6.81	2.54	7.00	2.71
53	36	6.81	2.54	7.00	2.71
54	0	6.65	5.34	9.79	5.27
54	1	7.67	5.25	9.79	5.27
54	2	8.19	5.18	9.79	5.27
54	3	8.50	5.14	9.79	5.27
54	4	8.71	5.13	9.79	5.27
54	5	8.90	5.12	9.79	5.27
54	6	9.07	5.10	9.79	5.27

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
54	7	9.23	5.09	9.79	5.27
54	8	9.37	5.06	9.79	5.27
54	9	9.47	5.00	9.79	5.27
54	10	9.53	4.94	9.79	5.27
54	11	9.58	4.87	9.79	5.27
54	12	9.61	4.82	9.79	5.27
54	13	9.64	4.77	9.79	5.27
54	14	9.62	4.69	9.79	5.27
54	15	9.52	4.62	9.74	5.18
54	16	9.41	4.61	9.69	5.08
54	17	9.30	4.62	9.40	5.11
54	18	9.20	4.70	9.61	4.96
54	19	8.85	4.53	9.58	4.93
54	20	8.53	4.26	9.25	4.60
54	21	8.24	3.91	8.84	4.22
54	22	7.87	3.55	8.38	3.85
54	23	7.08	2.99	7.88	3.50
54	24	6.08	2.31	7.15	3.08
54	25	6.12	2.26	6.21	2.51
54	26	6.10	2.26	6.21	2.51
54	27	6.08	2.26	6.21	2.51
54	28	6.06	2.28	6.21	2.51
54	29	6.02	2.31	6.21	2.51
54	30	6.01	2.32	6.21	2.51
54	31	6.01	2.32	6.21	2.51
54	32	6.01	2.32	6.21	2.51
54	33	6.01	2.32	6.21	2.51
54	34	6.01	2.32	6.21	2.51
54	35	6.01	2.32	6.21	2.51
54	36	6.01	2.32	6.21	2.51
54	37	6.01	2.32	6.21	2.51
55	0	6.09	5.00	9.09	5.12
55	1	7.07	4.94	9.09	5.12
55	2	7.58	4.88	9.09	5.12
55	3	7.85	4.86	9.09	5.12
55	4	8.04	4.86	9.09	5.12
55	5	8.21	4.86	9.09	5.12
55	6	8.37	4.85	9.09	5.12
55	7	8.51	4.84	9.09	5.12
55	8	8.65	4.82	9.09	5.12
55	9	8.77	4.81	9.09	5.12
55	10	8.84	4.75	9.09	5.12
55	11	8.88	4.69	9.09	5.12

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
55	12	8.92	4.64	9.09	5.12
55	13	8.92	4.59	9.09	5.12
55	14	8.93	4.55	9.09	5.12
55	15	8.90	4.48	9.04	5.02
55	16	8.78	4.42	8.98	4.92
55	17	8.66	4.43	8.70	4.95
55	18	8.52	4.46	8.90	4.80
55	19	8.41	4.55	8.87	4.77
55	20	8.16	4.30	8.54	4.42
55	21	7.93	3.96	8.12	4.05
55	22	7.63	3.60	7.65	3.67
55	23	7.23	3.23	7.13	3.31
55	24	6.39	2.69	6.39	2.89
55	25	5.30	2.07	5.43	2.32
55	26	5.29	2.06	5.43	2.32
55	27	5.28	2.06	5.43	2.32
55	28	5.25	2.07	5.43	2.32
55	29	5.22	2.10	5.43	2.32
55	30	5.20	2.12	5.43	2.32
55	31	5.20	2.12	5.43	2.32
55	32	5.20	2.12	5.43	2.32
55	33	5.20	2.12	5.43	2.32
55	34	5.20	2.12	5.43	2.32
55	35	5.20	2.12	5.43	2.32
55	36	5.20	2.12	5.43	2.32
55	37	5.20	2.12	5.43	2.32
55	38	5.20	2.12	5.43	2.32
56	0	5.64	4.66	8.40	4.96
56	1	6.55	4.62	8.40	4.96
56	2	7.01	4.58	8.40	4.96
56	3	7.24	4.57	8.40	4.96
56	4	7.41	4.58	8.40	4.96
56	5	7.56	4.58	8.40	4.96
56	6	7.70	4.59	8.40	4.96
56	7	7.83	4.58	8.40	4.96
56	8	7.95	4.58	8.40	4.96
56	9	8.06	4.57	8.40	4.96
56	10	8.16	4.57	8.40	4.96
56	11	8.20	4.51	8.40	4.96
56	12	8.23	4.46	8.40	4.96
56	13	8.24	4.42	8.40	4.96
56	14	8.23	4.37	8.40	4.96
56	15	8.22	4.35	8.40	4.96

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
56	16	8.17	4.28	8.35	4.86
56	17	8.03	4.24	8.29	4.76
56	18	7.89	4.26	8.03	4.77
56	19	7.74	4.31	8.21	4.63
56	20	7.73	4.34	8.18	4.60
56	21	7.57	4.02	7.83	4.25
56	22	7.32	3.67	7.40	3.87
56	23	6.99	3.29	6.92	3.49
56	24	6.57	2.93	6.39	3.13
56	25	5.64	2.45	5.63	2.71
56	26	4.45	1.91	4.65	2.14
56	27	4.44	1.91	4.65	2.14
56	28	4.43	1.91	4.65	2.14
56	29	4.40	1.93	4.65	2.14
56	30	4.38	1.94	4.65	2.14
56	31	4.38	1.94	4.65	2.14
56	32	4.38	1.94	4.65	2.14
56	33	4.38	1.94	4.65	2.14
56	34	4.38	1.94	4.65	2.14
56	35	4.38	1.94	4.65	2.14
56	36	4.38	1.94	4.65	2.14
56	37	4.38	1.94	4.65	2.14
56	38	4.38	1.94	4.65	2.14
56	39	4.38	1.94	4.65	2.14
57	0	5.19	4.33	7.74	4.81
57	1	6.01	4.32	7.74	4.81
57	2	6.42	4.30	7.74	4.81
57	3	6.63	4.30	7.74	4.81
57	4	6.78	4.32	7.74	4.81
57	5	6.91	4.33	7.74	4.81
57	6	7.04	4.34	7.74	4.81
57	7	7.15	4.35	7.74	4.81
57	8	7.25	4.35	7.74	4.81
57	9	7.35	4.36	7.74	4.81
57	10	7.43	4.36	7.74	4.81
57	11	7.51	4.36	7.74	4.81
57	12	7.54	4.31	7.74	4.81
57	13	7.54	4.26	7.74	4.81
57	14	7.54	4.22	7.74	4.81
57	15	7.51	4.19	7.74	4.81
57	16	7.48	4.18	7.74	4.81
57	17	7.42	4.12	7.69	4.70
57	18	7.26	4.09	7.63	4.59

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
57	19	7.11	4.13	7.39	4.60
57	20	7.05	4.12	7.54	4.46
57	21	7.15	4.09	7.51	4.43
57	22	6.97	3.76	7.15	4.08
57	23	6.71	3.39	6.71	3.69
57	24	6.35	3.00	6.21	3.31
57	25	5.84	2.69	5.66	2.96
57	26	4.82	2.30	4.88	2.54
57	27	3.59	1.79	3.86	1.99
57	28	3.58	1.79	3.86	1.99
57	29	3.56	1.80	3.86	1.99
57	30	3.54	1.81	3.86	1.99
57	31	3.54	1.81	3.86	1.99
57	32	3.54	1.81	3.86	1.99
57	33	3.54	1.81	3.86	1.99
57	34	3.54	1.81	3.86	1.99
57	35	3.54	1.81	3.86	1.99
57	36	3.54	1.81	3.86	1.99
57	37	3.54	1.81	3.86	1.99
57	38	3.54	1.81	3.86	1.99
57	39	3.54	1.81	3.86	1.99
57	40	3.54	1.81	3.86	1.99
58	0	4.99	4.19	7.16	4.60
58	1	5.46	4.05	7.11	4.65
58	2	5.83	4.04	7.11	4.65
58	3	6.01	4.06	7.11	4.65
58	4	6.14	4.09	7.11	4.65
58	5	6.25	4.11	7.11	4.65
58	6	6.36	4.13	7.11	4.65
58	7	6.46	4.14	7.11	4.65
58	8	6.55	4.15	7.11	4.65
58	9	6.63	4.16	7.11	4.65
58	10	6.71	4.17	7.11	4.65
58	11	6.78	4.17	7.11	4.65
58	12	6.84	4.18	7.11	4.65
58	13	6.84	4.13	7.11	4.65
58	14	6.84	4.10	7.11	4.65
58	15	6.82	4.06	7.11	4.65
58	16	6.77	4.04	7.11	4.65
58	17	6.73	4.04	7.11	4.65
58	18	6.66	3.98	7.06	4.54
58	19	6.48	3.96	7.00	4.43
58	20	6.42	3.96	6.79	4.42

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
58	21	6.46	3.90	6.91	4.29
58	22	6.56	3.86	6.88	4.26
58	23	6.36	3.51	6.50	3.90
58	24	6.07	3.12	6.04	3.51
58	25	5.63	2.78	5.51	3.13
58	26	5.04	2.53	4.94	2.79
58	27	3.98	2.18	4.13	2.39
58	28	2.70	1.73	3.06	1.87
58	29	2.69	1.73	3.06	1.87
58	30	2.68	1.73	3.06	1.87
58	31	2.68	1.73	3.06	1.87
58	32	2.68	1.73	3.06	1.87
58	33	2.68	1.73	3.06	1.87
58	34	2.68	1.73	3.06	1.87
58	35	2.68	1.73	3.06	1.87
58	36	2.68	1.73	3.06	1.87
58	37	2.68	1.73	3.06	1.87
58	38	2.68	1.73	3.06	1.87
58	39	2.68	1.73	3.06	1.87
58	40	2.68	1.73	3.06	1.87
58	41	2.68	1.73	3.06	1.87
59	0	4.72	4.02	6.49	4.37
59	1	5.23	3.92	6.56	4.45
59	2	5.22	3.82	6.54	4.48
59	3	5.38	3.85	6.54	4.48
59	4	5.49	3.88	6.54	4.48
59	5	5.59	3.91	6.54	4.48
59	6	5.68	3.94	6.54	4.48
59	7	5.76	3.96	6.54	4.48
59	8	5.84	3.98	6.54	4.48
59	9	5.91	3.99	6.54	4.48
59	10	5.98	4.01	6.54	4.48
59	11	6.04	4.02	6.54	4.48
59	12	6.09	4.03	6.54	4.48
59	13	6.14	4.04	6.54	4.48
59	14	6.13	4.00	6.54	4.48
59	15	6.11	3.96	6.54	4.48
59	16	6.07	3.94	6.54	4.48
59	17	6.01	3.92	6.54	4.48
59	18	5.97	3.92	6.54	4.48
59	19	5.88	3.87	6.48	4.37
59	20	5.79	3.82	6.41	4.25
59	21	5.82	3.77	6.26	4.22

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
59	22	5.86	3.70	6.32	4.11
59	23	5.95	3.64	6.28	4.08
59	24	5.74	3.27	5.89	3.71
59	25	5.36	2.92	5.40	3.33
59	26	4.83	2.64	4.84	2.96
59	27	4.22	2.41	4.24	2.63
59	28	3.11	2.11	3.39	2.27
59	29	1.78	1.70	2.26	1.79
59	30	1.77	1.70	2.26	1.79
59	31	1.77	1.70	2.26	1.79
59	32	1.77	1.70	2.26	1.79
59	33	1.77	1.70	2.26	1.79
59	34	1.77	1.70	2.26	1.79
59	35	1.77	1.70	2.26	1.79
59	36	1.77	1.70	2.26	1.79
59	37	1.77	1.70	2.26	1.79
59	38	1.77	1.70	2.26	1.79
59	39	1.77	1.70	2.26	1.79
59	40	1.77	1.70	2.26	1.79
59	41	1.77	1.70	2.26	1.79
59	42	1.77	1.70	2.26	1.79
60	0	4.43	3.82	5.78	4.09
60	1	4.96	3.77	5.92	4.22
60	2	5.02	3.69	6.02	4.29
60	3	4.76	3.66	6.02	4.31
60	4	4.86	3.70	6.02	4.31
60	5	4.94	3.74	6.02	4.31
60	6	5.02	3.77	6.02	4.31
60	7	5.09	3.80	6.02	4.31
60	8	5.16	3.82	6.02	4.31
60	9	5.22	3.84	6.02	4.31
60	10	5.28	3.86	6.02	4.31
60	11	5.33	3.88	6.02	4.31
60	12	5.37	3.89	6.02	4.31
60	13	5.41	3.90	6.02	4.31
60	14	5.45	3.91	6.02	4.31
60	15	5.43	3.88	6.02	4.31
60	16	5.40	3.85	6.02	4.31
60	17	5.35	3.83	6.02	4.31
60	18	5.28	3.82	6.02	4.31
60	19	5.22	3.83	6.02	4.31
60	20	5.17	3.76	5.96	4.19
60	21	5.17	3.67	5.89	4.07



Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
60	22	5.20	3.61	5.80	4.01
60	23	5.24	3.54	5.79	3.92
60	24	5.33	3.46	5.75	3.88
60	25	5.03	3.12	5.33	3.52
60	26	4.57	2.81	4.80	3.15
60	27	4.01	2.54	4.20	2.80
60	28	3.37	2.34	3.55	2.51
60	29	2.21	2.09	2.64	2.20
60	30	1.54	1.86	1.42	1.79
60	31	1.54	1.86	1.42	1.79
60	32	1.54	1.86	1.42	1.79
60	33	1.54	1.86	1.42	1.79
60	34	1.54	1.86	1.42	1.79
60	35	1.54	1.86	1.42	1.79
60	36	1.54	1.86	1.42	1.79
60	37	1.54	1.86	1.42	1.79
60	38	1.54	1.86	1.42	1.79
60	39	1.54	1.86	1.42	1.79
60	40	1.54	1.86	1.42	1.79
60	41	1.54	1.86	1.42	1.79
60	42	1.54	1.86	1.42	1.79
60	43	1.54	1.86	1.42	1.79
61	0	4.36	3.79	5.34	3.98
61	1	4.65	3.59	5.24	3.96
61	2	4.78	3.54	5.40	4.07
61	3	4.61	3.52	5.54	4.13
61	4	4.24	3.56	5.58	4.14
61	5	4.32	3.60	5.58	4.14
61	6	4.38	3.63	5.58	4.14
61	7	4.45	3.66	5.58	4.14
61	8	4.50	3.69	5.58	4.14
61	9	4.56	3.72	5.58	4.14
61	10	4.60	3.74	5.58	4.14
61	11	4.65	3.76	5.58	4.14
61	12	4.69	3.78	5.58	4.14
61	13	4.72	3.80	5.58	4.14
61	14	4.76	3.81	5.58	4.14
61	15	4.79	3.82	5.58	4.14
61	16	4.75	3.78	5.58	4.14
61	17	4.71	3.76	5.58	4.14
61	18	4.65	3.74	5.58	4.14
61	19	4.57	3.74	5.58	4.14
61	20	4.54	3.74	5.58	4.14

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
61	21	4.54	3.66	5.51	4.01
61	22	4.53	3.56	5.43	3.87
61	23	4.56	3.50	5.38	3.80
61	24	4.59	3.41	5.32	3.72
61	25	4.62	3.35	5.28	3.68
61	26	4.23	3.03	4.81	3.33
61	27	3.74	2.73	4.23	2.98
61	28	3.16	2.48	3.57	2.67
61	29	2.49	2.31	2.86	2.43
61	30	1.90	2.16	1.88	2.19
61	31	1.90	2.16	1.88	2.19
61	32	1.90	2.16	1.88	2.19
61	33	1.90	2.16	1.88	2.19
61	34	1.90	2.16	1.88	2.19
61	35	1.90	2.16	1.88	2.19
61	36	1.90	2.16	1.88	2.19
61	37	1.90	2.16	1.88	2.19
61	38	1.90	2.16	1.88	2.19
61	39	1.90	2.16	1.88	2.19
61	40	1.90	2.16	1.88	2.19
61	41	1.90	2.16	1.88	2.19
61	42	1.90	2.16	1.88	2.19
61	43	1.90	2.16	1.88	2.19
61	44	1.90	2.16	1.88	2.19
62	0	4.66	4.04	5.27	4.14
62	1	4.59	3.57	4.83	3.86
62	2	4.44	3.39	4.74	3.84
62	3	4.35	3.38	4.95	3.94
62	4	4.09	3.41	5.14	3.96
62	5	3.92	3.45	5.23	3.94
62	6	3.98	3.49	5.23	3.94
62	7	4.04	3.52	5.23	3.94
62	8	4.09	3.56	5.23	3.94
62	9	4.14	3.58	5.23	3.94
62	10	4.18	3.61	5.23	3.94
62	11	4.22	3.63	5.23	3.94
62	12	4.25	3.65	5.23	3.94
62	13	4.28	3.67	5.23	3.94
62	14	4.31	3.68	5.23	3.94
62	15	4.34	3.69	5.23	3.94
62	16	4.36	3.70	5.23	3.94
62	17	4.32	3.67	5.23	3.94
62	18	4.26	3.65	5.23	3.94

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
62	19	4.18	3.64	5.23	3.94
62	20	4.14	3.64	5.23	3.94
62	21	4.15	3.64	5.23	3.94
62	22	4.14	3.54	5.16	3.80
62	23	4.13	3.42	5.07	3.66
62	24	4.16	3.35	5.01	3.58
62	25	4.14	3.26	4.94	3.50
62	26	4.10	3.21	4.90	3.46
62	27	3.65	2.91	4.37	3.14
62	28	3.10	2.64	3.71	2.83
62	29	2.45	2.44	2.97	2.58
62	30	2.10	2.35	2.16	2.42
62	31	2.10	2.35	2.16	2.42
62	32	2.10	2.35	2.16	2.42
62	33	2.10	2.35	2.16	2.42
62	34	2.10	2.35	2.16	2.42
62	35	2.10	2.35	2.16	2.42
62	36	2.10	2.35	2.16	2.42
62	37	2.10	2.35	2.16	2.42
62	38	2.10	2.35	2.16	2.42
62	39	2.10	2.35	2.16	2.42
62	40	2.10	2.35	2.16	2.42
62	41	2.10	2.35	2.16	2.42
62	42	2.10	2.35	2.16	2.42
62	43	2.10	2.35	2.16	2.42
62	44	2.10	2.35	2.16	2.42
62	45	2.10	2.35	2.16	2.42
63	0	4.87	4.12	5.09	4.15
63	1	4.98	3.78	4.85	4.03
63	2	4.36	3.38	4.39	3.76
63	3	3.97	3.26	4.31	3.74
63	4	3.81	3.29	4.57	3.78
63	5	3.69	3.32	4.85	3.78
63	6	3.74	3.36	4.85	3.78
63	7	3.80	3.40	4.85	3.78
63	8	3.84	3.43	4.85	3.78
63	9	3.89	3.46	4.85	3.78
63	10	3.93	3.48	4.85	3.78
63	11	3.96	3.51	4.85	3.78
63	12	3.99	3.53	4.85	3.78
63	13	4.02	3.55	4.85	3.78
63	14	4.05	3.56	4.85	3.78
63	15	4.08	3.57	4.85	3.78

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
63	16	4.10	3.58	4.85	3.78
63	17	4.12	3.59	4.85	3.78
63	18	4.05	3.56	4.85	3.78
63	19	3.97	3.56	4.85	3.78
63	20	3.94	3.55	4.85	3.78
63	21	3.94	3.55	4.85	3.78
63	22	3.95	3.55	4.85	3.78
63	23	3.93	3.43	4.76	3.63
63	24	3.92	3.29	4.66	3.47
63	25	3.90	3.20	4.60	3.39
63	26	3.82	3.11	4.52	3.31
63	27	3.76	3.06	4.47	3.27
63	28	3.24	2.80	3.87	2.99
63	29	2.59	2.60	3.13	2.75
63	30	2.23	2.51	2.29	2.58
63	31	2.23	2.51	2.29	2.58
63	32	2.23	2.51	2.29	2.58
63	33	2.23	2.51	2.29	2.58
63	34	2.23	2.51	2.29	2.58
63	35	2.23	2.51	2.29	2.58
63	36	2.23	2.51	2.29	2.58
63	37	2.23	2.51	2.29	2.58
63	38	2.23	2.51	2.29	2.58
63	39	2.23	2.51	2.29	2.58
63	40	2.23	2.51	2.29	2.58
63	41	2.23	2.51	2.29	2.58
63	42	2.23	2.51	2.29	2.58
63	43	2.23	2.51	2.29	2.58
63	44	2.23	2.51	2.29	2.58
63	45	2.23	2.51	2.29	2.58
63	46	2.23	2.51	2.29	2.58
64	0	5.14	4.18	4.94	4.15
64	1	5.23	3.82	4.73	4.04
64	2	4.80	3.55	4.50	3.93
64	3	3.86	3.28	4.00	3.69
64	4	3.36	3.22	3.94	3.68
64	5	3.29	3.25	4.31	3.69
64	6	3.35	3.29	4.31	3.69
64	7	3.39	3.32	4.31	3.69
64	8	3.43	3.36	4.31	3.69
64	9	3.47	3.39	4.31	3.69
64	10	3.51	3.42	4.31	3.69
64	11	3.54	3.44	4.31	3.69

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
64	12	3.57	3.46	4.31	3.69
64	13	3.60	3.48	4.31	3.69
64	14	3.62	3.50	4.31	3.69
64	15	3.65	3.51	4.31	3.69
64	16	3.67	3.53	4.31	3.69
64	17	3.68	3.53	4.31	3.69
64	18	3.70	3.54	4.31	3.69
64	19	3.62	3.52	4.31	3.69
64	20	3.58	3.52	4.31	3.69
64	21	3.58	3.52	4.31	3.69
64	22	3.59	3.52	4.31	3.69
64	23	3.59	3.51	4.31	3.69
64	24	3.57	3.37	4.21	3.53
64	25	3.50	3.21	4.10	3.36
64	26	3.43	3.12	4.03	3.28
64	27	3.34	3.03	3.94	3.20
64	28	3.27	2.99	3.89	3.16
64	29	2.66	2.78	3.23	2.92
64	30	2.31	2.68	2.41	2.74
64	31	2.31	2.68	2.41	2.74
64	32	2.31	2.68	2.41	2.74
64	33	2.31	2.68	2.41	2.74
64	34	2.31	2.68	2.41	2.74
64	35	2.31	2.68	2.41	2.74
64	36	2.31	2.68	2.41	2.74
64	37	2.31	2.68	2.41	2.74
64	38	2.31	2.68	2.41	2.74
64	39	2.31	2.68	2.41	2.74
64	40	2.31	2.68	2.41	2.74
64	41	2.31	2.68	2.41	2.74
64	42	2.31	2.68	2.41	2.74
64	43	2.31	2.68	2.41	2.74
64	44	2.31	2.68	2.41	2.74
64	45	2.31	2.68	2.41	2.74
64	46	2.31	2.68	2.41	2.74
64	47	2.31	2.68	2.41	2.74
65	0	5.25	4.12	4.73	4.06
65	1	5.48	3.82	4.64	4.05
65	2	5.01	3.57	4.43	3.95
65	3	4.29	3.43	4.20	3.86
65	4	3.19	3.25	3.65	3.67
65	5	2.95	3.24	3.52	3.50
65	6	2.99	3.28	3.52	3.50

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
65	7	3.04	3.32	3.52	3.50
65	8	3.08	3.35	3.52	3.50
65	9	3.11	3.38	3.52	3.50
65	10	3.15	3.41	3.52	3.50
65	11	3.18	3.44	3.52	3.50
65	12	3.20	3.46	3.52	3.50
65	13	3.23	3.48	3.52	3.50
65	14	3.25	3.50	3.52	3.50
65	15	3.27	3.51	3.52	3.50
65	16	3.29	3.53	3.52	3.50
65	17	3.31	3.54	3.52	3.50
65	18	3.32	3.55	3.52	3.50
65	19	3.33	3.55	3.52	3.50
65	20	3.29	3.54	3.52	3.50
65	21	3.30	3.54	3.52	3.50
65	22	3.31	3.54	3.52	3.50
65	23	3.31	3.54	3.52	3.50
65	24	3.31	3.53	3.52	3.50
65	25	3.24	3.37	3.52	3.50
65	26	3.10	3.20	3.40	3.33
65	27	3.02	3.10	3.32	3.24
65	28	2.90	3.01	3.22	3.16
65	29	2.82	2.98	3.17	3.13
65	30	2.49	2.89	2.45	2.93
65	31	2.49	2.89	2.45	2.93
65	32	2.49	2.89	2.45	2.93
65	33	2.49	2.89	2.45	2.93
65	34	2.49	2.89	2.45	2.93
65	35	2.49	2.89	2.45	2.93
65	36	2.49	2.89	2.45	2.93
65	37	2.49	2.89	2.45	2.93
65	38	2.49	2.89	2.45	2.93
65	39	2.49	2.89	2.45	2.93
65	40	2.49	2.89	2.45	2.93
65	41	2.49	2.89	2.45	2.93
65	42	2.49	2.89	2.45	2.93
65	43	2.49	2.89	2.45	2.93
65	44	2.49	2.89	2.45	2.93
65	45	2.49	2.89	2.45	2.93
65	46	2.49	2.89	2.45	2.93
65	47	2.49	2.89	2.45	2.93
65	48	2.49	2.89	2.45	2.93
66	0	5.25	4.06	4.54	3.96

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
66	1	5.48	3.75	4.47	3.96
66	2	5.18	3.57	4.40	3.97
66	3	4.43	3.45	4.19	3.89
66	4	3.58	3.39	3.96	3.82
66	5	3.03	3.32	3.21	3.53
66	6	3.08	3.37	3.21	3.53
66	7	3.12	3.40	3.21	3.53
66	8	3.16	3.44	3.21	3.53
66	9	3.20	3.47	3.21	3.53
66	10	3.24	3.50	3.21	3.53
66	11	3.27	3.52	3.21	3.53
66	12	3.30	3.55	3.21	3.53
66	13	3.32	3.57	3.21	3.53
66	14	3.35	3.58	3.21	3.53
66	15	3.37	3.60	3.21	3.53
66	16	3.39	3.61	3.21	3.53
66	17	3.41	3.62	3.21	3.53
66	18	3.42	3.63	3.21	3.53
66	19	3.43	3.63	3.21	3.53
66	20	3.44	3.64	3.21	3.53
66	21	3.45	3.64	3.21	3.53
66	22	3.46	3.63	3.21	3.53
66	23	3.46	3.63	3.21	3.53
66	24	3.46	3.62	3.21	3.53
66	25	3.45	3.61	3.21	3.53
66	26	3.30	3.43	3.21	3.53
66	27	3.11	3.25	3.06	3.36
66	28	2.98	3.16	2.97	3.27
66	29	2.82	3.09	2.85	3.19
66	30	2.77	3.08	2.78	3.17
66	31	2.77	3.08	2.78	3.17
66	32	2.77	3.08	2.78	3.17
66	33	2.77	3.08	2.78	3.17
66	34	2.77	3.08	2.78	3.17
66	35	2.77	3.08	2.78	3.17
66	36	2.77	3.08	2.78	3.17
66	37	2.77	3.08	2.78	3.17
66	38	2.77	3.08	2.78	3.17
66	39	2.77	3.08	2.78	3.17
66	40	2.77	3.08	2.78	3.17
66	41	2.77	3.08	2.78	3.17
66	42	2.77	3.08	2.78	3.17
66	43	2.77	3.08	2.78	3.17
66	44	2.77	3.08	2.78	3.17

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
66	45	2.77	3.08	2.78	3.17
66	46	2.77	3.08	2.78	3.17
66	47	2.77	3.08	2.78	3.17
66	48	2.77	3.08	2.78	3.17
66	49	2.77	3.08	2.78	3.17
67	0	5.20	4.00	4.36	3.86
67	1	5.43	3.70	4.30	3.88
67	2	5.14	3.51	4.26	3.89
67	3	4.57	3.44	4.22	3.90
67	4	3.69	3.41	4.01	3.84
67	5	3.27	3.39	3.58	3.63
67	6	3.32	3.43	3.58	3.63
67	7	3.37	3.46	3.58	3.63
67	8	3.42	3.50	3.58	3.63
67	9	3.46	3.53	3.58	3.63
67	10	3.49	3.55	3.58	3.63
67	11	3.53	3.58	3.58	3.63
67	12	3.56	3.60	3.58	3.63
67	13	3.59	3.62	3.58	3.63
67	14	3.61	3.64	3.58	3.63
67	15	3.64	3.65	3.58	3.63
67	16	3.66	3.66	3.58	3.63
67	17	3.68	3.67	3.58	3.63
67	18	3.69	3.68	3.58	3.63
67	19	3.70	3.68	3.58	3.63
67	20	3.72	3.68	3.58	3.63
67	21	3.72	3.68	3.58	3.63
67	22	3.73	3.68	3.58	3.63
67	23	3.73	3.68	3.58	3.63
67	24	3.73	3.67	3.58	3.63
67	25	3.73	3.66	3.58	3.63
67	26	3.72	3.65	3.58	3.63
67	27	3.49	3.47	3.58	3.63
67	28	3.23	3.30	3.36	3.46
67	29	3.04	3.24	3.22	3.39
67	30	2.94	3.21	3.03	3.34
67	31	2.94	3.21	3.03	3.34
67	32	2.94	3.21	3.03	3.34
67	33	2.94	3.21	3.03	3.34
67	34	2.94	3.21	3.03	3.34
67	35	2.94	3.21	3.03	3.34
67	36	2.94	3.21	3.03	3.34
67	37	2.94	3.21	3.03	3.34



Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
67	38	2.94	3.21	3.03	3.34
67	39	2.94	3.21	3.03	3.34
67	40	2.94	3.21	3.03	3.34
67	41	2.94	3.21	3.03	3.34
67	42	2.94	3.21	3.03	3.34
67	43	2.94	3.21	3.03	3.34
67	44	2.94	3.21	3.03	3.34
67	45	2.94	3.21	3.03	3.34
67	46	2.94	3.21	3.03	3.34
67	47	2.94	3.21	3.03	3.34
67	48	2.94	3.21	3.03	3.34
67	49	2.94	3.21	3.03	3.34
67	50	2.94	3.21	3.03	3.34
68	0	5.14	3.93	4.19	3.76
68	1	5.37	3.63	4.15	3.78
68	2	5.09	3.45	4.12	3.81
68	3	4.53	3.38	4.11	3.83
68	4	3.84	3.38	4.11	3.84
68	5	3.41	3.38	3.90	3.82
68	6	3.46	3.42	3.90	3.82
68	7	3.51	3.45	3.90	3.82
68	8	3.56	3.49	3.90	3.82
68	9	3.60	3.51	3.90	3.82
68	10	3.64	3.54	3.90	3.82
68	11	3.67	3.56	3.90	3.82
68	12	3.71	3.58	3.90	3.82
68	13	3.73	3.60	3.90	3.82
68	14	3.76	3.62	3.90	3.82
68	15	3.79	3.63	3.90	3.82
68	16	3.81	3.64	3.90	3.82
68	17	3.83	3.65	3.90	3.82
68	18	3.84	3.66	3.90	3.82
68	19	3.85	3.66	3.90	3.82
68	20	3.87	3.66	3.90	3.82
68	21	3.88	3.66	3.90	3.82
68	22	3.88	3.66	3.90	3.82
68	23	3.88	3.65	3.90	3.82
68	24	3.88	3.64	3.90	3.82
68	25	3.88	3.64	3.90	3.82
68	26	3.87	3.62	3.90	3.82
68	27	3.86	3.61	3.90	3.82
68	28	3.55	3.46	3.64	3.65
68	29	3.18	3.35	3.34	3.51

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
68	30	3.08	3.33	3.15	3.46
68	31	3.08	3.33	3.15	3.46
68	32	3.08	3.33	3.15	3.46
68	33	3.08	3.33	3.15	3.46
68	34	3.08	3.33	3.15	3.46
68	35	3.08	3.33	3.15	3.46
68	36	3.08	3.33	3.15	3.46
68	37	3.08	3.33	3.15	3.46
68	38	3.08	3.33	3.15	3.46
68	39	3.08	3.33	3.15	3.46
68	40	3.08	3.33	3.15	3.46
68	41	3.08	3.33	3.15	3.46
68	42	3.08	3.33	3.15	3.46
68	43	3.08	3.33	3.15	3.46
68	44	3.08	3.33	3.15	3.46
68	45	3.08	3.33	3.15	3.46
68	46	3.08	3.33	3.15	3.46
68	47	3.08	3.33	3.15	3.46
68	48	3.08	3.33	3.15	3.46
68	49	3.08	3.33	3.15	3.46
68	50	3.08	3.33	3.15	3.46
68	51	3.08	3.33	3.15	3.46
69	0	5.07	3.86	4.05	3.67
69	1	5.31	3.56	4.02	3.69
69	2	5.03	3.38	4.00	3.72
69	3	4.47	3.31	4.00	3.75
69	4	3.80	3.32	4.03	3.77
69	5	3.47	3.33	4.09	3.77
69	6	3.53	3.37	4.09	3.77
69	7	3.57	3.40	4.09	3.77
69	8	3.62	3.43	4.09	3.77
69	9	3.66	3.46	4.09	3.77
69	10	3.70	3.48	4.09	3.77
69	11	3.73	3.50	4.09	3.77
69	12	3.77	3.52	4.09	3.77
69	13	3.80	3.54	4.09	3.77
69	14	3.82	3.55	4.09	3.77
69	15	3.85	3.57	4.09	3.77
69	16	3.87	3.58	4.09	3.77
69	17	3.89	3.59	4.09	3.77
69	18	3.90	3.59	4.09	3.77
69	19	3.92	3.60	4.09	3.77
69	20	3.93	3.60	4.09	3.77

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
69	21	3.94	3.60	4.09	3.77
69	22	3.94	3.59	4.09	3.77
69	23	3.95	3.59	4.09	3.77
69	24	3.94	3.58	4.09	3.77
69	25	3.94	3.57	4.09	3.77
69	26	3.93	3.56	4.09	3.77
69	27	3.92	3.55	4.09	3.77
69	28	3.90	3.54	4.09	3.77
69	29	3.49	3.45	3.74	3.65
69	30	3.28	3.42	3.33	3.58
69	31	3.28	3.42	3.33	3.58
69	32	3.28	3.42	3.33	3.58
69	33	3.28	3.42	3.33	3.58
69	34	3.28	3.42	3.33	3.58
69	35	3.28	3.42	3.33	3.58
69	36	3.28	3.42	3.33	3.58
69	37	3.28	3.42	3.33	3.58
69	38	3.28	3.42	3.33	3.58
69	39	3.28	3.42	3.33	3.58
69	40	3.28	3.42	3.33	3.58
69	41	3.28	3.42	3.33	3.58
69	42	3.28	3.42	3.33	3.58
69	43	3.28	3.42	3.33	3.58
69	44	3.28	3.42	3.33	3.58
69	45	3.28	3.42	3.33	3.58
69	46	3.28	3.42	3.33	3.58
69	47	3.28	3.42	3.33	3.58
69	48	3.28	3.42	3.33	3.58
69	49	3.28	3.42	3.33	3.58
69	50	3.28	3.42	3.33	3.58
69	51	3.28	3.42	3.33	3.58
69	52	3.28	3.42	3.33	3.58
70	0	4.99	3.78	4.05	3.67
70	1	5.23	3.48	4.02	3.69
70	2	4.96	3.30	4.00	3.72
70	3	4.42	3.24	4.00	3.75
70	4	3.75	3.25	4.03	3.77
70	5	3.43	3.26	4.09	3.77
70	6	3.48	3.30	4.09	3.77
70	7	3.53	3.33	4.09	3.77
70	8	3.57	3.36	4.09	3.77
70	9	3.61	3.38	4.09	3.77
70	10	3.65	3.41	4.09	3.77

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
70	11	3.68	3.43	4.09	3.77
70	12	3.71	3.45	4.09	3.77
70	13	3.74	3.46	4.09	3.77
70	14	3.77	3.48	4.09	3.77
70	15	3.79	3.49	4.09	3.77
70	16	3.81	3.50	4.09	3.77
70	17	3.83	3.51	4.09	3.77
70	18	3.85	3.51	4.09	3.77
70	19	3.86	3.52	4.09	3.77
70	20	3.87	3.52	4.09	3.77
70	21	3.88	3.52	4.09	3.77
70	22	3.89	3.52	4.09	3.77
70	23	3.89	3.51	4.09	3.77
70	24	3.89	3.50	4.09	3.77
70	25	3.89	3.49	4.09	3.77
70	26	3.88	3.48	4.09	3.77
70	27	3.87	3.47	4.09	3.77
70	28	3.85	3.46	4.09	3.77
70	29	3.82	3.46	4.09	3.77
70	30	3.59	3.44	3.69	3.65
70	31	3.59	3.44	3.69	3.65
70	32	3.59	3.44	3.69	3.65
70	33	3.59	3.44	3.69	3.65
70	34	3.59	3.44	3.69	3.65
70	35	3.59	3.44	3.69	3.65
70	36	3.59	3.44	3.69	3.65
70	37	3.59	3.44	3.69	3.65
70	38	3.59	3.44	3.69	3.65
70	39	3.59	3.44	3.69	3.65
70	40	3.59	3.44	3.69	3.65
70	41	3.59	3.44	3.69	3.65
70	42	3.59	3.44	3.69	3.65
70	43	3.59	3.44	3.69	3.65
70	44	3.59	3.44	3.69	3.65
70	45	3.59	3.44	3.69	3.65
70	46	3.59	3.44	3.69	3.65
70	47	3.59	3.44	3.69	3.65
70	48	3.59	3.44	3.69	3.65
70	49	3.59	3.44	3.69	3.65
70	50	3.59	3.44	3.69	3.65
70	51	3.59	3.44	3.69	3.65
70	52	3.59	3.44	3.69	3.65
70	53	3.59	3.44	3.69	3.65

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
71	0	4.90	3.70	3.79	3.48
71	1	5.14	3.40	3.78	3.52
71	2	4.88	3.22	3.77	3.55
71	3	4.35	3.16	3.79	3.59
71	4	3.70	3.17	3.85	3.62
71	5	3.37	3.19	3.98	3.63
71	6	3.43	3.22	3.98	3.63
71	7	3.47	3.25	3.98	3.63
71	8	3.52	3.28	3.98	3.63
71	9	3.56	3.30	3.98	3.63
71	10	3.59	3.32	3.98	3.63
71	11	3.62	3.34	3.98	3.63
71	12	3.65	3.36	3.98	3.63
71	13	3.68	3.38	3.98	3.63
71	14	3.71	3.39	3.98	3.63
71	15	3.73	3.40	3.98	3.63
71	16	3.75	3.41	3.98	3.63
71	17	3.77	3.42	3.98	3.63
71	18	3.78	3.43	3.98	3.63
71	19	3.80	3.43	3.98	3.63
71	20	3.81	3.43	3.98	3.63
71	21	3.82	3.43	3.98	3.63
71	22	3.82	3.43	3.98	3.63
71	23	3.82	3.43	3.98	3.63
71	24	3.82	3.42	3.98	3.63
71	25	3.82	3.41	3.98	3.63
71	26	3.81	3.40	3.98	3.63
71	27	3.80	3.39	3.98	3.63
71	28	3.78	3.38	3.98	3.63
71	29	3.76	3.38	3.98	3.63
71	30	3.74	3.38	3.98	3.63
71	31	3.74	3.38	3.98	3.63
71	32	3.74	3.38	3.98	3.63
71	33	3.74	3.38	3.98	3.63
71	34	3.74	3.38	3.98	3.63
71	35	3.74	3.38	3.98	3.63
71	36	3.74	3.38	3.98	3.63
71	37	3.74	3.38	3.98	3.63
71	38	3.74	3.38	3.98	3.63
71	39	3.74	3.38	3.98	3.63
71	40	3.74	3.38	3.98	3.63
71	41	3.74	3.38	3.98	3.63
71	42	3.74	3.38	3.98	3.63
71	43	3.74	3.38	3.98	3.63

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
71	44	3.74	3.38	3.98	3.63
71	45	3.74	3.38	3.98	3.63
71	46	3.74	3.38	3.98	3.63
71	47	3.74	3.38	3.98	3.63
71	48	3.74	3.38	3.98	3.63
71	49	3.74	3.38	3.98	3.63
71	50	3.74	3.38	3.98	3.63
71	51	3.74	3.38	3.98	3.63
71	52	3.74	3.38	3.98	3.63
71	53	3.74	3.38	3.98	3.63
71	54	3.74	3.38	3.98	3.63
72	0	4.79	3.61	3.67	3.37
72	1	5.03	3.32	3.67	3.42
72	2	4.78	3.14	3.69	3.47
72	3	4.27	3.07	3.71	3.50
72	4	3.63	3.09	3.77	3.54
72	5	3.31	3.10	3.91	3.54
72	6	3.36	3.14	3.91	3.54
72	7	3.41	3.16	3.91	3.54
72	8	3.45	3.19	3.91	3.54
72	9	3.49	3.21	3.91	3.54
72	10	3.52	3.24	3.91	3.54
72	11	3.55	3.26	3.91	3.54
72	12	3.58	3.27	3.91	3.54
72	13	3.61	3.29	3.91	3.54
72	14	3.63	3.30	3.91	3.54
72	15	3.66	3.31	3.91	3.54
72	16	3.68	3.32	3.91	3.54
72	17	3.69	3.33	3.91	3.54
72	18	3.71	3.34	3.91	3.54
72	19	3.72	3.34	3.91	3.54
72	20	3.73	3.34	3.91	3.54
72	21	3.74	3.34	3.91	3.54
72	22	3.75	3.34	3.91	3.54
72	23	3.75	3.34	3.91	3.54
72	24	3.75	3.33	3.91	3.54
72	25	3.75	3.32	3.91	3.54
72	26	3.74	3.31	3.91	3.54
72	27	3.73	3.30	3.91	3.54
72	28	3.71	3.29	3.91	3.54
72	29	3.68	3.29	3.91	3.54
72	30	3.67	3.29	3.91	3.54
72	31	3.67	3.29	3.91	3.54

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
72	32	3.67	3.29	3.91	3.54
72	33	3.67	3.29	3.91	3.54
72	34	3.67	3.29	3.91	3.54
72	35	3.67	3.29	3.91	3.54
72	36	3.67	3.29	3.91	3.54
72	37	3.67	3.29	3.91	3.54
72	38	3.67	3.29	3.91	3.54
72	39	3.67	3.29	3.91	3.54
72	40	3.67	3.29	3.91	3.54
72	41	3.67	3.29	3.91	3.54
72	42	3.67	3.29	3.91	3.54
72	43	3.67	3.29	3.91	3.54
72	44	3.67	3.29	3.91	3.54
72	45	3.67	3.29	3.91	3.54
72	46	3.67	3.29	3.91	3.54
72	47	3.67	3.29	3.91	3.54
72	48	3.67	3.29	3.91	3.54
72	49	3.67	3.29	3.91	3.54
72	50	3.67	3.29	3.91	3.54
72	51	3.67	3.29	3.91	3.54
72	52	3.67	3.29	3.91	3.54
72	53	3.67	3.29	3.91	3.54
72	54	3.67	3.29	3.91	3.54
72	55	3.67	3.29	3.91	3.54
73	0	4.67	3.53	3.54	3.26
73	1	4.91	3.25	3.56	3.31
73	2	4.67	3.06	3.59	3.37
73	3	4.17	2.99	3.63	3.42
73	4	3.55	3.00	3.70	3.45
73	5	3.24	3.02	3.83	3.46
73	6	3.29	3.05	3.83	3.46
73	7	3.33	3.08	3.83	3.46
73	8	3.37	3.10	3.83	3.46
73	9	3.41	3.12	3.83	3.46
73	10	3.44	3.14	3.83	3.46
73	11	3.47	3.16	3.83	3.46
73	12	3.50	3.18	3.83	3.46
73	13	3.53	3.20	3.83	3.46
73	14	3.55	3.21	3.83	3.46
73	15	3.57	3.22	3.83	3.46
73	16	3.59	3.23	3.83	3.46
73	17	3.61	3.24	3.83	3.46
73	18	3.62	3.24	3.83	3.46

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
73	19	3.63	3.25	3.83	3.46
73	20	3.64	3.25	3.83	3.46
73	21	3.65	3.25	3.83	3.46
73	22	3.66	3.25	3.83	3.46
73	23	3.66	3.24	3.83	3.46
73	24	3.66	3.24	3.83	3.46
73	25	3.66	3.23	3.83	3.46
73	26	3.65	3.22	3.83	3.46
73	27	3.64	3.21	3.83	3.46
73	28	3.62	3.20	3.83	3.46
73	29	3.60	3.20	3.83	3.46
73	30	3.58	3.20	3.83	3.46
73	31	3.58	3.20	3.83	3.46
73	32	3.58	3.20	3.83	3.46
73	33	3.58	3.20	3.83	3.46
73	34	3.58	3.20	3.83	3.46
73	35	3.58	3.20	3.83	3.46
73	36	3.58	3.20	3.83	3.46
73	37	3.58	3.20	3.83	3.46
73	38	3.58	3.20	3.83	3.46
73	39	3.58	3.20	3.83	3.46
73	40	3.58	3.20	3.83	3.46
73	41	3.58	3.20	3.83	3.46
73	42	3.58	3.20	3.83	3.46
73	43	3.58	3.20	3.83	3.46
73	44	3.58	3.20	3.83	3.46
73	45	3.58	3.20	3.83	3.46
73	46	3.58	3.20	3.83	3.46
73	47	3.58	3.20	3.83	3.46
73	48	3.58	3.20	3.83	3.46
73	49	3.58	3.20	3.83	3.46
73	50	3.58	3.20	3.83	3.46
73	51	3.58	3.20	3.83	3.46
73	52	3.58	3.20	3.83	3.46
73	53	3.58	3.20	3.83	3.46
73	54	3.58	3.20	3.83	3.46
73	55	3.58	3.20	3.83	3.46
73	56	3.58	3.20	3.83	3.46
74	0	4.52	3.45	3.41	3.15
74	1	4.76	3.18	3.42	3.20
74	2	4.54	2.99	3.46	3.26
74	3	4.06	2.91	3.52	3.32
74	4	3.46	2.92	3.61	3.36



Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
74	5	3.16	2.93	3.74	3.37
74	6	3.20	2.96	3.74	3.37
74	7	3.24	2.99	3.74	3.37
74	8	3.28	3.01	3.74	3.37
74	9	3.32	3.03	3.74	3.37
74	10	3.35	3.05	3.74	3.37
74	11	3.38	3.07	3.74	3.37
74	12	3.40	3.09	3.74	3.37
74	13	3.43	3.10	3.74	3.37
74	14	3.45	3.12	3.74	3.37
74	15	3.47	3.13	3.74	3.37
74	16	3.49	3.14	3.74	3.37
74	17	3.50	3.14	3.74	3.37
74	18	3.52	3.15	3.74	3.37
74	19	3.53	3.15	3.74	3.37
74	20	3.54	3.16	3.74	3.37
74	21	3.55	3.16	3.74	3.37
74	22	3.55	3.16	3.74	3.37
74	23	3.56	3.15	3.74	3.37
74	24	3.56	3.15	3.74	3.37
74	25	3.56	3.14	3.74	3.37
74	26	3.55	3.13	3.74	3.37
74	27	3.54	3.12	3.74	3.37
74	28	3.52	3.11	3.74	3.37
74	29	3.50	3.11	3.74	3.37
74	30	3.48	3.11	3.74	3.37
74	31	3.48	3.11	3.74	3.37
74	32	3.48	3.11	3.74	3.37
74	33	3.48	3.11	3.74	3.37
74	34	3.48	3.11	3.74	3.37
74	35	3.48	3.11	3.74	3.37
74	36	3.48	3.11	3.74	3.37
74	37	3.48	3.11	3.74	3.37
74	38	3.48	3.11	3.74	3.37
74	39	3.48	3.11	3.74	3.37
74	40	3.48	3.11	3.74	3.37
74	41	3.48	3.11	3.74	3.37
74	42	3.48	3.11	3.74	3.37
74	43	3.48	3.11	3.74	3.37
74	44	3.48	3.11	3.74	3.37
74	45	3.48	3.11	3.74	3.37
74	46	3.48	3.11	3.74	3.37
74	47	3.48	3.11	3.74	3.37
74	48	3.48	3.11	3.74	3.37

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
74	49	3.48	3.11	3.74	3.37
74	50	3.48	3.11	3.74	3.37
74	51	3.48	3.11	3.74	3.37
74	52	3.48	3.11	3.74	3.37
74	53	3.48	3.11	3.74	3.37
74	54	3.48	3.11	3.74	3.37
74	55	3.48	3.11	3.74	3.37
74	56	3.48	3.11	3.74	3.37
74	57	3.48	3.11	3.74	3.37
75	0	4.36	3.38	3.25	3.04
75	1	4.60	3.12	3.27	3.10
75	2	4.39	2.93	3.30	3.16
75	3	3.93	2.84	3.37	3.23
75	4	3.35	2.84	3.48	3.28
75	5	3.05	2.85	3.63	3.29
75	6	3.09	2.88	3.63	3.29
75	7	3.13	2.90	3.63	3.29
75	8	3.17	2.93	3.63	3.29
75	9	3.20	2.95	3.63	3.29
75	10	3.23	2.97	3.63	3.29
75	11	3.26	2.98	3.63	3.29
75	12	3.29	3.00	3.63	3.29
75	13	3.31	3.01	3.63	3.29
75	14	3.33	3.03	3.63	3.29
75	15	3.35	3.04	3.63	3.29
75	16	3.37	3.05	3.63	3.29
75	17	3.38	3.06	3.63	3.29
75	18	3.40	3.06	3.63	3.29
75	19	3.41	3.07	3.63	3.29
75	20	3.42	3.07	3.63	3.29
75	21	3.43	3.07	3.63	3.29
75	22	3.43	3.07	3.63	3.29
75	23	3.43	3.06	3.63	3.29
75	24	3.43	3.06	3.63	3.29
75	25	3.43	3.05	3.63	3.29
75	26	3.43	3.04	3.63	3.29
75	27	3.42	3.03	3.63	3.29
75	28	3.40	3.02	3.63	3.29
75	29	3.38	3.02	3.63	3.29
75	30	3.36	3.02	3.63	3.29
75	31	3.36	3.02	3.63	3.29
75	32	3.36	3.02	3.63	3.29
75	33	3.36	3.02	3.63	3.29

Worklife Expectancies and Standard Deviations with Competing Risks Using  
Four Decrements from Tables S-4, S-10, S-11, and S-12 and Markov Model

Age	Years of Service	<u>Competing Risks</u>		<u>Markov Model</u>	
		WLE	SD	WLE	SD
75	34	3.36	3.02	3.63	3.29
75	35	3.36	3.02	3.63	3.29
75	36	3.36	3.02	3.63	3.29
75	37	3.36	3.02	3.63	3.29
75	38	3.36	3.02	3.63	3.29
75	39	3.36	3.02	3.63	3.29
75	40	3.36	3.02	3.63	3.29
75	41	3.36	3.02	3.63	3.29
75	42	3.36	3.02	3.63	3.29
75	43	3.36	3.02	3.63	3.29
75	44	3.36	3.02	3.63	3.29
75	45	3.36	3.02	3.63	3.29
75	46	3.36	3.02	3.63	3.29
75	47	3.36	3.02	3.63	3.29
75	48	3.36	3.02	3.63	3.29
75	49	3.36	3.02	3.63	3.29
75	50	3.36	3.02	3.63	3.29
75	51	3.36	3.02	3.63	3.29
75	52	3.36	3.02	3.63	3.29
75	53	3.36	3.02	3.63	3.29
75	54	3.36	3.02	3.63	3.29
75	55	3.36	3.02	3.63	3.29
75	56	3.36	3.02	3.63	3.29
75	57	3.36	3.02	3.63	3.29
75	58	3.36	3.02	3.63	3.29

Notes: WLE denotes Worklife Expectancy  
SD denotes Standard Deviation

#### **IV. Conclusion**

The tables contained in this monograph are timely and provide historical perspective. The worklife expectancies and standard deviations reported utilize the *Twenty-Fifth Actuarial Valuation* which contains the most recently available data, published in the summer of 2012. Historical perspective may be achieved by comparing four decrement competing risks model with the *Worklife Expectancies of Railroad Workers Based on the 23<sup>rd</sup> Actuarial Valuation* (Skoog and Ciecka, 2007). The Markov model worklife expectancies and standard deviations are derived after fully integrating economy-wide transition probabilities with age/service related retirement transition probabilities of railroad workers.

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**Appendix A**

**Tables S-4, S-10, S-11, and S-12**

***Twenty-Fifth Actuarial Valuation of Assets and Liabilities Under the Railroad Retirement Acts as of December 31, 2010 with Technical Supplement, US Railroad Retirement Board, Bureau of the Actuary, Chicago, Illinois, 2012.***

Table S-4. RRB Active Service Mortality Table<sup>a</sup>

Age <sup>b</sup>	1000 $q_{x-.5}$	Age <sup>b</sup>	1000 $q_{x-.5}$
17	1.05	47	1.75
18	1.05	48	1.85
19	1.05	49	1.96
20	1.05	50	2.09
21	1.05	51	2.23
22	1.05	52	2.39
23	1.05	53	2.57
24	1.05	54	2.77
25	1.05	55	3.00
26	1.05	56	3.26
27	1.05	57	3.55
28	1.05	58	3.87
29	1.05	59	4.24
30	1.05	60	4.65
31	1.06	61	5.11
32	1.08	62	5.62
33	1.10	63	6.21
34	1.12	64	6.86
35	1.14	65	7.60
36	1.16	66	8.42
37	1.19	67	9.35
38	1.22	68	10.40
39	1.26	69	11.58
40	1.30	70	12.90
41	1.34	71	14.38
42	1.39	72	16.06
43	1.45	73	17.94
44	1.51	74	20.05
45	1.58	75	22.42
46	1.66		

<sup>a</sup> Deaths in active service are those of employees who last worked in the railroad industry in the year in which death occurred or in the preceding calendar year. The exposures correspond to this definition.

<sup>b</sup> Age attained in the calendar year of exposure.



Table S-10. Calendar year rates<sup>a</sup>  
of immediate<sup>b</sup> age retirement  
(retirements per 1000 exposed)

Age <sup>c</sup>	<u>Years of Service</u>	
	5-29	30&Over
60		610
61		480
62	110	400
63	90	380
64	70	350
65	180	400
66	330	350
67	250	300
68	250	300
69	200	300
70	200	300
71	200	200
72	200	200
73	200	200
74	200	200
75 & over	200	200

<sup>a</sup> Technically probabilities.

<sup>b</sup> Immediate retirements are defined as those for which the calendar year of retirement is the same as, or the year following, the calendar year of last employment in the railroad industry.

<sup>c</sup> The age interval is from  $x - .5$  to  $x + .5$ , except as indicated below:

<u>Age</u>	<u>Years of service</u>	<u>Interval for</u>	
		<u>Exposure</u>	<u>Retirements</u>
60	30 or more	59.5-60.5	60-60.5
62	5-29	61.5-62.5	62-62.5

Table S-11. Rates<sup>a</sup> of immediate<sup>b</sup> disability retirement and of eligibility for disability freeze<sup>c</sup> calendar year rates per 1000 exposed

Age <sup>d</sup>	10-19 Years of Service	20-24 Years of Service	25-29 Years of Service	More than 29 Years of Service
under 35	1.2	3.4	2.2	2.2
35	1.3	3.5	2.3	2.3
36	1.5	3.8	2.5	2.5
37	1.6	4.3	2.8	2.8
38	1.8	5.0	3.2	3.2
39	2.0	5.9	3.8	3.8
40	2.2	7.0	4.5	4.5
41	2.4	8.3	5.4	5.4
42	2.7	9.8	6.4	6.4
43	3.1	11.4	7.4	7.4
44	3.4	13.1	8.5	8.5
45	3.9	14.8	9.8	9.8
46	4.4	16.7	11.2	11.2
47	4.9	18.7	12.6	12.6
48	5.6	20.8	14.0	14.0
49	6.3	23.1	15.4	15.4
50	7.2	25.4	16.9	16.9
51	8.2	28.0	18.4	18.4
52	9.3	30.7	20.0	20.0
53	10.6	33.5	21.6	21.6
54	12.1	36.5	23.2	23.2
55	13.8	39.8	24.8	24.8
56	15.8	43.2	26.5	26.5
57	18.0	46.8	28.2	28.2
58	20.6	50.7	29.9	29.9
59	23.6	54.8	31.7	31.7
60	40.3	59.1	33.5	16.3
61	47.0	63.7	35.4	12.8
62	46.2	68.3	48.4	9.7
63	45.4	67.7	47.8	7.0
64	37.3	63.9	44.0	4.6
65	16.3	42.9	23.0	2.6

<sup>a</sup> Technically probabilities.

<sup>b</sup> Immediate retirements are defined as those for which the calendar year of retirement is the same as, or the year following, the calendar year of last employment in the railroad industry.

<sup>c</sup> Qualified under the social security definition of disability.

<sup>d</sup> Age attained in the calendar year of exposure.

Table S-12. Calendar year rates<sup>a</sup> of final withdrawal

Years of Service <sup>b</sup>	<u>Attained age</u>				
	Under 25	25-34	35-44	45-54	Greater than 54
0	0.186	0.144	0.177	0.210	0.245
1	0.143	0.105	0.112	0.116	0.135
2	0.088	0.069	0.068	0.068	0.077
3	0.063	0.052	0.046	0.045	0.057
4	0.050	0.045	0.037	0.037	0.050
5	0.043	0.040	0.033	0.034	0.045
6	0.039	0.036	0.031	0.031	0.040
7	0.036	0.032	0.028	0.028	0.036
8	0.033	0.028	0.026	0.025	0.032
9	0.030	0.025	0.024	0.023	0.029
10	0.028	0.022	0.022	0.021	0.025
11	0.025	0.020	0.020	0.019	0.023
12	0.023	0.019	0.019	0.017	0.020
13	0.020	0.017	0.017	0.015	0.018
14	0.018	0.016	0.016	0.014	0.016
15	0.016	0.015	0.015	0.013	0.014
16	0.014	0.013	0.013	0.011	0.012
17	0.013	0.012	0.012	0.010	0.011
18	0.011	0.011	0.011	0.009	0.009
19	0.011	0.011	0.011	0.008	0.008
20	0.010	0.010	0.010	0.007	0.007
21	0.009	0.009	0.009	0.007	0.006
22	0.008	0.008	0.008	0.006	0.005
23	0.007	0.007	0.007	0.005	0.004
24	0.006	0.006	0.006	0.005	0.004
25	0.006	0.006	0.006	0.004	0.003
26	0.005	0.005	0.005	0.004	0.003
27	0.004	0.004	0.004	0.003	0.002
28	0.004	0.004	0.004	0.003	0.002
29	0.003	0.003	0.003	0.002	0.001
30 \$ over	0.005	0.005	0.005	0.005	0.009

<sup>a</sup> Technically probabilities.

<sup>b</sup> Rounded to the nearest whole year.

<sup>c</sup> Age attained in the calendar year of exposure.

## **Appendix B**

**Probability Mass Functions Calculated with Competing Risks  
Formula (4) Assuming Four Decrements – Mortality (S-4), Age  
Retirement (S-10), Disability Retirement (S-11), and Withdrawals (S-12)**

This appendix illustrates three probability mass functions, each generated by the recursions in (4) and each showing probabilities of additional years of railroad service. For example, Figure 1 captures probabilities of additional years of railroad service for a twenty year old who has no service credit. As we move from left to right in this figure, “dots” represent probabilities of years of railroad service starting with .5 years, then 1.5 years, 2.5 years, and so on. It shows, at the extreme left, the probability is slightly over 16% that such a person will be in railroad work for only .5 of a year. The next dot indicates that the probability is approximately 10% of only 1.5 years of additional time in railroad work. Therefore, from the first two dots in this figure, we know that the probability is approximately 26% (=16% +10%) that a 20-year-old railroad worker who has zero years of service will spend 1.5 years or less in future railroad work. The average number of years in railroad work for such a person is the worklife expectancy of 18.38 years as reported in the extended table in Section III. The dispersion, or standard deviation, in additional years of railroad work is 16.89 years, also reported in Section III.

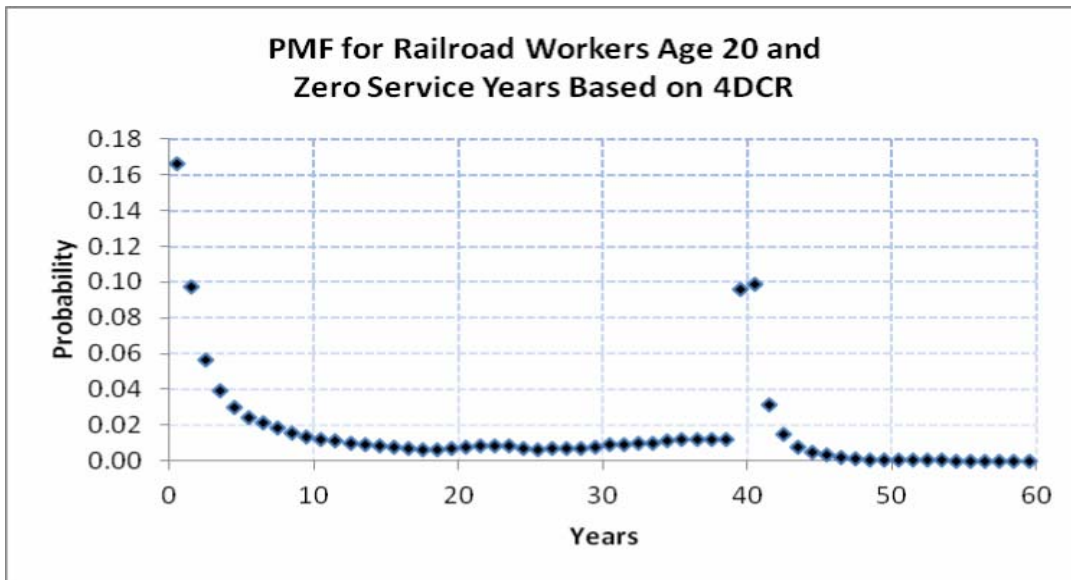


Figure 1. PMF for Railroad Workers Age 20 with Zero Service

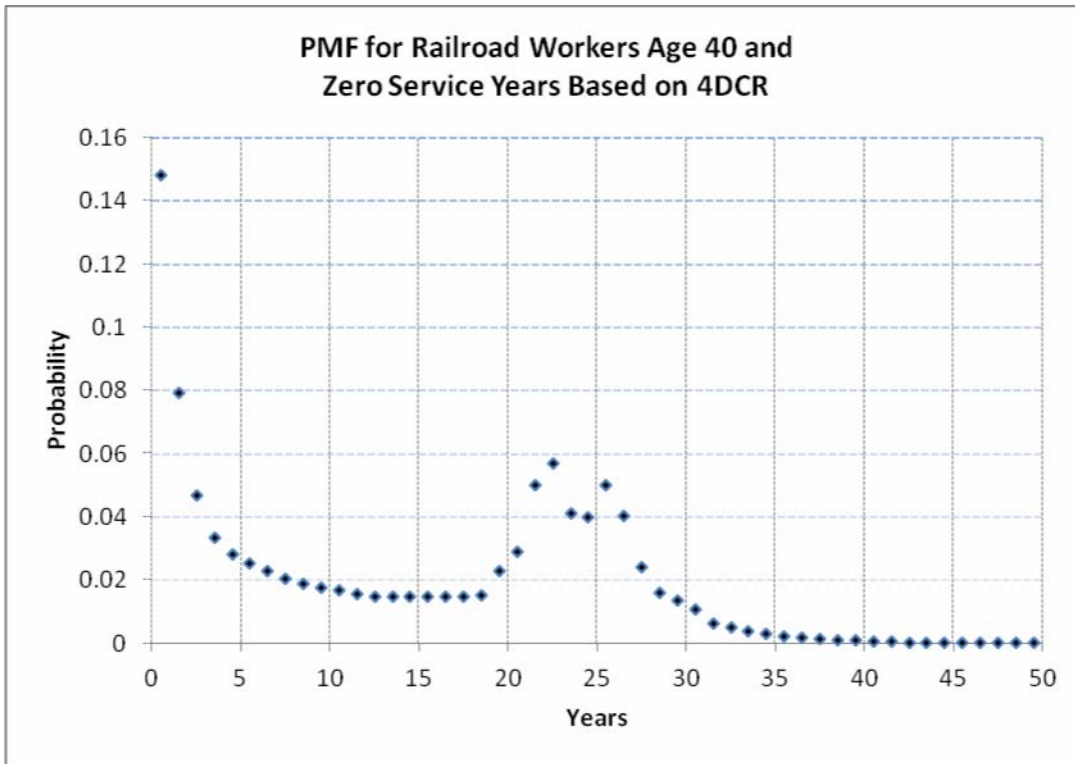


Figure 2. PMF for Railroad Workers Age 40 with Zero Service

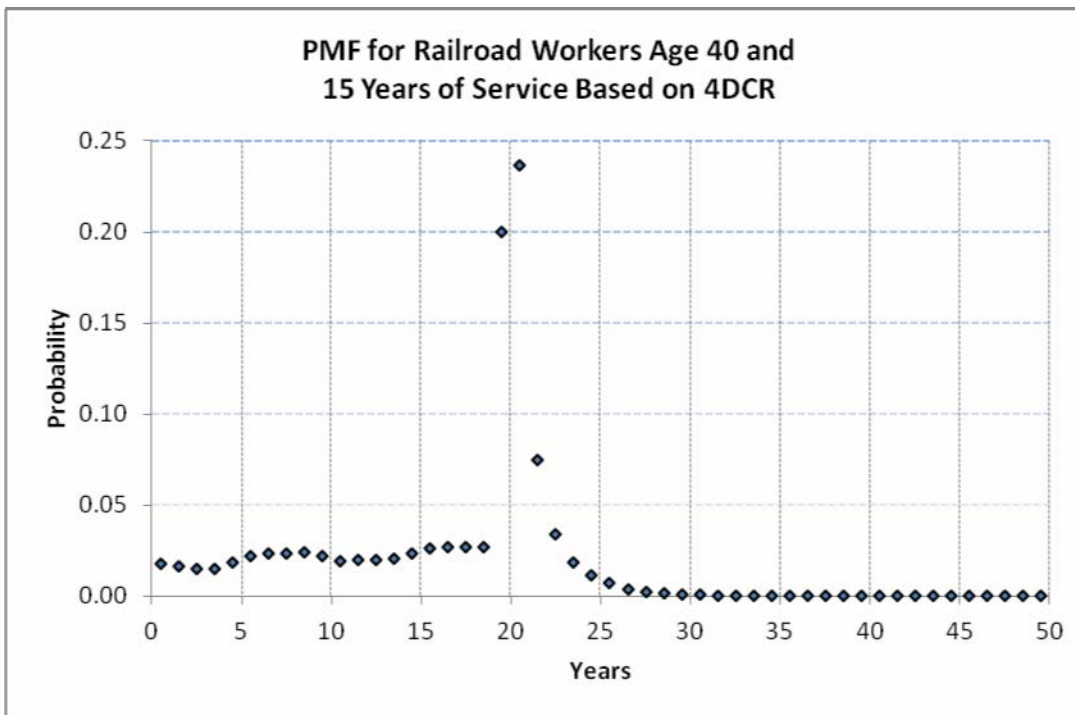


Figure 3. PMF for Railroad Workers Age 40 with 15 Years of Service

## **Appendix C**

### **Worklife Expectancies and Standard Deviations with Competing Risks Assuming Only Three Decrements – Mortality (S-4), Age Retirement (S-10), and Disability Retirement (S-11)**

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
17	0	39.13	8.74
18	0	38.22	8.53
18	1	38.22	8.55
19	0	37.31	8.33
19	1	37.30	8.35
19	2	37.30	8.37
20	0	36.40	8.13
20	1	36.39	8.16
20	2	36.39	8.18
20	3	36.38	8.20
21	0	35.50	7.92
21	1	35.48	7.96
21	2	35.47	7.99
21	3	35.47	8.01
21	4	35.47	8.03
22	0	34.61	7.70
22	1	34.58	7.75
22	2	34.56	7.79
22	3	34.55	7.82
22	4	34.55	7.84
22	5	34.54	7.86
23	0	33.73	7.48
23	1	33.69	7.54
23	2	33.66	7.59
23	3	33.64	7.63
23	4	33.63	7.66
23	5	33.62	7.68
23	6	33.62	7.70
24	0	32.86	7.26
24	1	32.80	7.32
24	2	32.76	7.38
24	3	32.73	7.43
24	4	32.71	7.47
24	5	32.70	7.50
24	6	32.70	7.53
24	7	32.70	7.55
25	0	31.99	7.03



Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
25	1	31.93	7.10
25	2	31.88	7.17
25	3	31.83	7.23
25	4	31.80	7.28
25	5	31.78	7.32
25	6	31.77	7.36
25	7	31.77	7.38
25	8	31.77	7.40
26	0	31.13	6.80
26	1	31.06	6.87
26	2	31.00	6.95
26	3	30.95	7.02
26	4	30.90	7.08
26	5	30.87	7.14
26	6	30.85	7.18
26	7	30.84	7.21
26	8	30.84	7.24
26	9	30.84	7.26
27	0	30.27	6.57
27	1	30.20	6.65
27	2	30.13	6.73
27	3	30.07	6.80
27	4	30.02	6.87
27	5	29.97	6.94
27	6	29.94	7.00
27	7	29.92	7.04
27	8	29.91	7.07
27	9	29.91	7.10
27	10	29.91	7.12
28	0	29.42	6.35
28	1	29.34	6.43
28	2	29.27	6.51
28	3	29.20	6.59
28	4	29.14	6.66
28	5	29.08	6.74
28	6	29.04	6.80
28	7	29.01	6.86
28	8	28.99	6.91
28	9	28.98	6.94
28	10	28.98	6.97
28	11	28.97	6.99
29	0	28.57	6.12

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
29	1	28.49	6.20
29	2	28.41	6.29
29	3	28.33	6.37
29	4	28.26	6.45
29	5	28.20	6.53
29	6	28.15	6.61
29	7	28.10	6.68
29	8	28.07	6.74
29	9	28.05	6.78
29	10	28.04	6.82
29	11	28.04	6.85
29	12	28.04	6.87
30	0	27.73	5.91
30	1	27.64	5.98
30	2	27.55	6.07
30	3	27.47	6.15
30	4	27.39	6.24
30	5	27.32	6.32
30	6	27.26	6.41
30	7	27.21	6.48
30	8	27.17	6.55
30	9	27.13	6.61
30	10	27.11	6.66
30	11	27.11	6.70
30	12	27.10	6.73
30	13	27.10	6.75
31	0	27.79	6.27
31	1	26.79	5.77
31	2	26.70	5.85
31	3	26.61	5.93
31	4	26.53	6.02
31	5	26.45	6.11
31	6	26.39	6.20
31	7	26.32	6.28
31	8	26.27	6.36
31	9	26.23	6.44
31	10	26.19	6.50
31	11	26.17	6.55
31	12	26.17	6.59
31	13	26.16	6.61
31	14	26.16	6.64
32	0	27.72	6.56
32	1	26.85	6.15

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
32	2	25.85	5.64
32	3	25.76	5.72
32	4	25.67	5.81
32	5	25.59	5.90
32	6	25.51	5.99
32	7	25.44	6.08
32	8	25.38	6.17
32	9	25.33	6.25
32	10	25.29	6.33
32	11	25.25	6.39
32	12	25.23	6.44
32	13	25.22	6.48
32	14	25.22	6.51
32	15	25.22	6.53
33	0	27.31	6.66
33	1	26.78	6.44
33	2	25.91	6.02
33	3	24.90	5.51
33	4	24.81	5.60
33	5	24.73	5.69
33	6	24.65	5.78
33	7	24.57	5.88
33	8	24.50	5.97
33	9	24.44	6.06
33	10	24.39	6.14
33	11	24.34	6.22
33	12	24.31	6.29
33	13	24.29	6.34
33	14	24.28	6.38
33	15	24.28	6.41
33	16	24.28	6.43
34	0	26.85	6.75
34	1	26.37	6.54
34	2	25.84	6.32
34	3	24.97	5.90
34	4	23.96	5.39
34	5	23.87	5.48
34	6	23.78	5.57
34	7	23.70	5.67
34	8	23.63	5.77
34	9	23.56	5.86
34	10	23.49	5.96
34	11	23.44	6.04
34	12	23.40	6.12

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
34	13	23.36	6.19
34	14	23.34	6.24
34	15	23.34	6.28
34	16	23.33	6.31
34	17	23.33	6.34
35	0	26.33	6.83
35	1	25.91	6.63
35	2	25.43	6.42
35	3	24.90	6.20
35	4	24.03	5.79
35	5	23.02	5.27
35	6	22.93	5.37
35	7	22.84	5.46
35	8	22.76	5.56
35	9	22.68	5.66
35	10	22.61	5.76
35	11	22.55	5.86
35	12	22.50	5.95
35	13	22.45	6.03
35	14	22.42	6.09
35	15	22.40	6.15
35	16	22.39	6.19
35	17	22.39	6.22
35	18	22.38	6.24
36	0	25.75	6.90
36	1	25.39	6.72
36	2	24.97	6.52
36	3	24.50	6.30
36	4	23.96	6.09
36	5	23.09	5.67
36	6	22.07	5.16
36	7	21.98	5.25
36	8	21.90	5.35
36	9	21.81	5.46
36	10	21.74	5.56
36	11	21.67	5.66
36	12	21.61	5.76
36	13	21.55	5.85
36	14	21.51	5.93
36	15	21.48	6.00
36	16	21.46	6.05
36	17	21.45	6.10
36	18	21.44	6.13
36	19	21.44	6.15

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
37	0	24.94	6.75
37	1	24.82	6.78
37	2	24.46	6.60
37	3	24.04	6.40
37	4	23.56	6.19
37	5	23.03	5.97
37	6	22.15	5.55
37	7	21.13	5.04
37	8	21.04	5.14
37	9	20.96	5.24
37	10	20.87	5.35
37	11	20.80	5.45
37	12	20.73	5.56
37	13	20.66	5.66
37	14	20.61	5.75
37	15	20.57	5.84
37	16	20.53	5.91
37	17	20.51	5.96
37	18	20.50	6.00
37	19	20.50	6.04
37	20	20.53	6.02
38	0	24.18	6.64
38	1	24.02	6.63
38	2	23.89	6.66
38	3	23.53	6.48
38	4	23.11	6.28
38	5	22.63	6.07
38	6	22.09	5.86
38	7	21.22	5.44
38	8	20.19	4.92
38	9	20.10	5.02
38	10	20.01	5.13
38	11	19.93	5.24
38	12	19.86	5.35
38	13	19.79	5.46
38	14	19.72	5.56
38	15	19.67	5.66
38	16	19.62	5.74
38	17	19.59	5.82
38	18	19.57	5.87
38	19	19.56	5.92
38	20	19.59	5.90
38	21	19.64	5.84

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
39	0	23.41	6.53
39	1	23.25	6.51
39	2	23.09	6.51
39	3	22.96	6.54
39	4	22.60	6.36
39	5	22.18	6.16
39	6	21.70	5.95
39	7	21.16	5.74
39	8	20.28	5.32
39	9	19.26	4.80
39	10	19.16	4.91
39	11	19.08	5.02
39	12	18.99	5.14
39	13	18.92	5.25
39	14	18.85	5.36
39	15	18.78	5.46
39	16	18.73	5.56
39	17	18.68	5.65
39	18	18.65	5.72
39	19	18.63	5.78
39	20	18.66	5.77
39	21	18.72	5.71
39	22	18.77	5.64
40	0	22.65	6.47
40	1	22.48	6.40
40	2	22.33	6.39
40	3	22.17	6.38
40	4	22.04	6.42
40	5	21.68	6.24
40	6	21.25	6.04
40	7	20.77	5.83
40	8	20.23	5.62
40	9	19.35	5.20
40	10	18.32	4.69
40	11	18.23	4.80
40	12	18.14	4.91
40	13	18.06	5.03
40	14	17.98	5.15
40	15	17.91	5.26
40	16	17.84	5.37
40	17	17.79	5.47
40	18	17.75	5.56
40	19	17.71	5.64
40	20	17.73	5.63
40	21	17.80	5.57

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
40	22	17.86	5.50
40	23	17.91	5.43
41	0	21.82	6.40
41	1	21.73	6.34
41	2	21.56	6.28
41	3	21.41	6.26
41	4	21.24	6.26
41	5	21.12	6.30
41	6	20.75	6.12
41	7	20.33	5.92
41	8	19.84	5.71
41	9	19.30	5.50
41	10	18.42	5.09
41	11	17.38	4.57
41	12	17.29	4.69
41	13	17.20	4.80
41	14	17.12	4.93
41	15	17.04	5.05
41	16	16.97	5.16
41	17	16.91	5.28
41	18	16.85	5.38
41	19	16.81	5.47
41	20	16.82	5.48
41	21	16.89	5.41
41	22	16.96	5.34
41	23	17.02	5.27
41	24	17.07	5.19
42	0	20.97	6.29
42	1	20.91	6.27
42	2	20.81	6.21
42	3	20.65	6.15
42	4	20.49	6.14
42	5	20.33	6.13
42	6	20.20	6.18
42	7	19.83	6.00
42	8	19.41	5.80
42	9	18.92	5.59
42	10	18.38	5.39
42	11	17.49	4.97
42	12	16.45	4.45
42	13	16.36	4.57
42	14	16.27	4.70
42	15	16.18	4.82
42	16	16.11	4.95

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
42	17	16.04	5.07
42	18	15.97	5.18
42	19	15.92	5.29
42	20	15.93	5.30
42	21	16.00	5.24
42	22	16.06	5.17
42	23	16.13	5.09
42	24	16.19	5.01
42	25	16.22	4.97
43	0	20.13	6.19
43	1	20.06	6.16
43	2	20.00	6.14
43	3	19.90	6.08
43	4	19.73	6.02
43	5	19.58	6.01
43	6	19.41	6.01
43	7	19.29	6.05
43	8	18.92	5.87
43	9	18.49	5.68
43	10	18.00	5.47
43	11	17.45	5.27
43	12	16.56	4.85
43	13	15.52	4.34
43	14	15.43	4.46
43	15	15.34	4.59
43	16	15.25	4.72
43	17	15.17	4.85
43	18	15.10	4.97
43	19	15.04	5.09
43	20	15.05	5.12
43	21	15.12	5.05
43	22	15.18	4.99
43	23	15.25	4.91
43	24	15.32	4.82
43	25	15.35	4.78
43	26	15.35	4.78
44	0	19.29	6.09
44	1	19.23	6.05
44	2	19.15	6.02
44	3	19.09	6.00
44	4	18.99	5.94
44	5	18.82	5.88
44	6	18.67	5.87
44	7	18.50	5.88



Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
44	8	18.37	5.93
44	9	18.00	5.75
44	10	17.57	5.55
44	11	17.08	5.35
44	12	16.53	5.15
44	13	15.64	4.74
44	14	14.59	4.22
44	15	14.50	4.35
44	16	14.41	4.49
44	17	14.32	4.62
44	18	14.24	4.76
44	19	14.17	4.88
44	20	14.18	4.91
44	21	14.25	4.85
44	22	14.32	4.78
44	23	14.39	4.71
44	24	14.46	4.62
44	25	14.49	4.58
44	26	14.49	4.58
44	27	14.49	4.58
45	0	18.44	5.99
45	1	18.38	5.95
45	2	18.32	5.92
45	3	18.25	5.88
45	4	18.19	5.87
45	5	18.09	5.81
45	6	17.92	5.75
45	7	17.76	5.74
45	8	17.60	5.75
45	9	17.47	5.80
45	10	17.10	5.62
45	11	16.66	5.43
45	12	16.17	5.23
45	13	15.62	5.03
45	14	14.71	4.62
45	15	13.66	4.11
45	16	13.57	4.25
45	17	13.48	4.38
45	18	13.39	4.53
45	19	13.32	4.66
45	20	13.32	4.70
45	21	13.39	4.64
45	22	13.46	4.57
45	23	13.54	4.49
45	24	13.61	4.41

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
45	25	13.64	4.36
45	26	13.64	4.36
45	27	13.64	4.36
45	28	13.64	4.36
46	0	17.59	5.89
46	1	17.54	5.85
46	2	17.49	5.81
46	3	17.43	5.77
46	4	17.35	5.74
46	5	17.29	5.73
46	6	17.19	5.67
46	7	17.02	5.61
46	8	16.86	5.60
46	9	16.69	5.61
46	10	16.57	5.67
46	11	16.19	5.49
46	12	15.76	5.30
46	13	15.26	5.10
46	14	14.71	4.91
46	15	13.80	4.51
46	16	12.74	4.00
46	17	12.64	4.14
46	18	12.55	4.28
46	19	12.47	4.43
46	20	12.47	4.47
46	21	12.54	4.42
46	22	12.62	4.35
46	23	12.69	4.27
46	24	12.77	4.18
46	25	12.80	4.14
46	26	12.80	4.14
46	27	12.80	4.14
46	28	12.80	4.14
46	29	12.80	4.14
47	0	16.70	5.75
47	1	16.70	5.75
47	2	16.65	5.70
47	3	16.60	5.66
47	4	16.54	5.63
47	5	16.46	5.60
47	6	16.39	5.58
47	7	16.30	5.52
47	8	16.13	5.47
47	9	15.97	5.47

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
47	10	15.80	5.48
47	11	15.67	5.54
47	12	15.29	5.37
47	13	14.85	5.18
47	14	14.35	4.98
47	15	13.80	4.79
47	16	12.88	4.39
47	17	11.82	3.89
47	18	11.72	4.04
47	19	11.63	4.19
47	20	11.63	4.23
47	21	11.70	4.18
47	22	11.78	4.12
47	23	11.86	4.04
47	24	11.93	3.95
47	25	11.97	3.91
47	26	11.97	3.91
47	27	11.97	3.91
47	28	11.97	3.91
47	29	11.97	3.91
47	30	11.97	3.91
48	0	15.82	5.60
48	1	15.82	5.60
48	2	15.82	5.60
48	3	15.77	5.56
48	4	15.71	5.52
48	5	15.65	5.49
48	6	15.57	5.46
48	7	15.51	5.44
48	8	15.41	5.38
48	9	15.24	5.33
48	10	15.08	5.33
48	11	14.91	5.34
48	12	14.78	5.41
48	13	14.40	5.24
48	14	13.96	5.05
48	15	13.45	4.86
48	16	12.89	4.67
48	17	11.97	4.28
48	18	10.90	3.78
48	19	10.80	3.94
48	20	10.79	3.99
48	21	10.87	3.94
48	22	10.95	3.88
48	23	11.03	3.80

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
48	24	11.11	3.71
48	25	11.15	3.67
48	26	11.15	3.67
48	27	11.15	3.67
48	28	11.15	3.67
48	29	11.15	3.67
48	30	11.15	3.67
48	31	11.15	3.67
49	0	14.94	5.45
49	1	14.94	5.45
49	2	14.94	5.45
49	3	14.94	5.45
49	4	14.89	5.41
49	5	14.83	5.37
49	6	14.77	5.34
49	7	14.69	5.31
49	8	14.63	5.29
49	9	14.53	5.24
49	10	14.35	5.18
49	11	14.19	5.19
49	12	14.02	5.21
49	13	13.89	5.28
49	14	13.51	5.11
49	15	13.06	4.93
49	16	12.56	4.74
49	17	11.99	4.56
49	18	11.06	4.17
49	19	9.98	3.68
49	20	9.97	3.74
49	21	10.04	3.70
49	22	10.12	3.64
49	23	10.20	3.56
49	24	10.29	3.47
49	25	10.33	3.42
49	26	10.33	3.42
49	27	10.33	3.42
49	28	10.33	3.42
49	29	10.33	3.42
49	30	10.33	3.42
49	31	10.33	3.42
49	32	10.33	3.42
50	0	14.06	5.31
50	1	14.06	5.31
50	2	14.06	5.31

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
50	3	14.06	5.31
50	4	14.06	5.31
50	5	14.01	5.26
50	6	13.96	5.22
50	7	13.89	5.19
50	8	13.82	5.16
50	9	13.75	5.15
50	10	13.65	5.09
50	11	13.48	5.04
50	12	13.31	5.05
50	13	13.14	5.07
50	14	13.01	5.15
50	15	12.62	4.98
50	16	12.17	4.80
50	17	11.66	4.62
50	18	11.09	4.45
50	19	10.15	4.07
50	20	9.15	3.48
50	21	9.22	3.44
50	22	9.30	3.39
50	23	9.38	3.32
50	24	9.47	3.23
50	25	9.51	3.18
50	26	9.51	3.18
50	27	9.51	3.18
50	28	9.51	3.18
50	29	9.51	3.18
50	30	9.51	3.18
50	31	9.51	3.18
50	32	9.51	3.18
50	33	9.51	3.18
51	0	13.20	5.16
51	1	13.20	5.16
51	2	13.20	5.16
51	3	13.20	5.16
51	4	13.20	5.16
51	5	13.20	5.16
51	6	13.15	5.11
51	7	13.09	5.07
51	8	13.03	5.04
51	9	12.95	5.01
51	10	12.88	5.00
51	11	12.78	4.94
51	12	12.60	4.89
51	13	12.44	4.91

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
51	14	12.27	4.94
51	15	12.13	5.02
51	16	11.74	4.86
51	17	11.29	4.68
51	18	10.77	4.51
51	19	10.20	4.34
51	20	9.34	3.87
51	21	8.40	3.19
51	22	8.48	3.14
51	23	8.56	3.08
51	24	8.65	2.99
51	25	8.69	2.94
51	26	8.69	2.94
51	27	8.69	2.94
51	28	8.69	2.94
51	29	8.69	2.94
51	30	8.69	2.94
51	31	8.69	2.94
51	32	8.69	2.94
51	33	8.69	2.94
51	34	8.69	2.94
52	0	12.34	5.01
52	1	12.34	5.01
52	2	12.34	5.01
52	3	12.34	5.01
52	4	12.34	5.01
52	5	12.34	5.01
52	6	12.34	5.01
52	7	12.29	4.96
52	8	12.23	4.92
52	9	12.17	4.89
52	10	12.09	4.86
52	11	12.02	4.85
52	12	11.92	4.79
52	13	11.74	4.75
52	14	11.57	4.77
52	15	11.40	4.81
52	16	11.26	4.90
52	17	10.87	4.74
52	18	10.41	4.57
52	19	9.89	4.40
52	20	9.41	4.14
52	21	8.63	3.58
52	22	7.66	2.90
52	23	7.74	2.84

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
52	24	7.83	2.75
52	25	7.87	2.71
52	26	7.87	2.71
52	27	7.87	2.71
52	28	7.87	2.71
52	29	7.87	2.71
52	30	7.87	2.71
52	31	7.87	2.71
52	32	7.87	2.71
52	33	7.87	2.71
52	34	7.87	2.71
52	35	7.87	2.71
53	0	11.49	4.86
53	1	11.49	4.86
53	2	11.49	4.86
53	3	11.49	4.86
53	4	11.49	4.86
53	5	11.49	4.86
53	6	11.49	4.86
53	7	11.49	4.86
53	8	11.44	4.81
53	9	11.38	4.77
53	10	11.31	4.74
53	11	11.23	4.72
53	12	11.16	4.71
53	13	11.06	4.65
53	14	10.88	4.61
53	15	10.71	4.63
53	16	10.53	4.68
53	17	10.40	4.78
53	18	10.00	4.62
53	19	9.53	4.46
53	20	9.11	4.20
53	21	8.72	3.85
53	22	7.92	3.29
53	23	6.92	2.61
53	24	7.00	2.53
53	25	7.04	2.49
53	26	7.04	2.49
53	27	7.04	2.49
53	28	7.04	2.49
53	29	7.04	2.49
53	30	7.04	2.49
53	31	7.04	2.49
53	32	7.04	2.49

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
53	33	7.04	2.49
53	34	7.04	2.49
53	35	7.04	2.49
53	36	7.04	2.49
54	0	10.64	4.71
54	1	10.64	4.71
54	2	10.64	4.71
54	3	10.64	4.71
54	4	10.64	4.71
54	5	10.64	4.71
54	6	10.64	4.71
54	7	10.64	4.71
54	8	10.64	4.71
54	9	10.59	4.67
54	10	10.53	4.63
54	11	10.47	4.60
54	12	10.38	4.57
54	13	10.32	4.56
54	14	10.21	4.51
54	15	10.03	4.47
54	16	9.86	4.50
54	17	9.68	4.55
54	18	9.54	4.66
54	19	9.13	4.51
54	20	8.77	4.26
54	21	8.45	3.91
54	22	8.05	3.56
54	23	7.21	3.01
54	24	6.17	2.32
54	25	6.21	2.28
54	26	6.21	2.28
54	27	6.21	2.28
54	28	6.21	2.28
54	29	6.21	2.28
54	30	6.21	2.28
54	31	6.21	2.28
54	32	6.21	2.28
54	33	6.21	2.28
54	34	6.21	2.28
54	35	6.21	2.28
54	36	6.21	2.28
54	37	6.21	2.28
55	0	9.81	4.57
55	1	9.81	4.57



Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
55	2	9.81	4.57
55	3	9.81	4.57
55	4	9.81	4.57
55	5	9.81	4.57
55	6	9.81	4.57
55	7	9.81	4.57
55	8	9.81	4.57
55	9	9.81	4.57
55	10	9.75	4.52
55	11	9.69	4.48
55	12	9.63	4.45
55	13	9.54	4.43
55	14	9.47	4.43
55	15	9.37	4.37
55	16	9.18	4.34
55	17	9.01	4.38
55	18	8.82	4.44
55	19	8.68	4.55
55	20	8.38	4.32
55	21	8.12	3.98
55	22	7.79	3.62
55	23	7.37	3.26
55	24	6.50	2.72
55	25	5.37	2.11
55	26	5.37	2.11
55	27	5.37	2.11
55	28	5.37	2.11
55	29	5.37	2.11
55	30	5.37	2.11
55	31	5.37	2.11
55	32	5.37	2.11
55	33	5.37	2.11
55	34	5.37	2.11
55	35	5.37	2.11
55	36	5.37	2.11
55	37	5.37	2.11
55	38	5.37	2.11
56	0	8.98	4.43
56	1	8.98	4.43
56	2	8.98	4.43
56	3	8.98	4.43
56	4	8.98	4.43
56	5	8.98	4.43
56	6	8.98	4.43
56	7	8.98	4.43

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
56	8	8.98	4.43
56	9	8.98	4.43
56	10	8.98	4.43
56	11	8.92	4.39
56	12	8.86	4.35
56	13	8.79	4.32
56	14	8.71	4.30
56	15	8.64	4.29
56	16	8.53	4.24
56	17	8.34	4.21
56	18	8.16	4.26
56	19	7.97	4.33
56	20	7.94	4.38
56	21	7.75	4.06
56	22	7.48	3.71
56	23	7.13	3.34
56	24	6.69	2.97
56	25	5.73	2.51
56	26	4.51	1.96
56	27	4.51	1.96
56	28	4.51	1.96
56	29	4.51	1.96
56	30	4.51	1.96
56	31	4.51	1.96
56	32	4.51	1.96
56	33	4.51	1.96
56	34	4.51	1.96
56	35	4.51	1.96
56	36	4.51	1.96
56	37	4.51	1.96
56	38	4.51	1.96
56	39	4.51	1.96
57	0	8.15	4.30
57	1	8.15	4.30
57	2	8.15	4.30
57	3	8.15	4.30
57	4	8.15	4.30
57	5	8.15	4.30
57	6	8.15	4.30
57	7	8.15	4.30
57	8	8.15	4.30
57	9	8.15	4.30
57	10	8.15	4.30
57	11	8.15	4.30
57	12	8.10	4.26

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
57	13	8.03	4.22
57	14	7.96	4.19
57	15	7.88	4.18
57	16	7.80	4.17
57	17	7.70	4.12
57	18	7.50	4.10
57	19	7.32	4.16
57	20	7.24	4.17
57	21	7.32	4.14
57	22	7.12	3.81
57	23	6.83	3.44
57	24	6.46	3.06
57	25	5.94	2.75
57	26	4.89	2.37
57	27	3.64	1.86
57	28	3.64	1.86
57	29	3.64	1.86
57	30	3.64	1.86
57	31	3.64	1.86
57	32	3.64	1.86
57	33	3.64	1.86
57	34	3.64	1.86
57	35	3.64	1.86
57	36	3.64	1.86
57	37	3.64	1.86
57	38	3.64	1.86
57	39	3.64	1.86
57	40	3.64	1.86
58	0	7.80	4.22
58	1	7.33	4.19
58	2	7.33	4.19
58	3	7.33	4.19
58	4	7.33	4.19
58	5	7.33	4.19
58	6	7.33	4.19
58	7	7.33	4.19
58	8	7.33	4.19
58	9	7.33	4.19
58	10	7.33	4.19
58	11	7.33	4.19
58	12	7.33	4.19
58	13	7.27	4.14
58	14	7.21	4.11
58	15	7.14	4.08
58	16	7.05	4.07

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
58	17	6.98	4.07
58	18	6.86	4.02
58	19	6.66	4.01
58	20	6.58	4.01
58	21	6.61	3.96
58	22	6.70	3.92
58	23	6.48	3.57
58	24	6.18	3.19
58	25	5.73	2.85
58	26	5.13	2.61
58	27	4.04	2.26
58	28	2.74	1.79
58	29	2.74	1.79
58	30	2.74	1.79
58	31	2.74	1.79
58	32	2.74	1.79
58	33	2.74	1.79
58	34	2.74	1.79
58	35	2.74	1.79
58	36	2.74	1.79
58	37	2.74	1.79
58	38	2.74	1.79
58	39	2.74	1.79
58	40	2.74	1.79
58	41	2.74	1.79
59	0	7.34	4.15
59	1	7.00	4.10
59	2	6.51	4.09
59	3	6.51	4.09
59	4	6.51	4.09
59	5	6.51	4.09
59	6	6.51	4.09
59	7	6.51	4.09
59	8	6.51	4.09
59	9	6.51	4.09
59	10	6.51	4.09
59	11	6.51	4.09
59	12	6.51	4.09
59	13	6.51	4.09
59	14	6.46	4.05
59	15	6.39	4.01
59	16	6.32	3.99
59	17	6.22	3.97
59	18	6.15	3.98
59	19	6.03	3.93

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
59	20	5.93	3.87
59	21	5.95	3.83
59	22	5.97	3.77
59	23	6.07	3.72
59	24	5.84	3.36
59	25	5.46	3.01
59	26	4.92	2.72
59	27	4.29	2.50
59	28	3.17	2.20
59	29	1.82	1.77
59	30	1.82	1.77
59	31	1.82	1.77
59	32	1.82	1.77
59	33	1.82	1.77
59	34	1.82	1.77
59	35	1.82	1.77
59	36	1.82	1.77
59	37	1.82	1.77
59	38	1.82	1.77
59	39	1.82	1.77
59	40	1.82	1.77
59	41	1.82	1.77
59	42	1.82	1.77
60	0	6.83	4.06
60	1	6.60	4.00
60	2	6.24	3.98
60	3	5.74	3.99
60	4	5.74	3.99
60	5	5.74	3.99
60	6	5.74	3.99
60	7	5.74	3.99
60	8	5.74	3.99
60	9	5.74	3.99
60	10	5.74	3.99
60	11	5.74	3.99
60	12	5.74	3.99
60	13	5.74	3.99
60	14	5.74	3.99
60	15	5.68	3.95
60	16	5.61	3.91
60	17	5.53	3.89
60	18	5.44	3.89
60	19	5.36	3.90
60	20	5.29	3.83
60	21	5.28	3.73

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
60	22	5.30	3.69
60	23	5.33	3.62
60	24	5.43	3.55
60	25	5.12	3.21
60	26	4.65	2.90
60	27	4.08	2.63
60	28	3.44	2.43
60	29	2.27	2.17
60	30	1.58	1.94
60	31	1.58	1.94
60	32	1.58	1.94
60	33	1.58	1.94
60	34	1.58	1.94
60	35	1.58	1.94
60	36	1.58	1.94
60	37	1.58	1.94
60	38	1.58	1.94
60	39	1.58	1.94
60	40	1.58	1.94
60	41	1.58	1.94
60	42	1.58	1.94
60	43	1.58	1.94
61	0	6.73	4.07
61	1	6.15	3.89
61	2	5.91	3.85
61	3	5.53	3.85
61	4	5.00	3.91
61	5	5.00	3.91
61	6	5.00	3.91
61	7	5.00	3.91
61	8	5.00	3.91
61	9	5.00	3.91
61	10	5.00	3.91
61	11	5.00	3.91
61	12	5.00	3.91
61	13	5.00	3.91
61	14	5.00	3.91
61	15	5.00	3.91
61	16	4.94	3.87
61	17	4.87	3.84
61	18	4.79	3.82
61	19	4.69	3.82
61	20	4.65	3.82
61	21	4.63	3.74
61	22	4.62	3.63

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
61	23	4.64	3.58
61	24	4.67	3.50
61	25	4.71	3.45
61	26	4.31	3.13
61	27	3.81	2.83
61	28	3.23	2.58
61	29	2.56	2.41
61	30	1.96	2.25
61	31	1.96	2.25
61	32	1.96	2.25
61	33	1.96	2.25
61	34	1.96	2.25
61	35	1.96	2.25
61	36	1.96	2.25
61	37	1.96	2.25
61	38	1.96	2.25
61	39	1.96	2.25
61	40	1.96	2.25
61	41	1.96	2.25
61	42	1.96	2.25
61	43	1.96	2.25
61	44	1.96	2.25
62	0	7.27	4.22
62	1	6.07	3.90
62	2	5.46	3.76
62	3	5.20	3.74
62	4	4.80	3.77
62	5	4.53	3.79
62	6	4.53	3.79
62	7	4.53	3.79
62	8	4.53	3.79
62	9	4.53	3.79
62	10	4.53	3.79
62	11	4.53	3.79
62	12	4.53	3.79
62	13	4.53	3.79
62	14	4.53	3.79
62	15	4.53	3.79
62	16	4.53	3.79
62	17	4.46	3.75
62	18	4.38	3.73
62	19	4.29	3.72
62	20	4.24	3.72
62	21	4.24	3.72
62	22	4.22	3.62

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
62	23	4.20	3.50
62	24	4.23	3.43
62	25	4.21	3.35
62	26	4.18	3.31
62	27	3.73	3.01
62	28	3.18	2.75
62	29	2.52	2.54
62	30	2.18	2.45
62	31	2.18	2.45
62	32	2.18	2.45
62	33	2.18	2.45
62	34	2.18	2.45
62	35	2.18	2.45
62	36	2.18	2.45
62	37	2.18	2.45
62	38	2.18	2.45
62	39	2.18	2.45
62	40	2.18	2.45
62	41	2.18	2.45
62	42	2.18	2.45
62	43	2.18	2.45
62	44	2.18	2.45
62	45	2.18	2.45
63	0	7.62	4.18
63	1	6.64	4.02
63	2	5.37	3.77
63	3	4.73	3.67
63	4	4.46	3.67
63	5	4.25	3.68
63	6	4.25	3.68
63	7	4.25	3.68
63	8	4.25	3.68
63	9	4.25	3.68
63	10	4.25	3.68
63	11	4.25	3.68
63	12	4.25	3.68
63	13	4.25	3.68
63	14	4.25	3.68
63	15	4.25	3.68
63	16	4.25	3.68
63	17	4.25	3.68
63	18	4.17	3.65
63	19	4.07	3.63
63	20	4.03	3.63
63	21	4.03	3.63



Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
63	22	4.03	3.63
63	23	4.01	3.52
63	24	3.98	3.37
63	25	3.97	3.29
63	26	3.89	3.21
63	27	3.84	3.18
63	28	3.32	2.91
63	29	2.67	2.72
63	30	2.31	2.62
63	31	2.31	2.62
63	32	2.31	2.62
63	33	2.31	2.62
63	34	2.31	2.62
63	35	2.31	2.62
63	36	2.31	2.62
63	37	2.31	2.62
63	38	2.31	2.62
63	39	2.31	2.62
63	40	2.31	2.62
63	41	2.31	2.62
63	42	2.31	2.62
63	43	2.31	2.62
63	44	2.31	2.62
63	45	2.31	2.62
63	46	2.31	2.62
64	0	8.04	4.03
64	1	6.98	3.96
64	2	5.95	3.88
64	3	4.62	3.70
64	4	3.95	3.64
64	5	3.81	3.63
64	6	3.81	3.63
64	7	3.81	3.63
64	8	3.81	3.63
64	9	3.81	3.63
64	10	3.81	3.63
64	11	3.81	3.63
64	12	3.81	3.63
64	13	3.81	3.63
64	14	3.81	3.63
64	15	3.81	3.63
64	16	3.81	3.63
64	17	3.81	3.63
64	18	3.81	3.63
64	19	3.71	3.60

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
64	20	3.66	3.60
64	21	3.66	3.60
64	22	3.66	3.60
64	23	3.66	3.60
64	24	3.64	3.46
64	25	3.57	3.30
64	26	3.50	3.22
64	27	3.41	3.14
64	28	3.36	3.11
64	29	2.75	2.90
64	30	2.40	2.80
64	31	2.40	2.80
64	32	2.40	2.80
64	33	2.40	2.80
64	34	2.40	2.80
64	35	2.40	2.80
64	36	2.40	2.80
64	37	2.40	2.80
64	38	2.40	2.80
64	39	2.40	2.80
64	40	2.40	2.80
64	41	2.40	2.80
64	42	2.40	2.80
64	43	2.40	2.80
64	44	2.40	2.80
64	45	2.40	2.80
64	46	2.40	2.80
64	47	2.40	2.80
65	0	8.16	3.84
65	1	7.30	3.84
65	2	6.21	3.84
65	3	5.14	3.80
65	4	3.77	3.68
65	5	3.42	3.63
65	6	3.42	3.63
65	7	3.42	3.63
65	8	3.42	3.63
65	9	3.42	3.63
65	10	3.42	3.63
65	11	3.42	3.63
65	12	3.42	3.63
65	13	3.42	3.63
65	14	3.42	3.63
65	15	3.42	3.63
65	16	3.42	3.63

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
65	17	3.42	3.63
65	18	3.42	3.63
65	19	3.42	3.63
65	20	3.37	3.62
65	21	3.37	3.62
65	22	3.37	3.62
65	23	3.37	3.62
65	24	3.37	3.62
65	25	3.30	3.46
65	26	3.17	3.30
65	27	3.08	3.21
65	28	2.98	3.13
65	29	2.91	3.11
65	30	2.59	3.01
65	31	2.59	3.01
65	32	2.59	3.01
65	33	2.59	3.01
65	34	2.59	3.01
65	35	2.59	3.01
65	36	2.59	3.01
65	37	2.59	3.01
65	38	2.59	3.01
65	39	2.59	3.01
65	40	2.59	3.01
65	41	2.59	3.01
65	42	2.59	3.01
65	43	2.59	3.01
65	44	2.59	3.01
65	45	2.59	3.01
65	46	2.59	3.01
65	47	2.59	3.01
65	48	2.59	3.01
66	0	8.14	3.72
66	1	7.29	3.74
66	2	6.42	3.77
66	3	5.30	3.80
66	4	4.22	3.79
66	5	3.53	3.71
66	6	3.53	3.71
66	7	3.53	3.71
66	8	3.53	3.71
66	9	3.53	3.71
66	10	3.53	3.71
66	11	3.53	3.71
66	12	3.53	3.71

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
66	13	3.53	3.71
66	14	3.53	3.71
66	15	3.53	3.71
66	16	3.53	3.71
66	17	3.53	3.71
66	18	3.53	3.71
66	19	3.53	3.71
66	20	3.53	3.71
66	21	3.53	3.71
66	22	3.53	3.71
66	23	3.53	3.71
66	24	3.53	3.71
66	25	3.53	3.71
66	26	3.37	3.53
66	27	3.18	3.36
66	28	3.07	3.28
66	29	2.92	3.22
66	30	2.88	3.21
66	31	2.88	3.21
66	32	2.88	3.21
66	33	2.88	3.21
66	34	2.88	3.21
66	35	2.88	3.21
66	36	2.88	3.21
66	37	2.88	3.21
66	38	2.88	3.21
66	39	2.88	3.21
66	40	2.88	3.21
66	41	2.88	3.21
66	42	2.88	3.21
66	43	2.88	3.21
66	44	2.88	3.21
66	45	2.88	3.21
66	46	2.88	3.21
66	47	2.88	3.21
66	48	2.88	3.21
66	49	2.88	3.21
67	0	8.04	3.65
67	1	7.21	3.66
67	2	6.35	3.70
67	3	5.47	3.75
67	4	4.35	3.79
67	5	3.80	3.76
67	6	3.80	3.76
67	7	3.80	3.76

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
67	8	3.80	3.76
67	9	3.80	3.76
67	10	3.80	3.76
67	11	3.80	3.76
67	12	3.80	3.76
67	13	3.80	3.76
67	14	3.80	3.76
67	15	3.80	3.76
67	16	3.80	3.76
67	17	3.80	3.76
67	18	3.80	3.76
67	19	3.80	3.76
67	20	3.80	3.76
67	21	3.80	3.76
67	22	3.80	3.76
67	23	3.80	3.76
67	24	3.80	3.76
67	25	3.80	3.76
67	26	3.80	3.76
67	27	3.58	3.58
67	28	3.32	3.43
67	29	3.16	3.37
67	30	3.07	3.35
67	31	3.07	3.35
67	32	3.07	3.35
67	33	3.07	3.35
67	34	3.07	3.35
67	35	3.07	3.35
67	36	3.07	3.35
67	37	3.07	3.35
67	38	3.07	3.35
67	39	3.07	3.35
67	40	3.07	3.35
67	41	3.07	3.35
67	42	3.07	3.35
67	43	3.07	3.35
67	44	3.07	3.35
67	45	3.07	3.35
67	46	3.07	3.35
67	47	3.07	3.35
67	48	3.07	3.35
67	49	3.07	3.35
67	50	3.07	3.35
68	0	7.92	3.57
68	1	7.11	3.59

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
68	2	6.27	3.62
68	3	5.41	3.67
68	4	4.52	3.73
68	5	3.96	3.73
68	6	3.96	3.73
68	7	3.96	3.73
68	8	3.96	3.73
68	9	3.96	3.73
68	10	3.96	3.73
68	11	3.96	3.73
68	12	3.96	3.73
68	13	3.96	3.73
68	14	3.96	3.73
68	15	3.96	3.73
68	16	3.96	3.73
68	17	3.96	3.73
68	18	3.96	3.73
68	19	3.96	3.73
68	20	3.96	3.73
68	21	3.96	3.73
68	22	3.96	3.73
68	23	3.96	3.73
68	24	3.96	3.73
68	25	3.96	3.73
68	26	3.96	3.73
68	27	3.96	3.73
68	28	3.65	3.58
68	29	3.30	3.48
68	30	3.21	3.46
68	31	3.21	3.46
68	32	3.21	3.46
68	33	3.21	3.46
68	34	3.21	3.46
68	35	3.21	3.46
68	36	3.21	3.46
68	37	3.21	3.46
68	38	3.21	3.46
68	39	3.21	3.46
68	40	3.21	3.46
68	41	3.21	3.46
68	42	3.21	3.46
68	43	3.21	3.46
68	44	3.21	3.46
68	45	3.21	3.46
68	46	3.21	3.46
68	47	3.21	3.46

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
68	48	3.21	3.46
68	49	3.21	3.46
68	50	3.21	3.46
68	51	3.21	3.46
69	0	7.79	3.49
69	1	7.01	3.50
69	2	6.19	3.54
69	3	5.34	3.59
69	4	4.46	3.66
69	5	4.02	3.66
69	6	4.02	3.66
69	7	4.02	3.66
69	8	4.02	3.66
69	9	4.02	3.66
69	10	4.02	3.66
69	11	4.02	3.66
69	12	4.02	3.66
69	13	4.02	3.66
69	14	4.02	3.66
69	15	4.02	3.66
69	16	4.02	3.66
69	17	4.02	3.66
69	18	4.02	3.66
69	19	4.02	3.66
69	20	4.02	3.66
69	21	4.02	3.66
69	22	4.02	3.66
69	23	4.02	3.66
69	24	4.02	3.66
69	25	4.02	3.66
69	26	4.02	3.66
69	27	4.02	3.66
69	28	4.02	3.66
69	29	3.62	3.58
69	30	3.42	3.55
69	31	3.42	3.55
69	32	3.42	3.55
69	33	3.42	3.55
69	34	3.42	3.55
69	35	3.42	3.55
69	36	3.42	3.55
69	37	3.42	3.55
69	38	3.42	3.55
69	39	3.42	3.55
69	40	3.42	3.55

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
69	41	3.42	3.55
69	42	3.42	3.55
69	43	3.42	3.55
69	44	3.42	3.55
69	45	3.42	3.55
69	46	3.42	3.55
69	47	3.42	3.55
69	48	3.42	3.55
69	49	3.42	3.55
69	50	3.42	3.55
69	51	3.42	3.55
69	52	3.42	3.55
70	0	7.64	3.42
70	1	6.88	3.42
70	2	6.09	3.45
70	3	5.26	3.50
70	4	4.40	3.57
70	5	3.96	3.58
70	6	3.96	3.58
70	7	3.96	3.58
70	8	3.96	3.58
70	9	3.96	3.58
70	10	3.96	3.58
70	11	3.96	3.58
70	12	3.96	3.58
70	13	3.96	3.58
70	14	3.96	3.58
70	15	3.96	3.58
70	16	3.96	3.58
70	17	3.96	3.58
70	18	3.96	3.58
70	19	3.96	3.58
70	20	3.96	3.58
70	21	3.96	3.58
70	22	3.96	3.58
70	23	3.96	3.58
70	24	3.96	3.58
70	25	3.96	3.58
70	26	3.96	3.58
70	27	3.96	3.58
70	28	3.96	3.58
70	29	3.96	3.58
70	30	3.74	3.56
70	31	3.74	3.56
70	32	3.74	3.56



Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
70	33	3.74	3.56
70	34	3.74	3.56
70	35	3.74	3.56
70	36	3.74	3.56
70	37	3.74	3.56
70	38	3.74	3.56
70	39	3.74	3.56
70	40	3.74	3.56
70	41	3.74	3.56
70	42	3.74	3.56
70	43	3.74	3.56
70	44	3.74	3.56
70	45	3.74	3.56
70	46	3.74	3.56
70	47	3.74	3.56
70	48	3.74	3.56
70	49	3.74	3.56
70	50	3.74	3.56
70	51	3.74	3.56
70	52	3.74	3.56
70	53	3.74	3.56
71	0	7.47	3.35
71	1	6.74	3.34
71	2	5.97	3.36
71	3	5.16	3.41
71	4	4.32	3.48
71	5	3.89	3.49
71	6	3.89	3.49
71	7	3.89	3.49
71	8	3.89	3.49
71	9	3.89	3.49
71	10	3.89	3.49
71	11	3.89	3.49
71	12	3.89	3.49
71	13	3.89	3.49
71	14	3.89	3.49
71	15	3.89	3.49
71	16	3.89	3.49
71	17	3.89	3.49
71	18	3.89	3.49
71	19	3.89	3.49
71	20	3.89	3.49
71	21	3.89	3.49
71	22	3.89	3.49
71	23	3.89	3.49

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
71	24	3.89	3.49
71	25	3.89	3.49
71	26	3.89	3.49
71	27	3.89	3.49
71	28	3.89	3.49
71	29	3.89	3.49
71	30	3.89	3.49
71	31	3.89	3.49
71	32	3.89	3.49
71	33	3.89	3.49
71	34	3.89	3.49
71	35	3.89	3.49
71	36	3.89	3.49
71	37	3.89	3.49
71	38	3.89	3.49
71	39	3.89	3.49
71	40	3.89	3.49
71	41	3.89	3.49
71	42	3.89	3.49
71	43	3.89	3.49
71	44	3.89	3.49
71	45	3.89	3.49
71	46	3.89	3.49
71	47	3.89	3.49
71	48	3.89	3.49
71	49	3.89	3.49
71	50	3.89	3.49
71	51	3.89	3.49
71	52	3.89	3.49
71	53	3.89	3.49
71	54	3.89	3.49
72	0	7.28	3.29
72	1	6.58	3.26
72	2	5.84	3.27
72	3	5.06	3.31
72	4	4.24	3.39
72	5	3.81	3.39
72	6	3.81	3.39
72	7	3.81	3.39
72	8	3.81	3.39
72	9	3.81	3.39
72	10	3.81	3.39
72	11	3.81	3.39
72	12	3.81	3.39
72	13	3.81	3.39

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
72	14	3.81	3.39
72	15	3.81	3.39
72	16	3.81	3.39
72	17	3.81	3.39
72	18	3.81	3.39
72	19	3.81	3.39
72	20	3.81	3.39
72	21	3.81	3.39
72	22	3.81	3.39
72	23	3.81	3.39
72	24	3.81	3.39
72	25	3.81	3.39
72	26	3.81	3.39
72	27	3.81	3.39
72	28	3.81	3.39
72	29	3.81	3.39
72	30	3.81	3.39
72	31	3.81	3.39
72	32	3.81	3.39
72	33	3.81	3.39
72	34	3.81	3.39
72	35	3.81	3.39
72	36	3.81	3.39
72	37	3.81	3.39
72	38	3.81	3.39
72	39	3.81	3.39
72	40	3.81	3.39
72	41	3.81	3.39
72	42	3.81	3.39
72	43	3.81	3.39
72	44	3.81	3.39
72	45	3.81	3.39
72	46	3.81	3.39
72	47	3.81	3.39
72	48	3.81	3.39
72	49	3.81	3.39
72	50	3.81	3.39
72	51	3.81	3.39
72	52	3.81	3.39
72	53	3.81	3.39
72	54	3.81	3.39
72	55	3.81	3.39
73	0	7.06	3.25
73	1	6.39	3.20
73	2	5.68	3.19

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
73	3	4.93	3.22
73	4	4.13	3.29
73	5	3.72	3.30
73	6	3.72	3.30
73	7	3.72	3.30
73	8	3.72	3.30
73	9	3.72	3.30
73	10	3.72	3.30
73	11	3.72	3.30
73	12	3.72	3.30
73	13	3.72	3.30
73	14	3.72	3.30
73	15	3.72	3.30
73	16	3.72	3.30
73	17	3.72	3.30
73	18	3.72	3.30
73	19	3.72	3.30
73	20	3.72	3.30
73	21	3.72	3.30
73	22	3.72	3.30
73	23	3.72	3.30
73	24	3.72	3.30
73	25	3.72	3.30
73	26	3.72	3.30
73	27	3.72	3.30
73	28	3.72	3.30
73	29	3.72	3.30
73	30	3.72	3.30
73	31	3.72	3.30
73	32	3.72	3.30
73	33	3.72	3.30
73	34	3.72	3.30
73	35	3.72	3.30
73	36	3.72	3.30
73	37	3.72	3.30
73	38	3.72	3.30
73	39	3.72	3.30
73	40	3.72	3.30
73	41	3.72	3.30
73	42	3.72	3.30
73	43	3.72	3.30
73	44	3.72	3.30
73	45	3.72	3.30
73	46	3.72	3.30
73	47	3.72	3.30
73	48	3.72	3.30

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
73	49	3.72	3.30
73	50	3.72	3.30
73	51	3.72	3.30
73	52	3.72	3.30
73	53	3.72	3.30
73	54	3.72	3.30
73	55	3.72	3.30
73	56	3.72	3.30
74	0	6.82	3.24
74	1	6.19	3.16
74	2	5.51	3.12
74	3	4.78	3.14
74	4	4.01	3.19
74	5	3.61	3.20
74	6	3.61	3.20
74	7	3.61	3.20
74	8	3.61	3.20
74	9	3.61	3.20
74	10	3.61	3.20
74	11	3.61	3.20
74	12	3.61	3.20
74	13	3.61	3.20
74	14	3.61	3.20
74	15	3.61	3.20
74	16	3.61	3.20
74	17	3.61	3.20
74	18	3.61	3.20
74	19	3.61	3.20
74	20	3.61	3.20
74	21	3.61	3.20
74	22	3.61	3.20
74	23	3.61	3.20
74	24	3.61	3.20
74	25	3.61	3.20
74	26	3.61	3.20
74	27	3.61	3.20
74	28	3.61	3.20
74	29	3.61	3.20
74	30	3.61	3.20
74	31	3.61	3.20
74	32	3.61	3.20
74	33	3.61	3.20
74	34	3.61	3.20
74	35	3.61	3.20
74	36	3.61	3.20

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
74	37	3.61	3.20
74	38	3.61	3.20
74	39	3.61	3.20
74	40	3.61	3.20
74	41	3.61	3.20
74	42	3.61	3.20
74	43	3.61	3.20
74	44	3.61	3.20
74	45	3.61	3.20
74	46	3.61	3.20
74	47	3.61	3.20
74	48	3.61	3.20
74	49	3.61	3.20
74	50	3.61	3.20
74	51	3.61	3.20
74	52	3.61	3.20
74	53	3.61	3.20
74	54	3.61	3.20
74	55	3.61	3.20
74	56	3.61	3.20
74	57	3.61	3.20
75	0	6.54	3.24
75	1	5.95	3.13
75	2	5.31	3.08
75	3	4.62	3.07
75	4	3.87	3.11
75	5	3.49	3.11
75	6	3.49	3.11
75	7	3.49	3.11
75	8	3.49	3.11
75	9	3.49	3.11
75	10	3.49	3.11
75	11	3.49	3.11
75	12	3.49	3.11
75	13	3.49	3.11
75	14	3.49	3.11
75	15	3.49	3.11
75	16	3.49	3.11
75	17	3.49	3.11
75	18	3.49	3.11
75	19	3.49	3.11
75	20	3.49	3.11
75	21	3.49	3.11
75	22	3.49	3.11
75	23	3.49	3.11

Worklife Expectancies and Standard Deviations with Competing Risks Using Three Decrements from Tables S-4, S-10, and S-11

Age	Years of Service	<u>Competing Risks</u>	
		WLE	SD
75	24	3.49	3.11
75	25	3.49	3.11
75	26	3.49	3.11
75	27	3.49	3.11
75	28	3.49	3.11
75	29	3.49	3.11
75	30	3.49	3.11
75	31	3.49	3.11
75	32	3.49	3.11
75	33	3.49	3.11
75	34	3.49	3.11
75	35	3.49	3.11
75	36	3.49	3.11
75	37	3.49	3.11
75	38	3.49	3.11
75	39	3.49	3.11
75	40	3.49	3.11
75	41	3.49	3.11
75	42	3.49	3.11
75	43	3.49	3.11
75	44	3.49	3.11
75	45	3.49	3.11
75	46	3.49	3.11
75	47	3.49	3.11
75	48	3.49	3.11
75	49	3.49	3.11
75	50	3.49	3.11
75	51	3.49	3.11
75	52	3.49	3.11
75	53	3.49	3.11
75	54	3.49	3.11
75	55	3.49	3.11
75	56	3.49	3.11
75	57	3.49	3.11
75	58	3.49	3.11

Notes: WLE denotes Worklife Expectancy

SD denotes Standard Deviation

Three-decrement competing risks worklife expectancies exceed their four-decrement counterparts. Worklife expectancies within the three-decrement competing risks model often are close to Markov expectancies.