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THE 1962 RRB FEMALE MORTALITY AND
REMARRIAGE TABLES

JAMES L. COWEN*

THE Railroad Retirement Board pays monthly annuities similar to those payable under the Social Security Act to widows and wives of railroad employees. The Board has a large amount of experience, much of which has been presented to the Society. A. M. Niessen's paper on remarriage experience to 1956 was published in Volume XII of *TSA*, but recent studies indicate a need to revise the mortality and remarriage rates which he presented. This paper gives the new standards which are called the "1962 RRB Mortality Table for Women" and the "1962 RRB Remarriage Table" and describes their construction.

THE 1962 RRB MORTALITY TABLE FOR WOMEN

General Considerations

The current experience as well as the past has indicated that widows have higher mortality rates than wives but that the flow of the rates is similar. To illustrate this difference, age-adjusted death rates were derived for the experience at ages over 62 (the area of substantial data) by using the combined widows' and wives' population as the standard age distribution. On this basis, widows over the age of 62 had a death rate of 45 per 1,000 compared to one of 42 per 1,000 for wives. Regardless of this, it was felt that a single mortality standard, which could be adjusted by use of ratebacks, could be derived and used for both experiences. This view was taken because the 1950 RRB Table for Women, which was given in *TSA*, Volume XII, gave ratios of actual to expected deaths which were sufficiently close to each other when used with a one-year rateback in age for widows and a one-and-a-half-year rateback for wives.

Experience

Before discussing the construction of the new table, it would be useful to look at the age requirements for widows' and wives' annuities. Widows are eligible for benefits at age 60 or regardless of age if they have in their care a dependent child under the age of 18 or a dependent disabled child over that age. Spouses' benefits are payable to wives over the age of 62 or to those who have children in their care who would qualify them for a widow's benefit if their husbands were to die.

* The opinions expressed in this paper are those of the author and do not necessarily represent the official views of the Railroad Retirement Board.

The above eligibility conditions made the experience for women under the age of 60 rather sparse because they excluded an important group—women who currently did not have any dependent children in their care. Some assumption was necessary for the omitted mortality experience of these women because the table would also be used to value deferred benefits to them. The most reasonable assumption was that the existence of children would not affect the mortality rates and that those derived for widows with children would be applicable to women without children. This is somewhat substantiated by the fact that the graduated rates for the younger ages were able to be merged fairly smoothly with those for ages 60 and over, and, in addition, the resulting graduated rates for ages under 58 were almost identical to the rates shown in the 1960 United States Table for all females.

Table 1 shows the amount of data which were available for the ex-

TABLE 1

Type of Beneficiary	Exposure	Actual Deaths
Widows, total.....	628,933	29,286
Widowed mothers.....	38,777	184
Widows aged 60 or over.....	590,156	29,102
Wives.....	431,149	14,778
Grand total.....	1,060,082	44,064

perience during calendar years 1959–61 and on which the new table was based. The data available for wives under the age of 62 with dependent children were so meager that they were not shown separately. This, along with the smallness of the data for widows under age 60, should be kept in mind when the section on the graduation of the table is read.

In deriving the exposures shown above, terminations for reasons other than the death of the widow or wife beneficiary were given the weight of one-half. For widows, these other terminations were remarriage and failure to have the care of an eligible dependent child and for wives, mainly the death of the employee annuitant.

New accessions were omitted from the exposures and terminations in the calendar year their annuities began. They were, however, brought into the study for subsequent years.

Graduation

The new mortality rates were graduated by using King's third-difference pivotal-point formula and the Karup-King four-point osculatory interpolation formula. In the course of this graduation, a margin equal to

5 per cent of the reciprocal of the life-expectancy shown in the 1960 United States Life Tables for White Females was introduced.

For ages up to 58, the rates produced by this graduation were almost the same as those of the 1960 United States Life Tables for All Females. As a result, it was decided to substitute the rates for these ages from this United States Life Table for those obtained from the graduation.

Fit

In order to measure the fit of the new table, ratios of actual to expected deaths were obtained. Because the mortality of wives was lower than that for widows, the new table was used for the former with a one-half-year rateback in age and for the latter with no rateback. Making this adjustment, over-all ratios of actual to expected deaths of 106.3 per cent were obtained for each experience separately. The ratios for individual age groups were also satisfactory.

It might be added that the table also fits the experience for retired female employees receiving nondisability annuities. If the table is used with a one-half-year rateback for them, an over-all mortality ratio of 105.9 per cent is obtained. This is only slightly lower than the mortality ratio of 106.3 per cent obtained for wives by use of the same standard.

The New Table

The rates described above are shown in Table 2, along with monetary functions at an interest rate of 3 per cent. For the valuing of widows' benefits payable by the Railroad Retirement System, these rates are combined with the rates of remarriage described later in this paper; for the valuation of wives' benefits, they are combined with the mortality rates applicable to the employee¹ to produce joint life annuity values.

THE 1962 RRB REMARRIAGE TABLE

General Considerations

Remarriage rates are used by the Board in the valuation of temporary benefits to young widows with dependent children, whole-life benefits to widows over the age of 60, and deferred whole-life benefits to begin at age 60 to those widows under that age when their husbands died. However, only a single set of remarriage rates was desired for use in valuing all these benefits.

¹ If the employee retired because of age, the applicable rates are those of the 1959 RRB Annuity Mortality Table; if the employee retired because of disability, they are those of the 1956 RRB Disability Annuity Mortality Table with the 1959 modification. These tables may be found in the technical supplements to the eighth and ninth valuations of the Railroad Retirement System put out by the Railroad Retirement Board.

The development of a single set of rates caused some difficulty because those derived for ages under 60 did not merge smoothly with the rates for ages 60 and over. It must be remembered here that the rates at ages 60 and over were based on the experience of all widows without regard to whether they had children, while those for the younger ages were based only on the experience of widows with minor or disabled children. Moreover, the amount of experience available in the age groups 60-64 and 65-69 was greater than that in practically all the other age groups.

The final decision was to ignore to a large extent the experience between the ages of 45 and 59 and merge the rates for the ages under 45 with those for ages 60 and over. This served to raise the rates in the age group 45-59, which implies that a widow without dependent children has a better chance of getting remarried than one who has dependent children. This is consistent with what would have been expected from a priori reasoning. As a result of this adjustment, the temporary annuity values used for widowed mothers' benefits may be understated, but, relatively speaking, this benefit is of less importance in the valuation of the railroad retirement system than the deferred aged widow's benefit that begins at age 60. We feel that the resulting rates are more appropriate for the valuation of the deferred aged widows' benefits and do not seriously understate the liabilities for widowed mothers' benefits. Considering both the temporary and the deferred benefits, the rates should give an adequate valuation standard.

The experience was investigated for a ten-year select period. The results indicated that selection actually did continue at least that long. Nevertheless, it was decided to limit the final rates to a five-year select period to keep the table from becoming cumbersome.

Another interesting fact was that the selection existed also at the older ages. As a result, the new remarriage rates have been constructed on a select and ultimate basis throughout. This contrasts with our 1956 table, which was an aggregate one at ages 60 and over. At the time our 1956 table had been constructed, it had been felt that selection did not exist at these ages, and it had not been investigated above age 60.

Experience

The remarriage experience is much less plentiful than that for mortality. As a result, the period of investigation for remarriage had to cover a longer period. From the studies conducted at the time the 1956 table was constructed, it was known that sufficient data would be available if at least a six-year period were used. The period finally decided upon was

TABLE 2
1962 RRB MORTALITY TABLE FOR WOMEN
(Monetary Functions at 3 Per Cent Interest)

Age/ x	l_x	$1000q_x$	D_x	N_x	$Q_x^{(a)}$	Age/ x	l_x	$1000q_x$	D_x	N_x	$Q_x^{(a)}$
20	100,000	0.62	55,367.6	1,506,951.6	26.6755	65	81,192	17.27	11,887.6	153,236.6	12.3488
21	99,938	0.65	53,721.6	1,451,584.0	26.4788	66	79,790	18.61	11,342.1	141,349.0	11.9206
22	99,873	0.69	52,122.9	1,397,862.4	26.2769	67	78,305	20.27	10,806.8	130,006.9	11.4884
23	99,804	0.74	50,569.9	1,345,739.5	26.0698	68	76,718	22.18	10,279.4	119,200.1	11.0543
24	99,730	0.77	49,060.6	1,295,169.6	25.8577	69	75,016	24.25	9,758.5	108,920.7	10.6199
25	99,653	0.80	47,594.9	1,246,109.0	25.6399	70	73,197	26.60	9,244.6	99,162.2	10.1848
26	99,573	0.84	46,171.5	1,198,514.1	25.4162	71	71,250	29.34	8,736.6	89,917.6	9.7504
27	99,489	0.89	44,788.9	1,152,342.6	25.1866	72	69,160	32.59	8,233.3	81,181.0	9.3184
28	99,400	0.94	43,445.5	1,107,553.7	24.9512	73	66,906	36.27	7,733.0	72,947.7	8.8916
29	99,307	1.00	42,140.5	1,064,108.2	24.7097	74	64,479	40.31	7,235.4	65,214.7	8.4716
30	99,208	1.06	40,872.4	1,021,967.7	24.4622	75	61,880	44.81	6,741.5	57,979.3	8.0587
31	99,103	1.15	39,639.9	981,095.3	24.2085	76	59,107	49.87	6,251.9	51,237.8	7.6539
32	98,989	1.22	38,441.1	941,455.4	23.9492	77	56,159	55.61	5,767.0	44,985.9	7.2589
33	98,868	1.32	37,275.8	903,014.3	23.6835	78	53,036	62.01	5,287.7	39,218.9	6.8753
34	98,737	1.41	36,142.2	865,738.5	23.4120	79	49,747	69.01	4,815.3	33,931.2	6.5048
35	98,598	1.52	35,040.1	829,596.3	23.1339	80	46,314	76.61	4,352.5	29,115.9	6.1478
36	98,448	1.65	33,967.7	794,556.2	22.8498	81	42,766	84.82	3,902.0	24,763.4	5.8046
37	98,286	1.79	32,924.1	760,588.5	22.5596	82	39,139	93.67	3,467.0	20,861.4	5.4754
38	98,110	1.96	31,907.9	727,664.4	22.2634	83	35,473	102.94	3,050.7	17,394.4	5.1601
39	97,918	2.14	30,918.0	695,756.5	21.9616	84	31,821	112.61	2,657.0	14,343.7	4.8568
40	97,708	2.34	29,953.1	664,838.5	21.6543	85	28,238	123.01	2,289.1	11,686.7	4.5637
41	97,479	2.58	29,012.5	634,885.4	21.3415	86	24,764	134.46	1,949.0	9,397.6	4.2801
42	97,228	2.81	28,094.9	605,872.9	21.0235	87	21,434	147.27	1,637.8	7,448.6	4.0062
43	96,955	3.05	27,200.0	577,778.0	20.7001	88	18,277	161.13	1,355.9	5,810.8	3.7439
44	96,659	3.32	26,327.2	550,578.0	20.3712	89	15,332	175.81	1,104.3	4,454.9	3.4924
45	96,338	3.60	25,475.5	524,250.8	20.0369	90	12,636	191.82	883.6	3,350.6	3.2503
46	95,991	3.89	24,644.4	498,775.3	19.6972	91	10,212	209.59	693.3	2,467.0	3.0166
47	95,618	4.23	23,833.6	474,130.9	19.3517	92	8,072	229.61	532.1	1,773.7	2.7917
48	95,214	4.59	23,041.7	450,297.3	19.0010	93	6,219	251.88	398.0	1,241.6	2.5779
49	94,777	5.00	22,267.9	427,255.6	18.6454	94	4,653	276.07	289.1	843.6	2.3763
50	94,303	5.45	21,511.2	404,987.7	18.2851	95	3,368	302.20	203.2	554.5	2.1871
51	93,789	5.93	20,770.8	383,476.5	17.9202	96	2,350	330.27	137.6	351.3	2.0114
52	93,233	6.42	20,046.3	362,705.7	17.5517	97	1,574	360.26	89.49	213.7	1.8462
53	92,634	6.88	19,337.3	342,659.4	17.1784	98	1,007	392.19	55.59	124.2	1.6922
54	91,997	7.37	18,645.0	323,322.1	16.7993	99	612.0	426.06	32.80	68.59	1.5495
55	91,319	7.88	17,968.6	304,677.1	16.4144	100	351.3	461.87	18.28	35.79	1.4162
56	90,599	8.47	17,307.7	286,708.5	16.0237	101	189.0	499.62	9.548	17.51	1.2923
57	89,832	9.18	16,661.3	269,400.8	15.6276	102	94.57	539.31	4.638	7.963	1.1752
58	89,007	9.85	16,027.5	252,739.5	15.2274	103	43.57	580.94	2.075	3.325	1.0607
59	88,130	10.79	15,407.3	236,712.0	14.8219	104	18.26	624.51	.8442	1.250	.9396
60	87,179	11.81	14,797.2	221,304.7	14.4141	105	6.856	670.02	.3077	.4063	.7786
61	86,149	12.89	14,196.4	206,507.5	14.0048	106	2.262	717.47	.09857	.09857	.4583
62	85,039	14.00	13,605.4	192,311.1	13.5932	107	.6390				
63	83,848	15.80	13,024.1	178,705.7	13.1795						
64	82,523	16.13	12,445.0	165,681.6	12.7714						

1/ Age interval x to x+1.

TABLE 3

Duration*	Exposed †	Actual Remarriages
0	116,027	369
1	112,096	801
2	106,382	716
3	100,693	579
4	94,965	456
5 and over	930,934	2,463
Total	1,461,097	5,384
Total under age 60	128,884	2,397

* Completed years since widowhood.

† Alive and unremarried at the beginning of the policy year.

that between the anniversary of widowhood in 1955 and that in 1962, and it contained the amount of experience given in Table 3.

The studies were made on a policy-year basis which was defined as the twelve months between two successive anniversaries of the date of widowhood. In deriving the exposures, all terminations received a full year's exposure, so that, technically, the results are probabilities and not absolute rates. With the exception of those at age 60, all accessions were assumed to have come under observation at the beginning of a policy year, which would be the usual case with respect to widows whose benefits began immediately at the death of their husbands. For those at age 60, only a half-year's exposure was allowed in the policy year of accession. Admittedly, there were some at other ages that should have had a similar adjustment (widows who for some reason or other did not file for benefits at the earliest date possible). They constituted only a very small part of the total exposure at these ages, while, at age 60, the new accessions comprise the majority of the experience because of the requirement that a widow without dependent children be at least 60 years old when her benefits begin. Here it should be added that there is no difference between the monthly amount of annuity available at age 60 and that beginning at age 65 and over.

Graduation

In graduating a select and ultimate table, the rates should flow smoothly with respect to both duration and age. Because of this, age-specific rates for five-year attained age groups were derived for each of the first five durations. From this point, the graduation proceeded as follows:

1. For each five-year attained age group, rates were plotted by duration, and partially smoothed rates were read from the graphs for each attained age group.

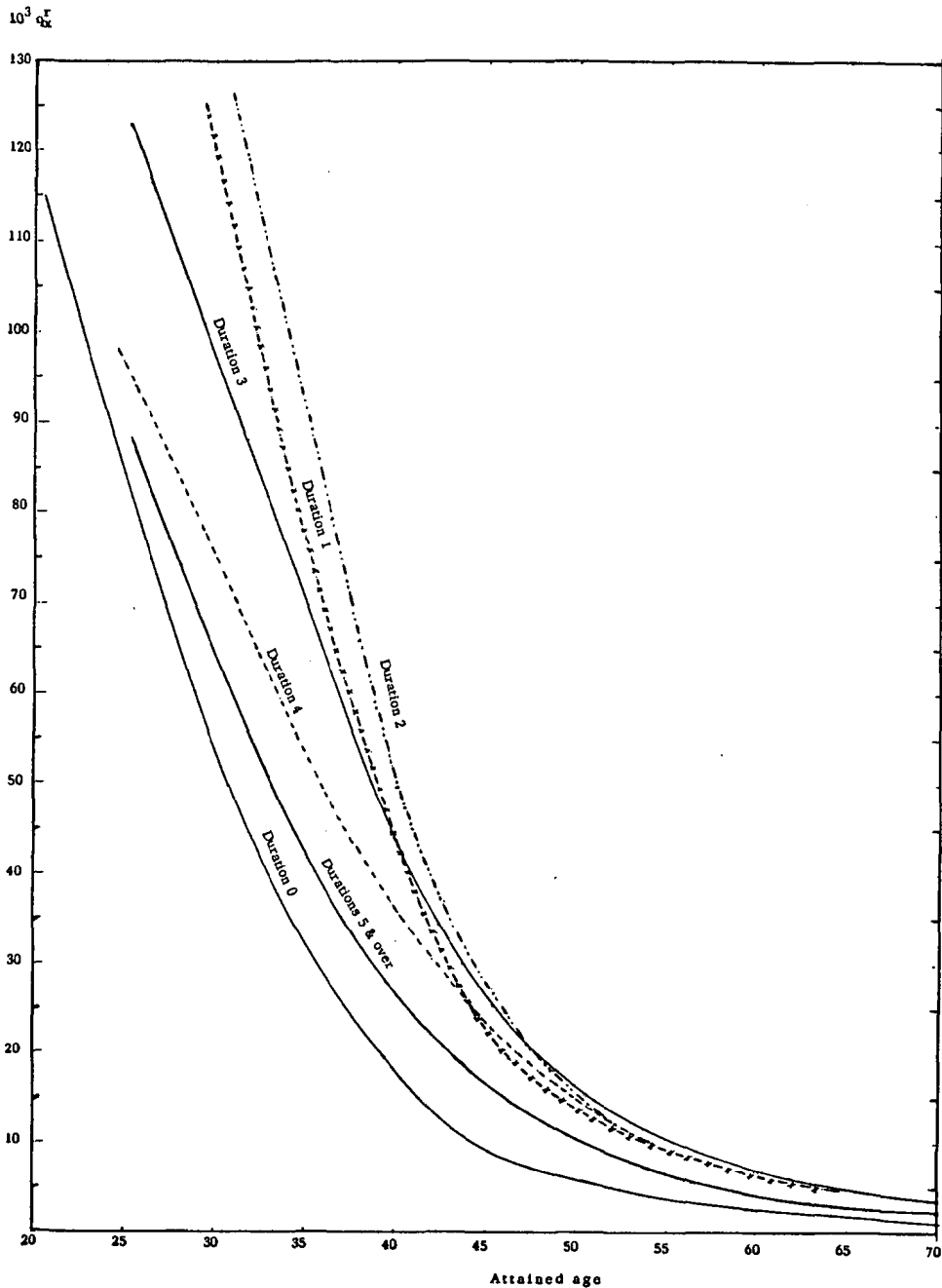
2. The smoothed pivotal points of Step 1 were then plotted for each duration by attained age. As stated earlier, fit was largely disregarded between ages 45 and 59 inclusive in order to have a smooth transition to the ages 60 and over. Graduated rates were read from the graph.

3. The rates of Step 2 were then adjusted either by inspection or by the formula $q'_x = aq_x + b$. In the formula the constants a and b were derived so as to meet the conditions that expected remarriages equaled 98 per cent of the actual and that the average age at remarriage remained the same as the actual. The flow of the final remarriage rates by attained age is shown in Chart I. The fact that the rates for durations 3 and 4 crossed those for durations 1 and 2 caused some concern, but no reason could be found to take this out of the final table.

CHART I

1962 RRB REMARRIAGE TABLE—GRADUATED REMARRIAGE RATES FOR WIDOWS
BY ATTAINED AGE AND COMPLETED DURATION OF WIDOWHOOD

(Tabular Number of Remarriages per 1,000— $10^3 q_x^r$)



Fit

The fit of the final rates is given in Tables 4 and 5, which also show the fit of the 1956 table presented in *TSA*, Volume XII, and the fit of the ultimate section of the new table if that were limited to women who had been widows for at least ten years. The over-all ratios of actual to expected remarriage generally run between 100 and 105 per cent.

As stated earlier, fit was largely disregarded in the age group 45-59 in favor of smoothness. For the other ages, smoothness also received more weight than fit but not to the same extent. As a result, the ratios of actual to expected remarriage for individual age groups show rather large fluctuations.

TABLE 4

RRB WIDOWS' REMARRIAGE EXPERIENCE, 1955-62—ANALYSIS OF SELECT EXPERIENCE OF WIDOWS RECEIVING MONTHLY BENEFITS, BY AGE AND DURATION OF WIDOWHOOD

Duration and Item	Age at widowhood*									
	All ages	Under 35	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
1. Exposed										
Duration# 0	116,027	1,111	1,874	2,733	3,310	2,890	5,564	26,602	28,496	43,447
1	112,096	1,100	1,848	2,651	3,060	2,595	8,870	26,133	27,049	38,790
2	106,382	1,032	1,664	2,435	2,757	2,238	11,506	25,205	25,357	34,188
3	100,693	938	1,494	2,231	2,392	1,849	13,794	24,201	23,814	29,980
4	94,965	957	1,419	2,062	2,108	1,469	15,698	22,838	22,287	26,127
2. Actual remarriages										
Duration# 0	369	60	64	36	25	15	11	73	55	30
1	801	118	120	93	47	12	54	180	118	59
2	716	101	104	93	40	15	55	179	89	40
3	579	70	72	69	28	9	86	140	75	30
4	456	68	58	47	23	3	90	95	48	24
3. Crude remarriage rate (per 1,000)										
Duration# 0	3.18	54.01	34.15	13.17	7.55	5.19	1.98	2.74	1.93	.69
1	7.15	107.27	64.94	35.08	15.36	4.62	6.09	6.89	4.36	1.52
2	6.73	97.87	62.50	38.19	14.51	6.70	4.78	7.10	3.51	1.17
3	5.75	74.63	48.19	30.93	11.71	**	6.23	5.78	3.15	1.00
4	4.80	71.06	40.87	22.79	10.91	**	5.73	4.16	2.15	.92
4. Ratio Act./Exp. for 1956 RRB table										
Duration# 0	73.2%	83.3%	101.6%	70.6%	62.5%	62.5%	37.9%	73.7%	80.9%	51.7%
1	121.9	92.2	103.4	98.9	87.0	50.0	125.6	204.5	196.7	118.0
2	129.7	100.0	114.3	124.0	95.2	83.3	105.8	232.5	167.9	93.0
3	126.4	90.9	102.9	116.9	87.5	**	148.3	205.9	163.0	88.2
4	123.6	100.0	118.4	130.6	104.5	**	142.9	161.0	117.1	114.3
5. Ratio Act./Exp. for 1962 RRB table										
Duration# 0	104.2%	103.4%	133.3%	100.0%	100.0%	100.0%	61.1%	109.0%	105.8%	85.7%
1	102.6	103.5	120.0	116.2	94.0	41.4	84.4	117.6	97.5	84.3
2	100.4	89.4	113.0	124.0	88.9	62.5	67.1	127.0	89.9	95.2
3	104.7	97.2	109.1	116.9	71.8	**	92.5	126.1	107.1	130.4
4	106.8	128.3	123.4	109.3	82.1	**	98.9	110.5	88.9	200.0

* Age last birthday on date of husband's death.

Completed years since husband's death.

** Less than 10 actual remarriages.

TABLE 5

RRB WIDOWS' REMARRIAGE EXPERIENCE, 1955-62—ANALYSIS OF ULTIMATE EXPERIENCE
OF WIDOWS RECEIVING MONTHLY BENEFITS, BY AGE OF WIDOW

Grouping and item	Attained age **									
	All ages	Under 35	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
1. Durations 5 and over										
Exposed	930,934	3,125	6,029	9,939	13,387	13,593	14,304	120,574	192,652	557,331
Actual remarriages . .	2,463	164	213	234	198	99	54	477	566	458
Ratio Act./Exp.										
1956 RRB table	96.4%	85.0%	98.6%	103.5%	100.0%	76.7%	66.7%	108.9%	124.7%	74.0%
1962 RRB table	103.1	91.6	100.0	106.4	108.8	81.8	68.4	107.7	112.1	102.7
2. Durations 10 and over										
Exposed	534,442	1,125	2,782	4,103	5,503	5,630	6,490	59,317	102,611	346,881
Actual remarriages . .	950	48	81	77	62	29	14	166	242	231
Ratio Act./Exp.										
1956 RRB table	75.9%	72.7%	81.0%	82.8%	75.6%	54.7%	37.8%	77.6%	100.4%	63.3%
1962 RRB table	82.5	77.4	82.7	84.6	82.7	58.0	38.9	76.5	90.0	90.9

** Age last birthday at beginning of policy year of exposure.

Note: The data are for policy years and cover the period between the 1955 and 1962 anniversaries of the onset of widowhood.

TABLE 6

COMPARISON OF REMARRIAGE RATES FROM SELECTED TABLES
(Rates per 1,000)

Age	1962 RRB	1956 RRB	1956 OASDI	1916-55 U.S.E.C.	U.S. Civil Service*	Canadian Pension Act	American Re-marriage	150% American Re-marriage
Duration 0								
30.	56.87	69.61	77.2	27	126.0	29	30.0	45.0
40.	19.02	25.13	33.1	14	58.6	11	13.0	19.5
50.	6.38	10.08	8.7	4	21.9	4	5.4	8.1
60.	3.02	4.69	4.0	1	6.2	1	3.4	5.1
70.	1.54	†	2.0	†	2.3	†	2.5	3.8
Ultimate								
30.	66.24	74.76	100.2	60	103.1	61	35.2	52.8
40.	28.20	28.41	49.8	23	48.0	25	16.3	24.4
50.	10.86	11.78	18.2	8	17.9	8	6.6	9.9
60.	4.58	4.69	5.6	2	5.0	2	3.2	4.8
70.	2.16	1.98	3.0	0	2.1	†	2.5	3.8

* For duration 0, the rates shown are between six months and eighteen months and are based on beginning date of annuity rather than date of widowhood.

† Not available.

- Sources: 1. 1956 RRB Remarriage Table (including discussions by E. E. Clarke and R. J. Myers)—TSA, Vol. XII.
2. 1956 OASDI—Actuarial Study No. 55, U.S. Department of Health, Education, and Welfare, Social Security Administration, Division of the Actuary.
3. 1916-55 U.S.E.C.—United States Employees Compensation Table can be found in the same study as the 1956 OASDI.
4. U.S. Civil Service—Thirty-eighth Annual Report of the Board of Actuaries of the Civil Service Retirement System, p. 27.
5. Canadian Pension Act—TSA, Vol. XII.
6. American Remarriage—Proceedings of the Casualty Actuarial Society, Vols. XIX and XXXVI.
7. 150 per cent American Remarriage—PCAS, Vol. XXXVI.

Comparisons with Other Tables

Several other remarriage tables have been published, and it is interesting to see how the new RRB remarriage rates compare with them. This comparison is given in Table 6, along with a list of the publications in which the other tables may be found. The indication is that the new rates are moderate, being lower than three of the published tables and higher than three.

The 1962 RRB remarriage rates are consistently lower than the 1956 RRB rates in duration 0 and in the ultimate. However, examination of the rates for the other durations which are not shown in the table indicates that the 1962 table has generally higher rates for durations 1-4 at ages 45 and over. The main cause of these differences was the handling of the experience at ages 60 and over. As stated earlier, the 1962 table was constructed on a select and ultimate basis throughout, while the 1956 was an aggregate table for ages 60 and over. In both instances, the select and ultimate rates for ages under 60 were forced to merge with the rates at the older ages regardless of whether they were aggregate or select rates. This merging process affected ages down to 45 in both tables.

We cannot explain why the OASDI rates are significantly higher than the RRB remarriage rates, even though the eligibility requirements under both systems are basically the same. Only a small part of this difference can be accounted for by the margin introduced into the RRB table. A possible answer was given in *Actuarial Study No. 55* of the Social Security Administration, which credited the difference to the higher level of benefits which would be forfeited on remarriage by beneficiaries as compared to the benefits lost by OASDI widows. However, this might work in the opposite direction when considering the younger widows, since the children also have higher benefits which would continue after the remarriage of the widow. Thus a railroad retirement widow might bring more income to a marriage than an OASDI widow, and the financial burden would, therefore, not act as so great a deterrent to the potential husband.

Most of the rates with the exception of those for OASDI shown in Table 6 are based on somewhat different kinds of experience than that of the railroad retirement data, or they might have select periods of a shorter or longer time. Some of the more important items to remember when comparing the rates are as follows:

1. The 1916-55 U.S.E.C., the United States Civil Service, the Canadian Pension Act and the American Remarriage rates are based on the experience of all widows without regard to the existence of children. This differs from the OASDI and railroad retirement data.

2. The Canadian Pension Act Table has a fourteen-year select period

as compared to a five-year period for the RRB, OASDI, 1916-55 U.S.E.C., and American Remarriage tables.

3. The United States Civil Service rates shown for duration 0 are really those for duration 0.5, while the ultimate includes all experience after thirty months of widowhood.

The New Table

The new remarriage probabilities are given in Table 7 by exact age at widowhood and duration. Other customary functions, including annuity values with 3 per cent interest, are given in Tables 8 through 11. In constructing these other functions, the following formulas were used:

$$p_{[x]+t}^m = (1 - q_{[x]+t}^m) - q_{x+t} (1 - \frac{1}{2} q_{[x]+t}^m)$$

$$l_{[x]+t+1}^m = l_{[x]+t}^m \cdot p_{[x]+t}^m,$$

where $q_{[x]+t}^m$ is the probability of remarriage of a woman who became a widow at age x remarrying between t and $t+1$ years after she was widowed, and q_{x+t} is the absolute rate of mortality for the same period. The other symbols need no explanation.

The effect of remarriage on annuity values may be found by comparing those in Table 11 with those of Table 2. Both tables are based on the same mortality and interest rates, so the differences are due only to remarriage. At age 60, the annuity value with remarriage and a 3 per cent interest rate is 2.8 per cent smaller than that with no remarriage, while at age 65 the difference is 1.7 per cent.

Annuity values at the upper ages where there is no remarriage were made to equal those on the 1962 RRB Mortality Table for Women, even though rounding would have made some of these values different in either the third or the fourth decimal place if the usual N_x^m and D_x^m functions had been used. It was felt that this was appropriate.

CONCLUSION

On the whole, the new remarriage and mortality tables presented here appear to be satisfactory standards for the valuation of benefits under the Railroad Retirement Act and may also suffice for other groups. There is no way to know whether the adjustments made in the remarriage rates for ages 45-59 were sufficient to take care of the difference in experience between widows with and without children or if this difference actually exists. However, since the experience at ages 60 and over was extensive and included all widows, there is reason to believe that these adjustments were in the right direction.

The mortality studies did indicate that widows have higher mortality rates than either wives or retired female employees. This difference is not great, but it does exist.

TABLE 7
1962 RRB REMARRIAGE TABLE PROBABILITIES OF REMARRIAGE
1,000 $q_{[x]+n}^m$ AND 1,000 q_x^m

Age at widowhood* (x)	1,000 $q_{[x]+n}^m$ for n equal to					Age* x	1,000 q_x^m
	0	1	2	3	4		
20	119.22	198.46	204.52	138.18	100.58	25	93.39
21	115.90	190.64	196.46	132.42	97.46	26	86.90
22	112.59	182.80	188.40	126.66	94.36	27	80.94
23	107.84	174.48	180.34	120.89	90.20	28	75.52
24	100.79	165.18	171.28	115.38	85.52	29	70.62
25	90.14	156.12	161.96	110.40	81.37	30	66.24
26	80.10	147.80	153.90	104.90	76.96	31	62.36
27	73.74	139.72	145.08	99.44	72.28	32	58.66
28	67.76	131.40	136.26	94.20	67.86	33	54.72
29	62.10	123.07	128.20	88.90	63.71	34	50.41
30	56.87	114.01	119.64	83.92	59.56	35	45.89
31	51.82	104.80	111.58	78.41	55.40	36	41.46
32	47.24	96.72	103.77	73.16	50.98	37	37.39
33	42.94	88.80	95.21	68.18	46.31	38	33.88
34	38.88	80.96	86.14	62.94	42.93	39	30.87
35	34.64	72.15	76.82	57.69	40.34	40	28.20
36	30.90	64.56	67.76	51.92	37.48	41	25.77
37	27.90	58.59	59.94	46.68	34.62	42	23.50
38	24.86	52.47	53.40	42.22	32.02	43	21.32
39	22.06	47.18	47.36	38.02	29.68	44	19.28
40	19.02	42.28	41.84	34.88	27.09	45	17.42
41	16.02	37.62	37.34	31.47	24.77	46	15.68
42	13.78	33.22	33.34	27.81	22.28	47	14.14
43	12.20	28.57	29.42	24.68	19.78	48	12.89
44	10.84	24.38	25.10	21.92	17.98	49	11.80
45	9.60	21.34	21.19	19.88	16.50	50	10.86
46	8.58	18.88	18.68	18.16	15.12	51	10.02
47	7.88	17.00	16.90	16.64	13.89	52	9.22
48	7.35	15.58	15.36	15.33	12.78	53	8.44
49	6.86	14.33	14.00	14.10	11.75	54	7.69
50	6.38	13.26	12.84	12.92	10.80	55	7.04
51	5.92	12.29	11.82	11.90	10.02	56	6.48
52	5.46	11.40	10.92	11.06	9.32	57	5.99
53	5.04	10.62	10.10	10.29	8.60	58	5.50
54	4.68	9.92	9.40	9.52	7.92	59	5.02
55	4.34	9.28	8.79	8.76	7.30	60	4.58
56	4.04	8.64	8.26	8.06	6.74	61	4.19
57	3.79	8.04	7.78	7.40	6.21	62	3.85
58	3.54	7.54	7.30	6.82	5.70	63	3.58
59	3.26	7.10	6.88	6.30	5.20	64	3.34
60	3.02	6.72	6.50	5.78	4.72	65	3.14
61	2.80	6.36	6.12	5.25	4.28	66	2.95
62	2.60	6.02	5.80	4.78	3.90	67	2.74
63	2.41	5.70	5.46	4.38	3.56	68	2.52
64	2.26	5.40	5.05	4.02	3.28	69	2.34
65	2.12	5.10	4.68	3.68	3.02	70	2.16
66	1.98	4.83	4.36	3.39	2.78	71	1.96
67	1.86	4.58	4.05	3.10	2.54	72	1.80
68	1.74	4.34	3.72	2.78	2.30	73	1.68
69	1.64	4.10	3.42	2.49	2.07	74	1.58
70	1.54	3.87	3.14	2.26	1.87	75	1.47

* Age nearest birthday.

TABLE 8
1962 RRB REMARRIAGE TABLE
NUMBER LIVING AND UNREARRIED— $l_{[x]+n}^m$ AND l_x^m

Age at widowhood* [x]	$l_{[x]+n}^m$ for n equal to					Age* x	l_x^m	Age* x	l_x^m
	0	1	2	3	4				
20	230,591	202,966	162,565	129,217	111,273	25	100,000	76	17,270
21	202,001	178,466	144,351	115,879	100,451	26	90,585	77	16,409
22	178,266	158,079	129,076	104,668	91,332	27	82,641	78	15,496
23	157,849	140,716	116,065	95,049	83,483	28	75,882	79	14,535
24	139,892	125,690	104,837	86,300	76,712	29	70,083	80	13,532
25	124,328	113,027	95,294	79,782	70,903	30	65,066	81	12,495
26	111,305	102,299	87,095	73,615	65,823	31	60,690	82	11,435
27	100,401	92,911	79,849	68,190	61,340	32	56,838	83	10,364
28	91,004	84,755	73,539	63,446	57,400	33	53,437	84	9,297
29	82,971	77,738	68,094	59,291	53,951	34	50,445	85	8,250
30	75,965	71,567	63,330	55,680	50,937	35	47,833	86	7,235
31	69,894	66,194	59,180	52,503	48,315	36	45,567	87	6,262
32	64,750	61,614	55,577	49,735	46,024	37	43,604	88	5,340
33	60,230	57,566	52,376	47,313	44,012	38	41,897	89	4,480
34	56,284	54,018	49,566	45,218	42,294	39	40,397	90	3,692
35	52,732	50,827	47,079	43,381	40,796	40	39,065	91	2,984
36	49,609	47,996	44,814	41,693	39,442	41	37,873	92	2,359
37	46,998	45,604	42,845	40,188	38,220	42	36,800	93	1,817
38	44,730	43,531	41,156	38,864	37,125	43	35,833	94	1,359
39	42,754	41,720	39,657	37,679	36,142	44	34,961	95	983.8
40	41,014	40,139	38,340	36,630	35,242	45	34,172	96	686.5
41	39,465	38,732	37,168	35,669	34,430	46	33,455	97	459.8
42	38,079	37,448	36,092	34,771	33,681	47	32,801	98	294.2
43	36,832	36,271	35,116	33,958	32,990	48	32,199	99	178.8
44	35,712	35,207	34,223	33,233	32,366	49	31,637	100	102.6
45	34,755	34,297	33,433	32,584	31,788	50	31,106	101	55.21
46	33,937	33,514	32,741	31,980	31,241	51	30,600	102	27.63
47	33,224	32,822	32,115	31,413	30,721	52	30,113	103	12.73
48	32,581	32,193	31,532	30,877	30,222	53	29,643	104	5.335
49	31,984	31,605	30,981	30,365	29,743	54	29,190	105	2.003
50	31,423	31,052	30,457	29,872	29,282	55	28,751		
51	30,898	30,532	29,962	29,403	28,838	56	28,323		
52	30,398	30,037	29,489	28,951	28,404	57	27,900		
53	29,916	29,560	29,029	28,508	27,974	58	27,478		
54	29,450	29,096	28,579	28,069	27,545	59	27,057		
55	28,999	28,645	28,138	27,633	27,120	60	26,630		
56	28,559	28,202	27,701	27,200	26,688	61	26,194		
57	28,125	27,761	27,265	26,760	26,247	62	25,747		
58	27,695	27,325	26,825	26,313	25,795	63	25,288		
59	27,264	26,881	26,374	25,854	25,330	64	24,799		
60	26,824	26,427	25,910	25,380	24,834	65	24,317		
61	26,372	25,959	25,432	24,876	24,345	66	23,821		
62	25,911	25,481	24,926	24,381	23,844	67	23,308		
63	25,436	24,973	24,429	23,875	23,327	68	22,772		
64	24,932	24,474	23,920	23,355	22,789	69	22,210		
65	24,437	23,964	23,397	22,814	22,225	70	21,620		
66	23,932	23,440	22,853	22,248	21,634	71	20,999		
67	23,411	22,893	22,282	21,653	21,011	72	20,342		
68	22,867	22,320	21,683	21,027	20,352	73	19,643		
69	22,297	21,720	21,054	20,365	19,651	74	18,898		
70	21,697	21,087	20,388	19,661	18,904	75	18,107		

* Age nearest birthday.

TABLE 9
1962 RRB REMARRIAGE TABLE
 $D_{[x]+t}^m$ FUNCTIONS AT 3 PER CENT

Age at widowhood* [x]	Select section					Ultimate section			
	$D_{[x]+0}^m$	$D_{[x]+1}^m$	$D_{[x]+2}^m$	$D_{[x]+3}^m$	$D_{[x]+w}^m$	Age* Y	D_x^m	Age* X	D_x^m
20	127,672.7	109,104.2	84,841.9	65,473.2	54,739.0	25	47,760.6	76	1,826.7
21	108,585.4	93,140.0	73,131.4	57,004.8	47,976.0	26	42,003.8	77	1,685.1
22	93,035.6	80,097.4	63,496.9	49,990.1	42,350.2	27	37,204.1	78	1,545.0
23	79,980.8	69,223.0	55,433.3	44,073.7	37,583.1	28	33,166.3	79	1,406.9
24	68,817.6	60,030.3	48,612.4	39,076.4	33,529.1	29	29,739.4	80	1,271.7
25	59,379.8	52,410.1	42,900.3	34,870.9	30,087.4	30	26,806.3	81	1,140.0
26	51,611.6	46,053.9	38,067.2	31,238.2	27,118.2	31	24,275.2	82	1,012.9
27	45,199.4	40,609.3	33,883.6	28,093.4	24,535.2	32	22,072.3	83	891.3
28	39,775.8	35,965.4	30,297.1	25,377.6	22,290.5	33	20,147.1	84	776.3
29	35,208.4	32,027.0	27,236.7	23,024.9	20,340.9	34	18,465.1	85	668.8
30	31,296.6	28,625.9	24,593.4	20,992.8	18,645.2	35	16,999.0	86	569.4
31	27,956.7	25,705.6	22,312.4	19,218.5	17,170.3	36	15,722.1	87	478.5
32	25,144.8	23,230.1	20,343.7	17,675.0	15,879.8	37	14,606.6	88	396.2
33	22,708.3	21,071.7	18,613.5	16,324.5	14,743.3	38	13,626.0	89	322.7
34	20,602.5	19,197.1	17,101.9	15,147.3	13,755.1	39	12,755.5	90	258.2
35	18,740.1	17,536.9	15,770.7	14,108.6	12,881.5	40	11,975.6	91	202.6
36	17,116.7	16,077.8	14,574.7	13,164.7	12,091.2	41	11,272.1	92	155.5
37	15,743.5	14,831.6	13,528.5	12,319.9	11,375.3	42	10,633.7	93	116.3
38	14,547.4	13,745.1	12,616.7	11,567.0	10,727.6	43	10,052.7	94	84.43
39	13,499.7	12,789.6	11,803.0	10,887.7	10,139.4	44	9,522.4	95	59.34
40	12,573.1	11,946.5	11,078.7	10,276.3	9,598.9	45	9,036.4	96	40.20
41	11,745.9	11,192.0	10,427.2	9,715.2	9,104.6	46	8,589.1	97	26.14
42	11,003.3	10,505.8	9,830.5	9,194.8	8,647.2	47	8,175.9	98	16.24
43	10,333.0	9,879.2	9,286.0	8,718.3	8,223.1	48	7,792.1	99	9.583
44	9,726.9	9,310.1	8,786.3	8,283.6	7,832.5	49	7,433.1	100	5.339
45	9,190.6	8,805.3	8,333.5	7,885.3	7,468.6	50	7,095.5	101	2.789
46	8,712.9	8,353.7	7,923.3	7,513.7	7,126.3	51	6,776.8	102	1.355
47	8,281.4	7,942.9	7,545.4	7,165.5	6,803.6	52	6,474.7	103	.6062
48	7,884.6	7,563.7	7,192.7	6,838.1	6,498.1	53	6,188.0	104	.2466
49	7,514.6	7,209.3	6,861.1	6,528.9	6,208.9	54	5,915.9	105	.08990
50	7,167.8	6,876.9	6,548.7	6,235.8	5,934.6	55	5,657.2		
51	6,842.8	6,564.8	6,254.6	5,959.1	5,674.4	56	5,410.7		
52	6,536.0	6,270.2	5,976.5	5,696.6	5,426.2	57	5,174.7		
53	6,245.0	5,990.9	5,711.9	5,446.1	5,188.4	58	4,948.0		
54	5,968.6	5,725.1	5,459.6	5,206.0	4,960.0	59	4,730.2		
55	5,706.0	5,472.2	5,218.8	4,975.9	4,741.3	60	4,520.0		
56	5,455.8	5,230.7	4,988.1	4,755.2	4,529.8	61	4,316.5		
57	5,216.4	4,998.9	4,766.6	4,544.7	4,325.2	62	4,119.3		
58	4,987.0	4,777.1	4,553.1	4,336.1	4,126.9	63	3,928.0		
59	4,766.4	4,562.6	4,346.1	4,136.4	3,934.5	64	3,739.8		
60	4,552.9	4,354.9	4,145.3	3,942.3	3,745.1	65	3,560.3		
61	4,345.8	4,153.2	3,950.4	3,751.5	3,564.4	66	3,386.1		
62	4,145.5	3,958.0	3,759.0	3,569.7	3,389.4	67	3,216.7		
63	3,951.0	3,766.1	3,576.7	3,393.8	3,219.3	68	3,051.2		
64	3,759.9	3,583.3	3,400.2	3,223.2	3,053.5	69	2,889.2		
65	3,577.9	3,406.5	3,229.0	3,056.8	2,891.2	70	2,730.5		
66	3,401.9	3,234.9	3,062.1	2,894.2	2,732.3	71	2,574.9		
67	3,230.9	3,067.4	2,898.6	2,734.7	2,576.3	72	2,421.7		
68	3,063.9	2,903.5	2,738.5	2,578.3	2,422.8	73	2,270.3		
69	2,900.5	2,743.2	2,581.6	2,424.4	2,271.3	74	2,120.6		
70	2,740.3	2,585.7	2,427.1	2,272.4	2,121.3	75	1,972.7		

* Age nearest birthday.

TABLE 10
1962 RRB REMARRIAGE TABLE
 $N_{[x]+t}^m$ FUNCTIONS AT 3 PER CENT

Age at widowhood* [x]	Select section					Ultimate section			
	$N_{[x]+0}^m$	$N_{[x]+1}^m$	$N_{[x]+2}^m$	$N_{[x]+3}^m$	$N_{[x]+4}^m$	Age* x	N_x^m	Age* x	N_x^m
20	1,035,823.5	908,150.8	799,046.6	714,204.7	648,731.5	25	593,992.5	76	14,970.5
21	926,069.5	817,484.1	724,344.1	651,212.7	594,207.9	26	546,231.9	77	13,143.8
22	833,198.3	740,162.7	660,065.3	596,568.4	546,578.3	27	504,228.1	78	11,458.7
23	753,317.9	673,337.1	604,114.1	548,680.8	504,607.1	28	467,024.0	79	9,913.7
24	683,923.5	615,105.9	555,075.6	506,463.2	467,386.8	29	433,857.7	80	8,506.8
25	623,766.8	564,387.0	511,976.9	469,076.6	434,205.7	30	404,118.3	81	7,235.1
26	571,401.1	519,789.5	473,735.6	435,668.4	404,430.2	31	377,312.0	82	6,095.1
27	525,357.7	480,158.3	439,549.0	405,665.4	377,572.0	32	353,036.8	83	5,082.2
28	484,670.9	444,895.1	408,929.7	378,632.6	353,255.0	33	330,964.5	84	4,190.9
29	448,655.3	413,446.9	381,419.9	354,183.2	331,158.3	34	310,817.4	85	3,414.6
30	416,506.2	385,209.6	356,583.7	331,990.3	310,997.5	35	292,352.3	86	2,745.8
31	387,716.8	359,760.1	334,054.5	311,742.1	292,523.6	36	275,353.3	87	2,176.4
32	361,904.6	336,759.8	313,529.7	293,186.0	275,511.0	37	259,631.2	88	1,697.9
33	338,485.9	315,777.6	294,705.9	276,092.4	259,767.9	38	245,024.6	89	1,301.7
34	317,202.5	296,600.0	277,402.9	260,301.0	245,153.7	39	231,398.6	90	979.0
35	297,680.9	278,940.8	261,403.9	245,633.2	231,524.6	40	218,643.1	91	720.8
36	279,692.6	262,575.9	246,498.1	231,923.4	218,758.7	41	206,667.5	92	518.2
37	263,194.2	247,450.7	232,619.1	219,090.6	206,770.7	42	195,395.4	93	362.7
38	247,965.5	233,418.1	219,673.0	207,056.3	195,489.3	43	184,761.7	94	246.4
39	233,828.4	220,328.7	207,539.1	195,736.1	184,848.4	44	174,709.0	95	161.9
40	220,660.1	208,087.0	196,140.5	185,061.8	174,785.5	45	165,186.6	96	102.6
41	208,335.1	196,589.2	185,397.2	174,970.0	165,254.8	46	156,150.2	97	62.39
42	196,742.7	185,739.4	175,233.6	165,403.1	156,208.3	47	147,561.1	98	36.25
43	185,824.8	175,491.8	165,612.6	156,326.6	147,608.3	48	139,385.2	99	20.01
44	175,532.5	165,805.6	156,495.5	147,709.2	139,425.6	49	131,593.1	100	10.43
45	165,843.3	156,652.7	147,847.4	139,513.9	131,628.6	50	124,160.0	101	5.087
46	156,694.4	147,981.5	139,627.8	131,704.5	124,190.8	51	117,064.5	102	2.298
47	148,026.5	139,745.1	131,802.2	124,256.8	117,091.3	52	110,287.7	103	.9427
48	139,790.2	131,905.6	124,341.9	117,149.2	110,311.1	53	103,813.0	104	.3365
49	131,947.8	124,433.2	117,223.9	110,362.8	103,833.9	54	97,625.0	105	.08990
50	124,472.9	117,305.1	110,428.2	103,879.5	97,643.7	55	91,709.1		
51	117,347.6	110,504.8	103,940.0	97,685.4	91,726.3	56	86,051.9		
52	110,546.7	104,010.7	97,740.5	91,764.0	86,067.4	57	80,641.2		
53	104,048.8	97,803.8	91,812.9	86,101.0	80,654.9	58	75,466.5		
54	97,837.8	91,869.2	86,144.1	80,684.5	75,478.5	59	70,518.5		
55	91,902.5	86,196.5	80,724.3	75,505.5	70,529.6	60	65,788.3		
56	86,227.9	80,772.1	75,541.4	70,553.3	65,798.1	61	61,268.3		
57	80,803.6	75,587.2	70,588.3	65,821.7	61,277.0	62	56,951.8		
58	75,612.7	70,625.7	65,848.6	61,295.5	56,959.4	63	52,832.5		
59	70,650.5	65,884.1	61,321.5	56,975.4	52,839.0	64	48,904.5		
60	65,905.2	61,352.3	56,997.4	52,852.1	48,909.8	65	45,164.7		
61	61,369.7	57,023.9	52,870.7	48,920.3	45,168.8	66	41,604.4		
62	57,039.9	52,894.4	48,936.4	45,177.4	41,607.7	67	38,218.3		
63	52,908.5	48,957.5	45,191.4	41,614.7	38,220.9	68	35,001.6		
64	48,970.5	45,210.6	41,627.3	38,227.1	35,003.9	69	31,950.4		
65	45,222.6	41,644.7	38,238.2	35,009.2	31,952.4	70	29,061.2		
66	41,656.1	38,254.2	35,019.3	31,957.2	29,063.0	71	26,330.7		
67	38,263.7	35,032.8	31,965.4	29,066.8	26,332.1	72	23,755.8		
68	35,041.1	31,977.2	29,073.7	26,335.2	23,756.9	73	21,334.1		
69	31,984.8	29,084.3	26,341.1	23,759.5	21,335.1	74	19,063.8		
70	29,090.0	26,349.7	23,764.0	21,336.9	19,064.5	75	16,943.2		

* Age nearest birthday.

TABLE 11
1962 RRB REMARRIAGE TABLE
 $a_{[x]+t}^{m(12)}$ FUNCTIONS AT 3 PER CENT

Age at widowhood* [x]	Select section					Ultimate section			
	$a_{[x]+0}^{m(12)}$	$a_{[x]+1}^{m(12)}$	$a_{[x]+2}^{m(12)}$	$a_{[x]+3}^{m(12)}$	$a_{[x]+4}^{m(12)}$	Age ^x	$a_x^{m(12)}$	Age ^x	$a_x^{m(12)}$
20	7.5714	7.7820	8.8764	10.3667	11.3097	25	11.8952	76	7.6539
21	7.9868	8.2352	9.3630	10.8821	11.8438	26	12.4626	77	7.2589
22	8.4140	8.6991	9.8535	11.3920	12.3645	27	13.0113	78	6.8753
23	8.8770	9.1854	10.3563	11.9075	12.8847	28	13.5396	79	6.5048
24	9.3965	9.7049	10.8767	12.4191	13.3980	29	14.0470	80	6.1478
25	9.9630	10.2770	11.3924	12.9101	13.8988	30	14.5338	81	5.8046
26	10.5295	10.7448	11.9030	13.4050	14.3719	31	15.0014	82	5.4754
27	11.0814	11.2822	12.4306	13.8982	14.8473	32	15.4529	83	5.1601
28	11.6434	11.8284	12.9556	14.3783	15.3061	33	15.8857	84	4.8568
29	12.2011	12.3676	13.4622	14.8409	15.7387	34	16.2910	85	4.5637
30	12.7667	12.9150	13.9575	15.2728	16.1381	35	16.6565	86	4.2801
31	13.3268	13.4537	14.4300	15.6792	16.4949	36	16.9721	87	4.0062
32	13.8511	13.9550	14.8699	16.0459	16.8081	37	17.2332	88	3.7439
33	14.3641	14.4442	15.2912	16.3711	17.0777	38	17.4404	89	3.4924
34	14.8546	14.9086	15.6789	16.6429	17.2810	39	17.5994	90	3.2503
35	15.3430	15.3642	16.0336	16.8685	17.4317	40	17.7157	91	3.0166
36	15.7986	15.7899	16.3710	17.0754	17.5507	41	17.7927	92	2.7917
37	16.1759	16.1423	16.6530	17.2418	17.6355	42	17.8334	93	2.5779
38	16.5036	16.4402	16.8696	17.3589	17.6813	43	17.8376	94	2.3763
39	16.7793	16.6855	17.0419	17.4360	17.6890	44	17.8055	95	2.1871
40	17.0085	16.8765	17.1626	17.4669	17.6672	45	17.7384	96	2.0114
41	17.1951	17.0235	17.2385	17.4682	17.6090	46	17.6383	97	1.8462
42	17.3386	17.1380	17.2838	17.4471	17.5229	47	17.5066	98	1.6922
43	17.4419	17.2221	17.2930	17.3892	17.4087	48	17.3463	99	1.5495
44	17.5044	17.2675	17.2696	17.2898	17.2592	49	17.1620	100	1.4162
45	17.5032	17.2490	17.1996	17.1512	17.0826	50	16.9567	101	1.2923
46	17.4425	17.1728	17.0807	16.9869	16.8854	51	16.7326	102	1.1752
47	17.3329	17.0520	16.9262	16.7993	16.6685	52	16.4919	103	1.0607
48	17.1878	16.8976	16.7455	16.5901	16.4342	53	16.2348	104	.9396
49	17.0172	16.7184	16.5436	16.3620	16.1817	54	15.9604	105	.7786
50	16.8239	16.5161	16.3209	16.1169	15.9116	55	15.6693	106	.4583
51	16.6074	16.2912	16.0765	15.8509	15.6232	56	15.3623		
52	16.3718	16.0464	15.8124	15.5669	15.3198	57	15.0420		
53	16.1194	15.7837	15.5323	15.2680	15.0035	58	14.7102		
54	15.8504	15.5050	15.2368	14.9567	14.6757	59	14.3664		
55	15.5646	15.2100	14.9263	14.6325	14.3339	60	14.0132		
56	15.2631	14.9002	14.6026	14.2954	13.9839	61	13.6523		
57	14.9486	14.5791	14.2672	13.9415	13.6257	62	13.2839		
58	14.6203	14.2425	13.9207	13.5944	13.2603	63	12.9085		
59	14.2809	13.8983	13.5678	13.2325	12.8880	64	12.5351		
60	13.9337	13.5464	13.2082	12.8647	12.5180	65	12.1439		
61	13.5799	13.1884	12.8419	12.4985	12.1305	66	11.7451		
62	13.2178	12.8222	12.4768	12.1141	11.7341	67	11.3395		
63	12.8495	12.4578	12.0932	11.7203	11.3307	68	10.9297		
64	12.4827	12.0753	11.7009	11.3183	10.9218	69	10.5169		
65	12.0977	11.6834	11.3004	10.9112	10.5099	70	10.1015		
66	11.7033	11.2838	10.8947	10.5001	10.0951	71	9.6842		
67	11.3013	10.8793	10.4862	10.0872	9.6792	72	9.2679		
68	10.8951	10.4716	10.0750	9.6725	9.2639	73	8.8553		
69	10.4856	10.0606	9.6617	9.2585	8.8516	74	8.4481		
70	10.0739	9.6488	9.2494	8.8479	8.4455	75	8.0471		

* Age nearest birthday.

NOTE.—For ages 76 and above, the values are those of the 1962 RRB Mortality Table for Women. They may differ from those derived from the other functions shown in Tables 9 and 10.