FURTHER REMARRIAGE EXPERIENCE

BY

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Until recent years the only actuaries concerned with remarriage rates were those who dealt with workmen's compensation insurance where monthly survivor benefits are frequently paid to widows subject to their not remarrying. Of course, others such as demographers and sociologists have been interested in remarriage data. Also, to some extent, this subject has been of concern to actuaries and tax experts involved in inheritance matters.

The classic work on remarriage experience in American actuarial literature is "An American Remarriage Table" by William F. Roeber and Ralph M. Marshall, *Proceedings*, Vol XIX, page 279. This paper analyzed insurance company data in regard to workmen's compensation for the period 1921-29[1] which had been collected especially to study remarriage experience. From this analysis there was prepared the American Remarriage Table, with mortality rates from the United States White Females Life Table for 1910[2]. The American Remarriage Table is on a select and ultimate basis (5 year select period).

Since the passage of the 1939 Amendments to the Social Security Act and the 1946 Amendments to the Railroad Retirement Act, actuaries engaged in social insurance work have been concerned with the element of remarriage as these two systems now provide monthly payments to widows subject to their not remarrying. One of the studies that was undertaken to "modernize" the American Remarriage Table involved revising the mortality basis. A number of these revised tables were prepared for internal use in the Social Security Board (now the Social Security Administration). Later when the Railroad Retirement Board became interested in this subject, its staff also prepared certain modifications. One of these is published along with certain commutation columns in "A Revised American Remarriage Table" by Abraham M. Niessen, *Record of the American Institute of Actuaries*, Vol. XXXVIII, page 5. This revised table is based on remarriage probabilities which are 50% higher than those in the American Remarriage Table, with this increase being graded down beyond age 54, until for ages 59 and over the original rates were used. At the same time the mortality basis for the revised table was derived from U.S. white female mortality in 1945, increased to allow for a presumed excess mortality of widows as compared with the general female population.

[1] The relatively insignificant amount of data for durations at widowhood beyond the 6th year was not used, and the sizable experience for the 6th year was considered to be "ultimate."

[2] Actually this table is based on the 1910 Census as to the population exposed to risk, combined with the deaths in 1909-11.

This paper will present the results of several studies on remarriage experience made by the author over the course of the past few years. Included are analyses of actual remarriage experience under the Employees' Compensation system, which is in effect the workmen's compensation program for Federal Government employees, and under the Old-Age and Survivors Insurance system. In addition, a set of two modified remarriage tables will be presented, along with commutation columns, using as bases the remarriage rates of the American Remarriage Table and mortality rates for the U.S. white female population for 1939-41.

REMARRIAGE EXPERIENCE UNDER EMPLOYEES' COMPENSATION SYSTEM

The Employees' Compensation program, which was formerly administered by the Employees' Compensation Commission—an independent agency—but is now a Bureau within the Federal Security Agency, provides in effect workmen's compensation benefits for Federal Government employees. In the *14th Annual Report of the Commission* (covering fiscal year 1930) and in the *30th Annual Report of the Commission* (covering fiscal year 1946), there are set forth various statistical data which can serve as a basis for a study of their remarriage experience.

The more extensive data in the 30th Annual Report had been compiled such that the tabulated exposure for the first year of widowhood was not a full year, and thus preliminary studies which incorrectly assumed a full year of exposure appeared to show that the actual experience was much lower than the expected for that year. In brief, the difficulty was that the exact exposure in each case was rounded to the nearest half year and then tabulated so that there resulted an exposure at duration zero (representing exposure for the first ¼ year), an exposure at duration ½, an exposure at duration 1, etc. When the first two groups were combined to yield the exposure for less than 1 year of widowhood, an incorrect result was produced, since actually the exposure included only the first ¾ of a year of widowhood; correspondingly, what was tabulated as second year of widowhood was really from duration ¾ to duration 1¾, etc. While this made a serious understatement for the first year of widowhood, the exposure being for only ¾ year instead of a full year, the error was not as great for the succeeding years because there was a full year of exposure in each, although durations since widowhood were ¼ of a year misplaced. From the actual tabulations[3], which were subdivided into the exposure to the nearest half year, it was possible to approximate the exposure on a correct full year basis for each duration, and this has been done for the succeeding analysis.

Before proceeding with the analysis of the data described above, which covers the period from 1916 (when the system began) to the middle of 1945, there will first be analyzed the earlier experience, namely, that from 1916 to the end of 1929, as published in the 14th Annual Report. These data were given in very detailed form, so that it was possible to build up the exposures on a full-year basis. The experience has been traced through on a select basis

[3] Made available through the courtesy of Mr. Edward F. Brayer, Chief Statistician, Bureau of Employees' Compensation, Federal Security Agency.

for the first five years of widowhood for various age groups at widowhood, and is thereafter on an ultimate basis by attained age with all durations combined. However, for the latter it was necessary to redistribute the data and arrange them in the age groups shown; this was done by osculatory interpolation.

Table 1 compares the actual remarriage experience for the period 1916-29 with that expected according to the American Remarriage Table, showing both actual remarriages and the ratio of actual to expected. By coincidence, the ratio of actual remarriages to those expected was 100% for all ages and durations combined. However, although the American Remarriage Table gave such close correspondence in the aggregate, there were significant differences by age and duration. The ratio was considerably below 100% for durations 0 and 1, but on the other hand was almost 150% for the relatively limited experience in the ultimate years. Considered by age, the ratio of actual to expected tended to be considerably higher for the younger ages. Thus, for the select period, the ratio was about 100% for ages at widowhood up to 30, about 90% for ages 31 to 45, and appreciably below 50% thereafter; correspondingly, in the ultimate durations the ratio was close to 200% at the youngest ages and somewhat lower at the middle ages (there was practically no ultimate data beyond age 50).

Table 1

U.S. EMPLOYEES' COMPENSATION SYSTEM
COMPARISON OF ACTUAL REMARRIAGE EXPERIENCE WITH THAT EXPECTED ACCORDING TO THE AMERICAN REMARRIAGE TABLE, 9/7/16 TO 12/31/29

Age at entry	*Duration since husband's death*						*Age attained*	*Duration 5 or more*
	0	*1*	*2*	*3*	*4*	*0-4*		
	Actual Remarriages[a]							
Under 21	3	11	7	1	5	27	21-25	2.3
21-25	6	12	16	9	15	58	26-30	14.9
26-30	5	17	15	15	6	58	31-35	23.7
31-35	4	11	11	11	4	41	36-40	15.8
36-40	4	9	5	5	1	24	41-45	7.9
41-45	2	4	5	1	2	14	46-50	8.4
46-50	–	2	1	–	1	4	51-55	2.0
51-55	1	–	–	–	–	1	56-60	.9
56-60	–	1	–	–	–	1	61-65	.1
61 & over	–	–	–	–	–	–	66 & over	–
Total	25	67	60	42	34	228	Total	76.0

Ratio of Actual to Expected Remarriages

Under 21	81%	128%	137%	27%	250%	117%	21-25	153%
21-25	63	57	113	81	263	94	26-30	194
26-30	56	84	111	134	103	97	31-35	199
31-35	61	73	103	120	83	88	36-40	136
36-40	103	103	83	94	86	90	41-45	93
41-45	87	77	135	31	118	87	46-50	179
46-50	—	69	50	—	100	45	51-55	77
51-55	143	—	—	—	—	20	56-60	56
56-60	—	125	—	—	—	38	61-65	10
61 & over	—	—	—	—	—	—	66 & over	—
Total	66	79	104	88	137	90	Total	146

[a]Actual remarriages for duration 5 or more are shown with one decimal since data had to be redistributed (by osculatory interpolation) so as to be in age groups shown.

Note: Total actual remarriages for all ages and durations combined: 304 with ratio of actual to expected of 99.8%.

Next, considering the data for the period up to 1945, there again had to be a redistribution of the ultimate data, as in the previous table. In addition there was the redistribution of all the data as described previously, so as to correct for the method of duration classification. Table 2 summarizes data on the remarriage experience for the 29-year period, while a comparison of the scope and extent of these data with those underlying the American Remarriage Table are as follows:

Item	*American Remarriage Table*	*Employees' Compensation*	
		1916-29	*1916-45*
Widows in Experience	10,699	1,915	4,922
Remarriages	1,187	304	940
Deaths	363	127	602
Exposure (life-years)	37,040	11,500	47,300

For all ages and durations combined, the ratio of actual to expected remarriages was about 106%, or somewhat higher than for the period up to 1929; in part, this was due to relatively more of the experience being in the ultimate years. The ratio for the select period was 99%, as against 90% for the earlier experience, while the ratio for the ultimate period was 121%, as contrasted with 146%. In general, the experience for each year of the select period closely approximated 100%, with deviations therefrom appearing to be random. Considering the select period by age, it may be seen that the ratio

was significantly higher for those widowed up to age 25, being about 125%; on the other hand, for those widowed beyond age 45 the ratio was quite low, being roughly 50%. Next, considering the ultimate data, there is the same tendency for a very high ratio (about 150%) for attained ages through 40, and ratios of about 100% thereafter, with again a very low ratio at the highest ages.

Table 2

U. S. EMPLOYEES' COMPENSATION SYSTEM
COMPARISON OF ACTUAL REMARRIAGE EXPERIENCE WITH THAT EXPECTED ACCORDING TO THE AMERICAN REMARRIAGE TABLE, 9/7/16 TO 6/30/45

Age at entry	*Duration since husband's death* 0	1	2	3	4	0-4	*Age attained*	*Duration* 5 or more
				Actual Remarriages[a]				
Under 21	11.0	24.0	17.5	4.5	10.5	67.5	21-25	12.5
21-25	27.5	47.0	44.5	33.0	25.0	177.0	26-30	33.6
26-30	16.0	39.5	43.0	33.0	19.0	150.5	31-35	63.3
31-35	15.0	31.5	23.5	17.5	14.0	101.5	36-40	77.2
36-40	14.5	23.5	14.0	12.0	9.0	73.0	41-45	43.5
41-45	5.0	8.0	9.0	7.0	6.5	35.5	46-50	38.0
46-50	1.5	4.5	4.5	2.5	1.0	14.0	51-55	19.5
51-55	2.0	—	1.5	1.5	1.5	5.5	56-60	11.8
56-60	.5	1.5	—	—	1.0	3.0	61-65	7.0
61 & over	.5	.5	—	—	—	1.0	66 & over	5.1
Total	93.5	180.0	157.5	111.0	86.5	628.5	Total	311.5
				Ratio of Actual to Expected Remarriages				
Under 21	121%	123%	151%	54%	233%	127%	21-25	291%
21-25	117	92	135	128	195	121	26-30	152
26-30	65	72	117	111	121	93	31-35	136
31-35	91	87	94	82	120	92	36-40	147
36-40	138	102	89	88	118	103	41-45	98
41-45	82	58	94	82	135	83	46-50	114
46-50	45	61	85	53	37	60	51-55	91
51-55	111	—	52	56	33	42	56-60	85
56-60	56	75	—	—	143	48	61-65	80
61 & over	62	29	—	—	—	19	66 & over	55
Total	96	84	111	95	138	99	Total	121

[a]Actual remarriages are shown with one decimal since data had to be redistributed to allow for method of classifying by duration (see text), while data for duration 5 or more had to be further redistributed as described in footnote a of Table 1.

Note: Total actual remarriages for all ages and durations combined: 940 with ratio of actual to expected of 105.7%.

Table 2a summarizes the remarriage experience for the period 1930-45, being in effect obtained by subtraction of Table 1 from Table 2. As would be expected, the ratio of actual to expected remarriages in the select period is slightly above 100%, while that for the ultimate period is about 115%. Thus, it might be said that the most recent remarriage experience is about 10% above the American Remarriage Table regardless of duration, although by age at widowhood the actual is materially above the expected at the youngest ages.

Table 2a

U. S. EMPLOYEES' COMPENSATION SYSTEM
COMPARISON OF ACTUAL REMARRIAGE EXPERIENCE WITH THAT EXPECTED ACCORDING TO THE AMERICAN REMARRIAGE TABLE, 1/1/30 TO 6/30/45 (BY SUBTRACTION)

Age at entry	*Duration since husband's death* 0	1	2	3	4	0-4	*Age attained*	*Duration 5 or more*
				Actual Remarriages[a]				
Under 21	8.0	13.0	10.5	3.5	5.5	40.5	21-25	10.2
21-25	21.5	35.0	28.5	24.0	10.0	119.0	26-30	18.7
26-30	11.0	22.5	28.0	18.0	13.0	92.5	31-35	39.6
31-35	11.0	20.5	12.5	6.5	10.0	60.5	36-40	61.4
36-40	10.5	14.5	9.0	7.0	8.0	49.0	41-45	35.6
41-45	3.0	4.0	4.0	6.0	4.5	21.5	46-50	29.6
46-50	1.5	2.5	3.5	2.5	—	10.0	51-55	17.5
51-55	1.0	—	1.5	1.5	.5	4.5	56-60	10.9
56-60	.5	.5	—	—	1.0	2.0	61-65	6.9
61 & over	.5	.5	—	—	—	1.0	66 & over	5.1
Total	68.5	113.0	97.5	69.0	52.5	400.5	Total	235.5
				Ratio of Actual to Expected Remarriages				
Under 21	148%	119%	162%	76%	220%	135%	21-25	364%
21-25	152	117	152	164	141	141	26-30	130
26-30	71	65	121	97	131	91	31-35	114
31-35	112	96	88	53	145	94	36-40	150
36-40	159	101	92	83	167	111	41-45	99
41-45	79	47	68	113	145	81	46-50	103
46-50	71	56	106	86	—	69	51-55	93
51-55	91	—	83	88	50	56	56-60	89
56-60	100	42	—	—	250	54	61-65	90
61 & over	125	62	—	—	—	37	66 & over	61
Total	115	88	115	99	139	105	Total	115

[a]Actual remarriages are shown with one decimal since data had to be redistributed to allow for method of classifying by duration (see text), while data for duration 5 or more had to be further redistributed as described in footnote a of Table 1.

Note: Total actual remarriages for all ages and durations combined: 636 with ratio of actual to expected of 108.8%.

It did not seem worth while conducting a mortality investigation for the experience in the period through 1929 because of the small amount of data and, more important, because the data were grouped broadly at the older ages (i.e., age 61 and over) where most of the deaths occurred so that any significant analysis was virtually impossible. Since the tabulations were obtained in detail in regard to the period through 1945, it was possible to obtain adequate data at the advanced ages for this period.

Table 3 compares the actual aggregate (i.e., without regard to duration of widowhood) mortality experience for the period 1916-45 with the expected according to two U. S. population life tables. Probably the most appropriate table covering this period is that for U. S. White Females for 1930-39, since this fell within the period although toward the latter end (which seems desirable since the benefit roll built up steadily over the period, and thus the latter years should be more heavily weighted). In addition, comparison has been made with the U. S. White Females Table for 1939-41 which is the most recent, complete official life table.

Table 3

U. S. EMPLOYEES' COMPENSATION SYSTEM
COMPARISON OF ACTUAL MORTALITY EXPERIENCE WITH THAT EXPECTED ACCORDING TO TWO U. S. POPULATION LIFE TABLES, 9/17/16 TO 6/30/45

Attained Age	*Actual Deaths*[a]	*Ratio of Actual to Expected Deaths According to U. S. White Females Table for*	
		1930-39	*1939-41*
Under 31	24.2	198%	288%
31-35	11.9	80	108
36-40	27.1	116	153
41-45	34.9	105	126
46-50	43.1	86	101
51-55	59.9	88	101
56-60	82.5	100	110
61-65	85.8	82	92
66-70	92.7	89	98
71-75	70.7	91	97
76-80	43.7	85	89
81 and over	25.5	110	113
Total	602.0	94	105

[a] Shown with one decimal since data had to be redistributed (by osculatory interpolation) so as to be in attained age groups shown.

In the aggregate, the ratio of actual to expected deaths was slightly below 100% according to the 1930-39 table and slightly above using the 1939-41 table. This experience thus indicates that the mortality of the widow beneficiaries is at least as favorable as that of the general female population. There was no particularly significant trend in the ratio by age, except that for the very youngest ages it was very high, being almost 200% according to the 1930-39 table.

Table 4 analyzes the mortality experience on a select and ultimate basis by duration of widowhood, using the 1930-39 table as the basis for the expected deaths. The ratio for the select period was 104%, as against 89% for the ultimate period, with no particular trend by attained age. In large part this higher ratio for the select period was due to the high mortality experience for those widowed at age 30 and below. When considered by duration in the select period for all ages at widowhood combined, there was some indication of higher mortality in the first year of widowhood, where the ratio was 130%, as against about 100% for each of the other four durations; again a large part of this is due to the experience of those widowed at age 30 and under, the ratios for those widowed beyond age 30 being 109, 87, 85, 99 and 97%, respectively, for the five durations.

Table 4

U. S. EMPLOYEES' COMPENSATION SYSTEM
COMPARISON OF ACTUAL MORTALITY EXPERIENCE WITH THAT EXPECTED BY U. S. WHITE FEMALES 1930-39 LIFE TABLE, BY AGE AT ENTRY AND DURATION OF WIDOWHOOD, 9/17/16 TO 6/30/45

Age or Duration	*Actual Deaths*[a]	*Ratio of Actual to Expected Deaths*
First 5 Years of Widowhood, by Age at Widowhood		
Under 31	25.5	193%
31-40	26.0	115
41-50	31.5	89
51-55	23.0	103
56-60	16.5	80
61 & over	37.0	94
Total	159.5	104
First 5 Years of Widowhood, by Duration of Widowhood		
0	42.5	130%
1	28.5	89
2	32.0	106
3	28.5	97
4	28.0	96
Total	159.5	104

After First 5 Years of Widowhood, by Attained Age		
Under 41	19.9	105%
41-45	19.7	103
46-50	24.8	78
51-55	42.5	92
56-60	65.3	106
61-65	54.3	70
66-70	76.1	85
71-75	70.7	91
76-80	43.7	85
81 & over	25.5	110
Total	442.5	89

[a]Shown with one decimal since data had to be redistributed (by osculatory interpolation) so as to be in attained age groups shown.

In summary, this study has shown that the remarriage experience of the Employees' Compensation program for the roughly 29 years of experience up through 1945 closely paralleled that expected according to the American Remarriage Table, although at the very youngest ages the tabular rates were exceeded, and at the very oldest ages they were not nearly attained. In regard to mortality experience, the beneficiaries have had close to normal population mortality, with an indication of considerable excess mortality for the very youngest ages at widowhood, and also to some extent in the first year of widowhood.

REMARRIAGE EXPERIENCE UNDER OLD-AGE AND SURVIVORS INSURANCE SYSTEM

Under the Old-Age and Survivors Insurance system, monthly benefits are payable to two categories of widows of covered workers, namely, (1) regardless of age so long as an eligible child under 18 is present (termed "widow's current" benefits) and (2) after age 65 (termed "widow's" benefits). In both instances benefit payments to the widow cease upon her remarriage. The relative size of the data in the Old-Age and Survivors Insurance experience as against those on which the American Remarriage Table was based may be judged by the number of remarriages. Under the Old-Age and Survivors Insurance system for 1940-46, the period for which an extensive theoretical investigation will be made subsequently in this section (although rough consideration will also be given to the period 1940-48), the actual number of remarriages was 36,628 as compared with only 1,187 in the experience on which the American Remarriage Table was based.

To date, because of the manpower shortages during the war and postwar period, it has been impossible to conduct an exact actuarial investigation as to the remarriage experience under the program. However, certain rough studies have been made, and these give some very good and interesting indications of the experience. It is to be hoped that in the future, it may be possible to make further studies but on a more precise basis.

One of the major difficulties with the actual data available up to now is that they are based on date of administrative action rather than date of demographic event (i.e., date of widowhood, date of remarriage, or date of death).

Table 5 shows, in the first column, the proportion of the possible cases where claims for widow's current benefits are actually filed. Because of the maximum benefit provision[4] and because of the widow engaging in covered employment[5], there are many instances where widows do not file a claim. In 1940 this proportion was 10%, and since then there has been a steady increase to 20% for 1947 awards. The second column shows the proportion of the widows who have actually filed claim for widow's current benefits and who are receiving such benefits. A very significant proportion does not receive benefits, principally because of covered employment. This proportion has increased from 7% at the end of 1940 to 27% at the end of 1948. Combining these two factors, it would appear that over 40% of the widows who would otherwise be eligible are not receiving benefits because of covered employment or because of the maximum provisions.

Table 5

OLD-AGE AND SURVIVORS INSURANCE SYSTEM
DATA ON WIDOW'S CURRENT BENEFICIARIES

Calendar Year	*Awards in Year as % of Awards for Deaths of Married Men with Children*	*Beneficiaries in Current Payment Status as % of Benefits in Force at end of Year*
1940	90.1	92.7
1941	88.0	88.1
1942	86.4	80.2
1943	84.0	73.7
1944	83.2	73.3
1945	84.6	76.3
1946	82.2	74.4
1947	80.1	73.6
1948	*	72.8

*Not available.

From the data on widow's current benefits in force (including those which are not in current payment status) and from the data on terminations of widow's current benefits classified by reason for termination, it is possible to determine rough termination probabilities by cause. It should be emphasized that these are only approximate figures because the data are classified by time of administrative action, rather than by time of demographic event.

Table 6 presents the calculated termination probabilities for individual calendar years. Based on the experience of 1940, about 10% of the widow's current beneficiaries would terminate in a year. This proportion gradually increased and levelled out to about 14% during the war years 1942-45, but in the three postwar years, 1946-48, rose to a new level of 18%.

[4] Such that the maximum amount is payable in respect to the children so that nothing additional would be payable to the widow if she were to file.

[5] In which case the benefit is not paid while earnings are $15 or more per month.

The reason for this trend is apparent when the probabilities by cause of termination are considered. About 8% of the widows terminate each year because the last child attained age 18; this figure has shown a slight upward trend over the 9 years considered. In 1940 only about 2% of the widows were terminated because of remarriage; this figure increased steadily until it was at a level of about 5% for 1942-45 and then jumped sharply to 9% in 1946 and has decreased somewhat since then (reflecting the general trend in marriages throughout the country). Normally the probability of termination because of remarriage would be expected to increase for a few years and then level off, since the remarriage rate is generally rather low in the first year of widowhood, but increases to a fairly sizeable peak in the second and third years and decreases thereafter.

Table 6

OLD-AGE AND SURVIVORS INSURANCE SYSTEM
TERMINATION PROBABILITIES[a] FOR WIDOW'S CURRENT BENEFICIARIES, BY CAUSE OF TERMINATION

Year	*Last Child Attained 18*	*Marriage of Widow*	*Death of Widow*	*Marriage or Death of Last Child*	*Total*[b]
1940	75	19	4	2	103
1941	82	38	5	4	129
1942	80	49	5	5	139
1943	82	51	5	4	142
1944	82	49	4	3	139
1945	80	53	5	3	141
1946	79	92	5	4	179
1947	83	82	4	4	178
1948	88	71	4	5	173

The other two major causes of termination, namely, death of the widow and marriage or death of the last child, each account for only about 2% of the terminations each year. Incidentally, the probability of death of the widow (namely, 4-5 per thousand) is relatively low. Subsidiary studies which have been made indicate that this is about the "expected" probability on the basis of over-all female population mortality. Once again there is evidence that widows do not have higher mortality than the general female population.

The actual experience may be compared with that which might be expected in regard to the two major causes of termination (namely, last child attained age 18 and remarriage of widow). There have been developed "expected" termination rates for widow's current benefits on the basis of stationary conditions (namely, the same number of widows being created each year, with a

[a]Number of terminations in year divided by average number in force at beginning and end of year. Expressed as rate per thousand.

[b]Includes a relatively small number of terminations for other causes, except in 1947 and 1948 there were a sizable number of terminations due to entitlement to larger veteran's pension and railroad retirement benefits (with combined probability of about 4 per thousand).

fixed age distribution of both the widows and the orphan children). The termination rates for the last child attaining 18 were determined from the Richmond Family Composition Study[6], while the termination rates for remarriage of the widow were based on the theoretical rates of the American Remarriage Table. The figures were all derived on the basis of year of operation of the program. For comparability it was necessary to modify the actual termination probabilities, as shown in Table 6, so as to convert them to "rates." (The probabilities in Table 6 are dependent upon other causes of termination, whereas rates in Table 7 completely eliminate any such subsidiary effects.)

Table 7 compares the actual and "expected" termination rates for widow's current beneficiaries. In regard to terminations because the last child attained age 18, the actual and expected rates have been quite close, although in recent years the actual has fallen somewhat below the expected. This may be explained by the relatively large number of beneficiaries arising from war deaths; in these cases the children were younger on the average than in the theoretical stationary population[7] used to obtain the "expected" rates, and so there were relatively fewer attainments of age 18.

Table 7

OLD-AGE AND SURVIVORS INSURANCE SYSTEM
ACTUAL AGGREGATE TERMINATION RATES[a] FOR WIDOW'S CURRENT BENEFICIARIES COMPARED WITH "EXPECTED" RATES[b] FOR LAST CHILD ATTAINING AGE 18 AND FOR MARRIAGE OF WIDOW

Year of Operation[c]	*Last Child Attained 18*			*Marriage of Widow*		
	Actual	*Expected*	*Ratio*	*Actual*	*Expected*	*Ratio*
1	72	69	104%	18	18	100%
2	79	72	110	37	27	137
3	77	75	103	48	32	150
4	79	79	100	49	33	148
5	78	82	95	48	33	145
6	77	84	92	52	32	163
7	76	86	88	88	31	284
8	79	88	90	79	30	263
9	85	90	94	69	29	238
10	*	92	*	*	28	*
15	*	104	*	*	26	*
18	*	115	*	*	26	*

*Not available

[a] Termination probabilities from Table 6 adjusted so as to be on a "rate" basis (ignoring effect of all other causes of decrement). Expressed as a rate per thousand.

[b] Based on theoretical distribution of youngest children in Richmond Family Composition Study data and on American Remarriage Table, respectively, both applied to a constant number of new cases created each year.

[c] First year of operation was 1940.

[6] A country-wide sample survey which was processed in Richmond, Va. For details see *Social Security Bulletin*, April 1939, page 9.

[7] This was determined from normal mortality circumstances where there are relatively few deaths of young fathers.

On the other hand, the ratios of the actual to "expected" termination rates because of remarriage of the widow have been substantially above 100%. Thus, for the 3rd to the 6th years of operation (1942-45), the ratio was close to 150%, while in the postwar years it was well over 200%. This would seem to indicate that the remarriage rates of the American Remarriage Table are considerably lower than actual experience under the Old-Age and Survivors Insurance program. Of course, any thorough analysis should take into account the actual exposure to remarriage by age and duration since widowhood. In the crude study of Table 7, the expected remarriage rate was based on applying the tabular rates to the distribution of the theoretical widow's current population arising under the operation of the system. It would appear that these ratios of actual to expected tend to be inflated, in part at least because of the effect of the war in creating relatively more young widows for whom remarriages can be expected to be high. Accordingly, based on this limited experience and crude analysis, it might well be reasonable that the remarriage experience of widow's current beneficiaries is perhaps 50% above that of the American Remarriage Table.

A better study of the remarriage experience under the Old-Age and Survivors Insurance system can be made on a theoretical projection basis which, as will be noted, has certain possible weaknesses, but which is the best that can be done under the circumstances. There is available a tabulation of widow's current benefit data by attained age for the years 1940-46, showing, for each of these calendar years, the number of awards and terminations. The terminations are subdivided into remarriages, deaths, and other causes. The total "in force" is shown for December 31 of each year. Since the experience of each calendar year is not subdivided according to year of award, a select analysis of the experience cannot be made by exact methods but an approximate procedure can be developed.

The method used involved constructing an approximate select "in force" for each year, and then applying American Remarriage Table rates to obtain the "expected" remarriages.

The select "in force" was obtained by using continuance probabilities applied to the awards of each year by age and then adjusting the results so that the total calculated "in force" equalled the actual "in force" at the end of each calendar year. The continuance probabilities presented the probability of a widow's current beneficiary remaining "in force" according to age at widowhood and duration of widowhood, and thus took account of the probabilities of termination because of death, remarriage, and attainment of age 18 of the youngest child. The latter of these three factors is by far the most important cause of termination of widow's current benefits and was based on the age data as to children in the Richmond Family Composition Study referred to previously. The mortality factor in these continuance probabilities was based on the U. S. White Females Life Table for 1929-31, using somewhat antiquated mortality as an allowance for the believed excess higher mortality of widows (a subject which will be discussed in more detail later). The remarriage basis was taken to be 100% of the American Remarriage Table rates. Although at first glance it might appear that the use of these remarriage rates in building

up the exposed to risk might lead to serious error, for very rough and approximate purposes this is not the case because the remarriage element is only a small element involved in continuance factors[8].

The method of adjustment described in the previous paragraph may be made clear by an actual description of the processes involved. The awards of 1940 were shown by age at widowhood, and the number of these who continued in force on December 31, 1940 was also shown. Using these continuance probabilities, the "in force" on December 31, 1940 were projected to December 31, 1941; similarly, the new entrants (or awards of 1941) were projected for an average of ½ year to the same date. These projected figures were then adjusted age by age so that their total equalled the actual beneficiaries "in force". Then these adjusted figures were projected for one full year by using the proper continuance probabilities, as was also done for the 1942 awards, projected for ½ year. The grand total of the projected 1940-42 awards as of December 31, 1942, was then compared with the actual "in force" on that date, and the projected figures adjusted accordingly. In this fashion there was built up an adjusted "in force" as of the end of each calendar year subdivided first by calendar year of widowhood (which, of course, can be used with proper adjustment, to be described subsequently, as a duration demarkation) and then by age at widowhood. Of course, too, in the actual exposure, there would be considered for each year the awards of that year.

The actual adjustment factors used against the projected "in force" at the end of the year to bring the projected into conformity with the actual "in force" were as follows:

Calendar Year	Factor Applied to Projected "In Force"
1940	None required
1941	.9747
1942	.9723
1943	.9724
1944	.9752
1945	.9712
1946	.9411

The remarriage rates used against the exposed to risk to determine the "expected" remarriages were derived from the probabilities of remarriage appearing in the American Remarriage Table, which were first transformed to

[8] This might be made clearer by considering a specific example along related lines. Suppose that we are investigating the mortality experience of a group of persons age 50 where the death rate is approximately 10 per 1000. The continuance probability for this group would then be .99, while the mortality or discontinuance rate would be .01 according to the expected basis. However, if actual mortality for this group were double the expected, then the continuance probability would actually be .98 or a difference of only 1%, whereas there was a difference of 100% in mortality rates.

rates by eliminating the mortality element present and then adjusted to conform to the form of the Old-Age and Survivors data. One adjustment was necessary to take account of the fact that observation in the Old-Age and Survivors Insurance data did not start at date of widowhood, but rather at the later date of administrative action, herein assumed to be three months after widowhood. A further adjustment was also required since the American Remarriage Table is tabulated according to age last birthday, whereas the Old-Age and Survivors Insurance data are shown by age in year of award, or on the average, nearest birthday at date of award.

In accordance with these reasons for adjustment, the following actual procedure was adopted to allow for the data being based on date of administrative action. It was assumed that the experience in the calendar year of award was an average exposure for ½ year and that the exposure began three months after widowhood rather than at exact date of widowhood. Similarly, the exposure in the first calendar year after the year of widowhood was assumed to extend from duration nine months to one year and nine months, while in the second calendar year after the year of widowhood the exposure extended from duration one year and nine months to two years and nine months, and so forth for subsequent calendar years. This required adjustment of the tabular remarriage probabilities shown in the American Remarriage Table so as to put them on a rate basis[9] and on a corresponding duration basis. Expressed in notational form, the required rates are as follows (where $x-\frac{1}{4}$ is exact age at widowhood and thus x is exact age at time of filing claim):

Calendar year of award	$\frac{1}{2}\,{}^{(rq)}[x-\frac{1}{4}] + \frac{1}{4}$
Next calendar year	${}^{(rq)}[x-\frac{1}{4}] + \frac{3}{4}$
Following calendar year.	${}^{(rq)}[x-\frac{1}{4}] + 1\frac{3}{4}$, etc.

For each age at widowhood the probabilities or remarriage shown in the American Remarriage Table bear a fixed relationship to the probability for duration 0, namely as follows:

Duration	Ratio to Probability for Duration 0
0	1.00
1	2.45
2	1.93
3	1.89
4	1.15
5 (Ultimate)	.81

[9] By the formula, $(rq)_x = \frac{r^r_x}{1-\frac{1}{2}\,q^r_x}$ where (rq) is the remarriage rate, r^r is the tabular probability of remarriage and q^r is the tabular probability of dying unremarried.

Interpolation on these ratios was performed so as to get ratios for the remarriage rates required[10], with the following results:

Duration	Ratio to Rate for Duration 0-1
¼- ¾	.56
¾-1¾	2.15
1¾-2¾	2.12
2¾-3¾	1.91
3¾-4¾	1.31
4¾-5¾	.89
5¾-6¾ and over	.81

Thus knowing $(rq)_{[x-¼]}$, all the required rates were derived from the above ratios.

These rates were applied to the adjusted exposures described previously. Accordingly, expected remarriages were obtained for each calendar year for each age at widowhood and each duration. These were then collected by attained age for each calendar year since that was the only breakdown available for the actual remarriages.

Ratios of actual to expected remarriages, by attained age groups, are shown in Table 8 for single calendar years, and for the prewar years 1940-41, the war years 1942-45, and all years 1940-46 combined.

The most outstanding feature of this table is the great increase in the ratios of actual to expected remarriages for 1946. This is undoubtedly a true reflection of the large number of marriages taking place in that year. However, the fact that these ratios are aggregate should be considered in interpreting them. Because of this, the ratios for any calendar year are affected by the proportion of the experience occuring at the various durations since widowhood. For example, in the assumed distribution developed herein, 100% of the 1940 exposure is included between ¼ and ¾ of a year after widowhood, whereas in 1946 only 13% of the exposure occurred between these durations.

The trend, by age, of these ratios of actual to "expected" remarriages is fairly consistent for all calendar years. The ratios start off somewhere over 100%, increase slightly until some age between 25 and 45 and then generally decrease to below 100% in the highest age group. For all calendar years combined, the ratio starts around 160% in the youngest age group, increases to approximately 170% in the 30-34 year age group, and then tapers off to 83% in the 55-64 year age group.

[10] A minor, and probably insignificant, theoretical error occurs here since the original ratios applied to remarriage probabilities rather than to remarriage rates.

TABLE 8

OLD-AGE AND SURVIVORS INSURANCE SYSTEM RATIOS OF ACTUAL TO EXPECTED[a] REMARRIAGES FOR WIDOW'S CURRENT BENEFICIARIES

	Attained Age								
Year	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-64	All Ages to 65
1940	102%	106%	76%	86%	78%	42%	50%	133%	87%
1941	119	139	134	116	82	65	45	36	114
1942	141	141	149	136	114	111	69	53	132
1943	128	132	153	146	138	121	91	60	135
1944	108	129	140	148	151	143	107	96	133
1945	130	131	150	155	159	140	100	78	140
1946	237	234	230	232	217	196	153	110	226
1940-46	161	167	170	167	159	143	107	83	161
1940-41	116	133	125	111	82	61	45	51	109
1942-45	125	132	148	148	145	132	95	76	136

[a] Expected remarriages calculated on basis of American Remarriage Table.

In general, the ratios of actual to "expected" in any age group increase each calendar year. Undoubtedly, the major part of this trend is due to an actual increase in the rate of remarriage. To some extent, however, it may result from the fact, as suggested above, that later durations are brought into the experience as the calendar year advances. This result would then appear if the experience remarriage rates at later durations after widowhood are consistently higher than those in the American Remarriage Table. Tending to offset this is the fact that the greater part of the exposure in any calendar year is at the early durations.

MODIFIED AMERICAN REMARRIAGE TABLES

In preparing revised remarriage tables the considerations described previously led to the conclusion that actual remarriage rates now might be considerably above those in the original American Remarriage Table. As a remarriage basis it seemed desirable to have two alternatives, namely, (1) the basic rates in the original American Remarriage Table and (2) 150% of such rates[11].

Likewise, of course, there is need for bringing in more modern mortality. In the opinion of the author and as indicated in the previous analysis, there is not any clear evidence to indicate that the mortality of widows is higher than that of the total female population. The experience of life insurance companies with settlement options has not indicated high mortality for widows. The results from census data may be biased since the deaths in the numerator may be cor-

[11] It might have been desirable to have graded this percentage down at the very older ages as did Niessen in his paper referred to previously, but it was felt that this refinement was unnecessary considering the rough general nature of the adjustment.

rectly reported as to marital status, but the population in the denominator may well be understated since the widows, especially those at the younger ages, may report themselves as other than widowed. Accordingly, the mortality basis adopted has been that according to the U. S. White Females Life Table for 1939-41, which is the latest complete, published official table[12]. Since 1939-41 mortality has continued to improve, so to that extent it might be said that there is some allowance for higher mortality for widows.

The first step was to derive rates of remarriage from the American Remarriage Table which shows probabilities only[13]. The formula used was the usual one (see footnote 9). The probability of surviving unremarried from a year may be represented by $p'_x = 1 - \frac{q_x + (rq)_x - q_x \cdot (rq)_x}{1 - \frac{1}{2} q_x \cdot (rq)_x}$ where q and (rq) are rates of death and remarriage, respectively.

After obtaining all values of p'_{x+t}, l'_{x+t} was derived by working backward from l_{79}, taken from the U. S. White Females Table for 1939-41.

Two sets of tables of l_x, D_x and N_x (at 3% interest) have been prepared. One set uses remarriage rates equal to those described above, and the other set uses 150% of these rates. A table of probabilities or remarriage has also been worked out on the 100% basis.

Table 9 shows the number of widows surviving unremarried according to the 100% remarriage rates, while Table 10 gives similar data for the 150% rates.

Tables 11 to 14 give the D's and N's for these two tables using an interest rate of 3%. Finally Table 15 gives the remarriage probabilities on the 100% basis; it should be emphasized that these are not rates since they represent a combination of remarriage rates with the U. S. White Female 1939-41 mortality.

The author gratefully acknowledges the great help he has received from Walter E. Wilcox, an Associate of the Society of Actuaries, who assisted him in the development of the "projections" study of Old-Age and Survivors Insurance experience and who supervised the computations involved in the modified American Remarriage Table.

[12] "United States Life Tables and Actuarial Tables 1939-1941" by Thomas N. E. Greville, United States Government Printing Office, Washington, D. C. 1946.

[13] In this connection it might be pointed out that there was perhaps a minor theoretical error present in the development of the original American Remarriage Table. In the special study made remarriage *probabilities* were developed, and these were used as probabilities combined with mortality *rates*. The remarriage *probabilities* originally derived should have been converted into *rates* so as to eliminate the mortality element in the investigation. Then these remarriage *rates* should have been combined with the mortality *rates* from the official life table to get the proper remarriage probabilities. However, the theoretical adjustment involved would be relatively small because the actual mortality in the investigation probably did not differ significantly (considering the small size of the sample) from the theoretical or tabular *rates*.

Table 9

100% AMERICAN REMARRIAGE TABLES, 1939-41a/

Number Living Unmarried

Age at Entry [x]	Years Elapsed Since Husband's Death: 0 $l^r_{[x]}$	1 $l^r_{[x]+1}$	2 $l^r_{[x]+2}$	3 $l^r_{[x]+3}$	4 $l^r_{[x]+4}$	5 or more l^r_{x+5}	Age Attained x + 5
18	391,581	364,143	302,228	261,560	227,207	208,896	23
19	354,817	331,374	278,381	243,124	213,069	196,903	24
20	323,262	303,168	257,599	226,937	200,565	186,237	25
21	295,966	278,667	239,378	212,637	189,445	176,733	26
22	272,256	257,328	223,340	199,983	179,557	168,252	27
23	251,940	238,960	209,367	188,841	170,750	160,669	28
24	234,089	222,787	196,986	178,901	162,875	153,865	29
25	218,363	208,506	185,971	170,035	155,793	147,737	30
26	204,643	196,007	176,238	162,127	149,457	142,223	31
27	192,573	184,970	167,675	155,064	143,754	137,242	32
28	181,872	175,168	159,836	148,719	138,599	132,736	33
29	172,460	166,520	152,960	143,039	133,963	128,654	34
30	163,959	158,691	146,705	137,865	129,734	124,940	35
31	156,435	151,751	141,107	133,208	125,908	121,565	36
32	149,795	145,595	136,108	129,015	122,429	118,483	37
33	143,758	139,997	131,543	125,183	119,251	115,660	38
34	138,326	134,954	127,406	121,685	116,336	113,069	39
35	133,504	130,457	123,689	118,535	113,694	110,695	40
36	129,074	126,329	120,272	115,625	111,238	108,490	41
37	125,102	122,607	117,160	112,960	108,977	106,454	42
38	121,522	119,248	114,343	110,527	106,888	104,555	43
39	118,265	116,182	111,750	108,272	104,938	102,772	44
40	115,301	113,384	109,369	106,186	103,128	101,098	45
41	112,582	110,817	107,162	104,235	101,416	99,513	46
42	110,078	108,442	105,103	102,407	99,804	98,011	47
43	107,824	106,285	103,210	100,709	98,278	96,567	48
44	105,700	104,240	101,404	99,078	96,801	95,167	49

Table 9 -- Continued

Age at Entry [x]	Years Elapsed Since Husband's Death						Age Attained x+5
	0	1	2	3	4	5 or more	
	$l^r_{[x]}$	$l^r_{[x]+1}$	$l^r_{[x]+2}$	$l^r_{[x]+3}$	$l^r_{[x]+4}$	l^r_{x+5}	
45	103,712	102,323	99,700	97,519	95,378	93,805	50
46	101,897	100,562	98,101	96,036	94,004	92,476	51
47	100,184	98,888	96,570	94,603	92,652	91,156	52
48	98,558	97,295	95,101	93,206	91,321	89,841	53
49	96,951	95,708	93,621	91,802	89,986	88,524	54
50	95,486	94,247	92,229	90,450	88,667	87,192	55
51	94,047	92,807	90,842	89,087	87,323	85,838	56
52	92,658	91,403	89,474	87,729	85,959	84,440	57
53	91,246	89,971	88,065	86,323	84,550	83,000	58
54	89,852	88,553	86,653	84,899	83,108	81,505	59
55	88,482	87,134	85,224	83,434	81,603	79,949	60
56	87,062	85,670	83,736	81,915	80,045	78,327	61
57	85,602	84,160	82,205	80,336	78,414	76,627	62
58	84,135	82,628	80,628	78,707	76,720	74,850	63
59	82,673	81,056	78,990	76,996	74,939	72,985	64
60	81,067	79,407	77,277	75,204	73,066	71,020	65
61	79,373	77,642	75,453	73,308	71,091	68,949	66
62	77,640	75,817	73,551	71,327	69,018	66,774	67
63	75,826	73,908	71,565	69,248	66,841	64,480	68
64	73,952	71,932	69,491	67,069	64,551	62,068	69
65	71,953	69,827	67,285	64,758	62,130	59,529	70
66	69,820	67,590	64,954	62,318	59,583	56,861	71
67	67,570	65,229	62,500	59,763	56,913	54,071	72
68	65,242	62,783	59,943	57,084	54,120	51,167	73
69	62,757	60,178	57,239	54,272	51,204	48,141	74
70	60,107	57,413	54,387	51,328	48,175	45,024	75
71	57,382	54,566	51,445	48,290	45,055	41,834	76
72	54,473	51,554	48,363	45,141	41,855	38,590	77
73	51,481	48,460	45,209	41,930	39,609	35,323	78

Functions beyond age at entry 73 are ultimate, depending upon mortality rates only

a/ Based on remarriage rates from American Remarriage Table combined with U.S. White Females 1939-41 mortality rates.

Table 10

150% AMERICAN REMARRIAGE TABLES, 1939-41[a/]

Number Living Unmarried

Age at Entry [x]	Years Elapsed Since Husband's Death						Age Attained x+5
	0	1	2	3	4	5 or more	
	$l^r_{[x]}$	$l^r_{[x]+1}$	$l^r_{[x]+2}$	$l^r_{[x]+3}$	$l^r_{[x]+4}$	l^r_{x+5}	
18	835,358	748,038	557,722	445,531	358,100	315,117	23
19	716,519	645,992	491,535	398,512	324,379	288,250	24
20	620,222	562,839	436,369	358,813	296,591	265,069	25
21	541,202	494,166	390,055	325,025	272,150	245,006	26
22	475,978	437,191	350,946	296,202	251,076	227,598	27
23	422,509	390,242	318,110	271,615	232,826	212,435	28
24	377,612	350,598	290,011	250,329	216,938	199,156	29
25	339,538	316,857	265,786	231,898	203,008	187,468	30
26	307,604	288,419	245,081	215,894	190,814	177,180	31
27	280,508	264,171	227,174	201,985	180,096	168,075	32
28	257,242	243,269	211,586	189,755	170,614	159,992	33
29	237,430	225,414	198,130	179,094	162,263	152,823	34
30	220,066	209,701	186,183	169,577	154,788	146,414	35
31	205,084	196,101	175,714	161,179	148,151	140,692	36
32	192,217	184,353	166,567	153,768	142,208	135,540	37
33	180,773	173,898	158,385	147,110	136,868	130,906	38
34	170,751	164,732	151,132	141,166	132,075	126,721	39
35	161,993	156,663	144,708	135,894	127,784	122,949	40
36	154,126	149,434	138,917	131,097	123,863	119,508	41
37	147,262	143,078	133,769	126,801	120,321	116,372	42
38	141,096	137,374	129,137	122,910	117,089	113,496	43
39	135,652	132,303	124,975	119,380	114,124	110,849	44
40	130,787	127,765	121,231	116,195	111,438	108,414	45
41	126,390	123,665	117,801	113,236	108,923	106,143	46
42	122,414	119,950	114,681	110,541	106,620	104,046	47
43	118,898	116,622	111,844	108,077	104,480	102,069	48
44	115,676	113,561	109,216	105,766	102,443	100,184	49

Table 10 — Continued

Age at Entry (x)	Years Elapsed Since Husband's Death						Age Attained x+5
	0	1	2	3	4	5 or more	
	$l^F_{[x]}$	$l^F_{[x]+1}$	$l^F_{[x]+2}$	$l^F_{[x]+3}$	$l^F_{[x]+4}$	l^F_{x+5}	
45	112,668	110,700	108,751	103,576	100,510	98,383	50
46	110,008	108,162	104,516	101,567	98,692	96,667	51
47	107,543	105,777	102,405	99,638	96,941	94,991	52
48	105,249	103,577	100,440	97,821	95,251	93,357	53
49	103,017	101,400	98,474	96,004	93,582	91,756	54
50	101,060	99,477	96,686	94,313	91,978	90,166	55
51	99,153	97,600	94,935	92,640	90,375	88,578	56
52	97,353	95,813	93,241	90,998	88,757	86,952	57
53	95,570	94,027	91,523	89,324	87,119	85,307	58
54	93,846	92,294	89,847	87,665	85,479	83,620	59
55	92,181	90,595	88,171	85,981	83,771	81,884	60
56	90,485	88,868	86,450	84,254	82,032	80,094	61
57	88,769	87,115	84,705	82,488	80,231	78,237	62
58	87,063	85,358	82,930	80,677	78,379	76,308	63
59	85,374	83,602	81,117	78,807	76,447	74,303	64
60	83,602	81,750	79,229	76,848	74,423	72,201	65
61	81,708	79,798	77,236	74,798	72,309	69,997	66
62	79,805	77,806	75,183	72,682	70,110	67,700	67
63	77,827	75,737	73,048	70,463	67,809	65,289	68
64	75,806	73,617	70,840	68,158	65,401	62,766	69
65	73,640	71,350	68,482	65,712	62,861	60,120	70
66	71,329	68,947	66,011	63,147	60,199	57,351	71
67	68,918	66,430	63,420	60,472	57,426	54,466	72
68	66,450	63,849	60,746	57,686	54,542	51,475	73
69	63,819	61,110	57,926	54,774	51,537	48,376	74
70	60,998	58,188	54,950	51,729	48,430	45,194	75
71	58,140	55,215	51,900	48,600	45,239	41,946	76
72	55,077	52,068	48,713	45,372	41,980	38,655	77
73	51,954	48,856	45,468	42,090	38,682	35,351	78

Functions beyond age at entry 73 are ultimate, depending upon mortality rates only.

a/ Based on remarriage rates (150%) from American Remarriage Table combined with U.S. White Females 1939-41 mortality rates.

Table 11

100% AMERICAN REMARRIAGE TABLES, 1939-41a/

$D^{r}_{(x)+n}$ Columns - Interest at 3 Percent

Age at Entry (x)	Years Elapsed Since Husband's Death						Age Attained x+5
	0	1	2	3	4	5 or more	
	$D^{r}_{(x)}$	$D^{r}_{(x)+1}$	$D^{r}_{(x)+2}$	$D^{r}_{(x)+3}$	$D^{r}_{(x)+4}$	D^{r}_{x+5}	
18	230,013	207,666	167,336	140,601	118,578	105,846	23
19	202,347	183,474	149,643	126,885	107,960	96,863	24
20	178,982	162,968	134,439	114,987	98,665	88,948	25
21	159,096	145,434	121,291	104,603	90,480	81,950	26
22	142,089	130,386	109,869	95,513	83,260	75,745	27
23	127,656	117,553	99,995	87,565	76,870	70,225	28
24	115,156	106,404	91,341	80,539	71,189	65,292	29
25	104,291	96,683	83,722	74,318	66,110	60,866	30
26	94,892	88,240	77,030	68,798	61,574	56,887	31
27	86,694	80,846	71,110	63,884	57,500	53,296	32
28	79,492	74,332	65,850	59,486	53,823	50,045	33
29	73,183	68,604	61,182	55,547	50,508	47,093	34
30	67,549	63,474	56,971	51,979	47,488	44,402	35
31	62,572	58,931	53,201	48,760	44,746	41,944	36
32	58,171	54,893	49,822	45,850	42,242	39,690	37
33	54,201	51,245	46,748	43,192	39,947	37,616	38
34	50,634	47,960	43,959	40,762	37,835	35,702	39
35	47,445	45,012	41,434	38,551	35,899	33,934	40
36	44,635	42,318	39,116	36,509	34,101	32,290	41
37	41,907	39,875	36,994	34,629	32,435	30,761	42
38	39,522	37,653	35,053	32,896	30,886	29,332	43
39	37,343	35,616	33,260	31,286	29,440	27,992	44
40	35,346	33,746	31,603	29,790	28,089	26,734	45
41	33,508	32,022	30,064	28,391	26,818	25,549	46
42	31,808	30,423	28,627	27,080	25,623	24,430	47
43	30,249	28,949	27,293	25,856	24,497	23,369	48
44	28,790	27,565	26,034	24,696	23,426	22,369	49

Table 11 (Continued)

100% AMERICAN REMARRIAGE TABLES, 1939-41a/

$D^r_{[x]+n}$ Columns - Interest at 3 Percent

Age at Entry [x]	Years Elapsed Since Husband's Death: 0	1	2	3	4	5 or more	Age Attained x+5
	$D^r_{[x]}$	$D^r_{[x]+1}$	$D^r_{[x]+2}$	$D^r_{[x]+3}$	$D^r_{[x]+4}$	D^r_{x+5}	
45	27,425	26,270	24,851	23,600	22,409	21,398	50
46	26,161	25,066	23,740	22,564	21,443	20,480	51
47	24,972	23,931	22,689	21,580	20,519	19,600	52
48	23,851	22,859	21,693	20,642	19,635	18,754	53
49	22,779	21,832	20,734	19,739	18,785	17,941	54
50	21,781	20,872	19,830	18,881	17,970	17,157	55
51	20,828	19,955	18,963	18,055	17,182	16,398	56
52	19,923	19,080	18,134	17,262	16,421	15,661	57
53	19,048	18,234	17,328	16,491	15,682	14,946	58
54	18,210	17,424	16,554	15,746	14,965	14,249	59
55	17,410	16,646	15,807	15,024	14,266	13,570	60
56	16,632	15,889	15,078	14,321	13,586	12,907	61
57	15,877	15,155	14,371	13,636	12,922	12,260	62
58	15,150	14,445	13,685	12,970	12,274	11,626	63
59	14,446	13,758	13,017	12,319	11,640	11,007	64
60	13,760	13,085	12,364	11,681	11,019	10,398	65
61	13,080	12,422	11,720	11,055	10,409	9,801.0	66
62	12,422	11,777	11,092	10,443	9,810.8	9,215.4	67
63	11,778	11,146	10,478	9,843.5	9,224.7	8,639.6	68
64	11,152	10,532	9,878.1	9,256.1	8,649.1	8,074.2	69
65	10,535	9,925.8	9,285.9	8,676.9	8,082.2	7,518.3	70
66	9,924.8	9,328.0	8,703.1	8,106.7	7,525.2	6,972.2	71
67	9,325.3	8,740.0	8,130.4	7,547.9	6,978.6	6,437.0	72
68	8,741.7	8,167.2	7,570.6	6,999.6	6,442.8	5,913.4	73
69	8,163.8	7,600.3	7,018.6	6,460.9	5,918.2	5,402.1	74
70	7,591.3	7,039.9	6,474.6	5,932.5	5,405.9	4,905.1	75
71	7,036.1	6,495.9	5,946.0	5,418.8	4,908.5	4,424.9	76
72	6,484.8	5,958.6	5,427.0	4,917.9	4,427.1	3,962.8	77
73	5,950.2	5,437.9	4,925.3	4,436.0	3,964.8	3,521.7	78

Functions Beyond Age At Entry 73 Are Ultimate Depending Upon Mortality Rates Only

a/ Based on 100% remarriage rates from American Remarriage Table combined with U.S. White Females 1939-41 mortality rates.

Table 12

150% AMERICAN REMARRIAGE TABLES, 1939-41[a]/

$D^{r}_{[x]+n}$ Columns - Interest at 3 Percent

Age at Entry [x]	Years Elapsed Since Husband's Death: 0	1	2	3	4	5 or more	Age Attained x+5
	$D^{r}_{[x]}$	$D^{r}_{[x]+1}$	$D^{r}_{[x]+2}$	$D^{r}_{[x]+3}$	$D^{r}_{[x]+4}$	D^{r}_{x+5}	
18	490,685	426,596	308,797	239,495	186,890	159,667	23
19	408,621	357,670	264,224	207,981	164,644	141,800	24
20	343,402	302,554	227,738	181,808	145,903	126,599	25
21	290,923	257,902	197,638	159,891	129,980	113,608	26
22	248,410	221,521	172,642	141,468	116,423	102,462	27
23	214,082	191,973	151,931	125,947	104,816	92,850	28
24	185,760	167,448	134,477	112,695	94,819	84,511	29
25	162,165	146,925	119,654	101,357	86,146	77,234	30
26	142,634	129,843	107,119	91,614	78,613	70,870	31
27	126,282	115,463	96,400	83,215	72,036	65,270	32
28	112,435	103,230	87,171	75,900	66,256	60,321	33
29	100,752	92,868	79,249	69,549	61,177	55,940	34
30	90,664	83,878	72,302	63,935	56,659	52,033	35
31	82,031	76,153	66,249	58,999	52,650	48,543	36
32	74,645	69,506	60,971	54,647	49,066	45,404	37
33	68,156	63,654	56,287	50,758	45,848	42,574	38
34	62,503	58,543	52,145	47,288	42,954	40,013	39
35	57,570	54,054	48,475	44,196	40,348	37,691	40
36	53,178	50,058	45,179	41,394	37,971	35,569	41
37	49,330	46,533	42,238	38,872	35,811	33,627	42
38	45,888	43,376	39,588	36,581	33,834	31,841	43
39	42,833	40,558	37,196	34,496	32,017	30,192	44
40	40,094	38,026	35,031	32,598	30,353	28,669	45
41	37,617	35,734	33,048	30,842	28,803	27,251	46
42	35,373	33,651	31,236	29,231	27,373	25,934	47
43	33,356	31,765	29,576	27,747	26,043	24,701	48
44	31,507	30,030	28,040	26,363	24,791	23,538	49

Table 12 (Continued)

150% AMERICAN REMARRIAGE TABLES, 1939-41a/

$D^r_{[x]+n}$ Columns - Interest at 3 Percent

Age at Entry [x]	Years Elapsed Since Husband's Death: 0	1	2	3	4	5 or more	Age Attained x+5
	$D^r_{[x]}$	$D^r_{[x]+1}$	$D^r_{[x]+2}$	$D^r_{[x]+3}$	$D^r_{[x]+4}$	D^r_{x+5}	
45	29,794	28,421	26,609	25,065	23,615	22,442	50
46	28,243	26,960	25,293	23,861	22,512	21,408	51
47	26,806	25,598	24,060	22,728	21,469	20,424	52
48	25,470	24,335	22,911	21,664	20,480	19,488	53
49	24,204	23,130	21,808	20,642	19,535	18,596	54
50	23,052	22,030	20,789	19,688	18,641	17,742	55
51	21,959	20,985	19,818	18,775	17,783	16,922	56
52	20,932	20,001	18,897	17,905	16,956	16,127	57
53	19,950	19,056	18,009	17,064	16,158	15,361	58
54	19,020	18,160	17,164	16,259	15,392	14,619	59
55	18,138	17,307	16,353	15,483	14,645	13,898	60
56	17,286	16,483	15,567	14,730	13,924	13,199	61
57	16,464	15,687	14,809	14,001	13,221	12,517	62
58	15,677	14,923	14,076	13,295	12,540	11,853	63
59	14,926	14,190	13,367	12,608	11,875	11,205	64
60	14,190	13,472	12,676	11,937	11,223	10,571	65
61	13,465	12,767	11,997	11,280	10,587	9,950.0	66
62	12,768	12,086	11,338	10,642	9,966.1	9,343.2	67
63	12,089	11,422	10,695	10,016	9,358.3	8,748.0	68
64	11,432	10,778	10,070	9,406.4	8,763.0	8,165.0	69
65	10,782	10,142	9,451.1	8,804.7	8,177.3	7,593.0	70
66	10,139	9,515.3	8,844.7	8,214.5	7,603.0	7,032.3	71
67	9,511.3	8,900.9	8,250.1	7,637.4	7,041.5	6,484.0	72
68	8,903.6	8,305.9	7,672.0	7,073.4	6,493.1	5,949.5	73
69	8,302.0	7,718.0	7,102.8	6,520.7	5,956.6	5,428.5	74
70	7,703.9	7,135.0	6,541.6	5,978.8	5,434.5	4,923.7	75
71	7,129.1	6,573.2	5,998.6	5,453.6	4,928.6	4,436.7	76
72	6,556.8	6,018.0	5,466.3	4,943.1	4,440.3	3,969.5	77
73	6,004.8	5,482.3	4,953.5	4,451.9	3,972.3	3,524.5	78

Functions Beyond Age At Entry 73 Are Ultimate Depending Upon Mortality Rates Only

a/ Based on 150% remarriage rates from American Remarriage Table combined with U.S. White Females 1939-41 mortality rates.

Table 13

100% AMERICAN REMARRIAGE TABLES, 1939-41[a/]

$N^{r}_{[x]+n}$ Columns - Interest at 3 Percent

Age at Entry [x]	Years Elapsed Since Husband's Death						Age Attained x+5
	0	1	2	3	4	5 or More	
	$N^{r}_{[x]}$	$N^{r}_{[x]+1}$	$N^{r}_{[x]+2}$	$N^{r}_{[x]+3}$	$N^{r}_{[x]+4}$	N^{r}_{x+5}	
18	2,544,998	2,314,985	2,107,319	1,939,983	1,799,382	1,680,804	23
19	2,345,267	2,142,920	1,959,445	1,809,803	1,682,918	1,574,958	24
20	2,168,136	1,989,154	1,826,186	1,691,747	1,576,760	1,478,095	25
21	2,010,051	1,850,955	1,705,521	1,584,230	1,479,627	1,389,147	26
22	1,868,314	1,726,225	1,595,839	1,485,970	1,390,457	1,307,197	27
23	1,741,091	1,613,435	1,495,882	1,395,887	1,308,322	1,231,452	28
24	1,625,856	1,510,700	1,404,296	1,312,965	1,232,416	1,161,227	29
25	1,521,069	1,416,768	1,320,085	1,236,363	1,162,045	1,095,935	30
26	1,425,603	1,330,711	1,242,471	1,165,441	1,096,643	1,035,069	31
27	1,338,216	1,251,522	1,170,676	1,099,566	1,035,682	978,182	32
28	1,257,869	1,178,377	1,104,045	1,038,195	978,709	924,886	33
29	1,183,865	1,110,682	1,042,078	980,896	925,349	874,841	34
30	1,115,209	1,047,660	984,186	927,215	875,236	827,748	35
31	1,051,556	988,984	930,053	876,852	828,092	783,346	36
32	992,380	934,209	879,316	829,494	783,644	741,402	37
33	937,045	882,844	831,599	784,851	741,659	701,712	38
34	885,246	834,612	786,652	742,693	701,931	664,096	39
35	836,735	789,290	744,278	702,844	664,293	628,394	40
36	791,039	746,504	704,186	665,070	628,561	594,460	41
37	748,010	706,103	666,228	629,234	594,605	562,170	42
38	707,419	667,897	630,244	595,191	562,295	531,409	43
39	669,022	631,679	596,063	562,803	531,517	502,077	44
40	632,659	597,313	563,567	531,964	502,174	474,085	45
41	598,154	564,646	532,624	502,560	474,169	447,351	46
42	565,363	533,555	503,132	474,505	447,425	421,802	47
43	534,216	503,967	475,018	447,725	421,869	397,372	48
44	504,514	475,724	448,159	422,125	397,429	374,003	49

Table 13 (Continued)

100% AMERICAN REMARRIAGE TABLES, 1939-41[a/]

$N^{r}_{[x]+n}$ Columns - Interest at 3 Percent

Age at Entry [x]	Years Elapsed Since Husband's Death						Age Attained x+5
	0	1	2	3	4	5 or More	
	$N^{r}_{[x]}$	$N^{r}_{[x]+1}$	$N^{r}_{[x]+2}$	$N^{r}_{[x]+3}$	$N^{r}_{[x]+4}$	N^{r}_{x+5}	
45	476,199	448,774	422,504	397,653	374,053	351,644	50
46	449,220	423,059	397,993	374,253	351,689	330,246	51
47	423,457	398,485	374,554	351,865	330,285	309,766	52
48	398,846	374,995	352,136	330,443	309,801	290,166	53
49	375,281	352,502	330,670	309,936	290,197	271,412	54
50	352,805	331,024	310,152	290,322	271,441	253,471	55
51	331,297	310,469	290,514	271,551	253,496	236,314	56
52	310,736	290,813	271,733	253,599	236,337	219,916	57
53	291,038	271,990	253,756	236,428	219,937	204,255	58
54	272,208	253,938	236,574	220,020	204,274	189,309	59
55	254,213	236,803	220,157	204,350	189,326	175,060	60
56	236,996	220,364	204,475	189,397	175,076	161,490	61
57	220,544	204,667	189,512	175,141	161,505	148,583	62
58	204,847	189,697	175,252	161,567	148,597	136,323	63
59	189,877	175,431	161,673	148,656	136,337	124,697	64
60	175,599	161,839	148,754	136,390	124,709	113,690	65
61	161,978	148,898	136,476	124,756	113,701	103,292.0	66
62	149,035	136,613	124,836	113,744	103,301.8	93,491.0	67
63	136,745	124,967	113,821	103,343.8	93,500.3	84,275.6	68
64	125,103	113,951	103,419.3	93,541.2	84,285.1	75,636.0	69
65	114,067	103,532.6	93,606.8	84,320.9	75,644.0	67,561.8	70
66	103,631.3	93,706.5	84,378.5	75,675.4	67,568.7	60,043.5	71
67	93,793.5	84,468.2	75,728.2	67,597.8	60,049.9	53,071.3	72
68	84,556.2	75,814.5	67,647.3	60,076.7	53,077.1	46,634.3	73
69	75,882.7	67,718.9	60,118.6	53,100.0	46,639.1	40,720.9	74
70	67,763.0	60,171.7	53,131.8	46,657.2	40,724.7	35,318.8	75
71	60,219.0	53,182.9	46,687.0	40,741.0	35,322.2	30,413.7	76
72	53,204.2	46,719.4	40,760.8	35,333.8	30,415.9	25,988.8	77
73	46,739.2	40,789.0	35,351.1	30,425.8	25,990.8	22,026.0	78

Functions beyond age at entry 73 are ultimate, depending upon mortality rates only.

a/ Based on remarriage rates (100%) from American Remarriage Table combined with U.S. White Females 1939-41 mortality rates.

Table 14

150% AMERICAN REMARRIAGE TABLES, 1939-41[a/]

$N^{r}_{[x]+n}$ Columns - Interest at 3 Percent

Age at Entry. [x]	Years Elapsed Since Husband's Death						Age Attained x+5
	0	1	2	3	4	5 or More	
	$N^{r}_{[x]}$	$N^{r}_{[x]+1}$	$N^{r}_{[x]+2}$	$N^{r}_{[x]+3}$	$N^{r}_{[x]+4}$	N^{r}_{x+5}	
18	3,691,699	3,200,914	2,774,318	2,465,521	2,226,026	2,039,136	23
19	3,282,609	2,873,988	2,516,318	2,252,094	2,044,113	1,879,469	24
20	2,939,074	2,595,672	2,293,118	2,065,380	1,883,572	1,737,669	25
21	2,647,404	2,356,481	2,098,579	1,900,941	1,741,050	1,611,070	26
22	2,397,926	2,149,516	1,927,995	1,755,353	1,613,885	1,497,462	27
23	2,183,749	1,969,667	1,777,694	1,625,763	1,499,816	1,395,000	28
24	1,997,349	1,811,589	1,644,141	1,509,664	1,396,969	1,302,150	29
25	1,833,886	1,671,721	1,524,796	1,405,142	1,303,785	1,217,639	30
26	1,690,228	1,547,594	1,417,751	1,310,632	1,219,018	1,140,405	31
27	1,562,931	1,436,649	1,321,186	1,224,786	1,141,571	1,069,535	32
28	1,449,257	1,336,822	1,233,592	1,146,421	1,070,521	1,004,265	33
29	1,347,539	1,246,787	1,153,919	1,074,670	1,005,121	943,944	34
30	1,255,442	1,164,778	1,080,900	1,008,598	944,663	888,004	35
31	1,172,053	1,090,022	1,013,869	947,620	888,621	835,971	36
32	1,096,263	1,021,618	952,112	891,141	836,494	787,428	37
33	1,026,727	958,571	894,917	838,630	787,872	742,824	38
34	962,883	900,380	841,837	789,692	742,404	699,450	39
35	904,080	846,510	792,456	743,981	699,785	659,437	40
36	849,526	796,348	746,290	701,111	659,717	621,746	41
37	798,961	749,631	703,098	660,860	621,988	586,177	42
38	751,817	705,929	662,553	622,965	586,384	552,550	43
39	707,809	664,976	624,418	587,222	552,726	520,709	44
40	666,619	626,525	588,499	553,468	520,870	490,517	45
41	627,892	590,275	554,541	521,483	490,651	461,848	46
42	591,461	556,088	522,437	491,201	461,970	434,597	47
43	557,150	523,794	492,029	462,453	434,706	408,663	48
44	524,693	493,186	463,156	435,116	408,753	383,962	49

Table 14 (Continued)

150% AMERICAN REMARRIAGE TABLES, 1939-41[a/]

$D^{r}_{[x]+n}$ Columns - Interest at 3 Percent

Age at Entry [x]	Years Elapsed Since Husband's Death						Age attained x+5
	0	1	2	3	4	5 or more	
	$D^{r}_{[x]}$	$D^{r}_{[x]+1}$	$D^{r}_{[x]+2}$	$D^{r}_{[x]+3}$	$D^{r}_{[x]+4}$	D^{r}_{x+5}	
45	493,928	464,134	435,713	409,104	384,039	360,424	50
46	464,851	436,608	409,648	384,355	360,494	337,982	51
47	437,235	410,429	384,831	360,771	338,043	316,874	52
48	411,010	385,540	361,205	338,294	316,630	296,150	53
49	385,981	361,777	338,647	316,839	296,197	276,662	54
50	362,266	339,214	317,184	296,396	276,707	258,066	55
51	339,644	317,685	296,700	276,882	258,107	240,324	56
52	318,093	297,161	277,160	258,263	240,358	223,402	57
53	297,512	277,562	258,506	240,497	223,433	207,275	58
54	277,909	258,889	240,729	223,565	207,306	191,914	59
55	259,221	241,083	223,776	207,423	191,940	177,295	60
56	241,387	224,101	207,618	192,051	177,321	163,397	61
57	224,380	207,916	192,223	177,420	163,419	150,198	62
58	208,192	192,515	177,592	163,516	150,221	137,681	63
59	192,794	177,868	163,678	150,311	137,703	125,828	64
60	178,121	163,931	150,459	137,783	125,845	114,623	65
61	164,148	150,683	137,916	125,919	114,639	104,052.2	66
62	150,902	138,134	126,046	114,710	104,068.3	94,102.2	67
63	138,339	126,250	114,828	104,133	94,117.3	84,769.0	68
64	126,460	115,028	104,250	94,180.4	84,774.0	76,011.0	69
65	115,203	104,421	94,279.1	84,828.0	76,023.3	67,846.0	70
66	104,569	94,430.5	84,915.2	76,070.5	67,856.0	60,253.0	71
67	94,561.9	85,050.6	76,149.7	67,899.6	60,282.2	53,220.7	72
68	85,184.7	76,281.1	67,975.2	60,303.2	53,229.8	46,736.7	73
69	76,387.3	68,085.3	60,367.3	53,264.5	46,743.8	40,787.2	74
70	68,152.5	60,448.6	53,313.6	46,772.0	40,793.2	35,358.7	75
71	60,518.1	53,389.0	46,815.8	40,817.2	35,363.6	30,435.0	76
72	53,422.8	46,866.0	40,848.0	35,381.7	30,438.6	25,998.3	77
73	46,893.6	40,888.8	35,406.5	30,453.0	26,001.1	22,028.8	78

Functions beyond age at entry 73 are ultimate, depending upon mortality rates only.

a/ Based on remarriage rates (150%) from American Remarriage Table combined with U.S. White Females 1939-41 mortality rates.

Table 15

100% AMERICAN REMARRIAGE TABLES, 1939-41[a]/

$r^{r}_{[x]}$ Probability of Remarriage

Age at Entry [x]	Years Elapsed Since Husband's Death: 0	1	2	3	4	5 or more	Age Attained x+5
	$r^{r}_{[x]}$	$r^{r}_{[x]+1}$	$r^{r}_{[x]+2}$	$r^{r}_{[x]+3}$	$r^{r}_{[x]+4}$	r^{r}_{x+5}	
18	.0689	.1688	.1332	.1299	.0790	.0558	23
19	.0648	.1586	.1252	.1221	.0742	.0525	24
20	.0608	.1489	.1175	.1146	.0697	.0493	25
21	.0570	.1395	.1101	.1074	.0653	.0462	26
22	.0533	.1305	.1029	.1004	.0611	.0432	27
23	.0499	.1222	.0963	.0940	.0571	.0404	28
24	.0466	.1141	.0900	.0877	.0533	.0378	29
25	.0434	.1063	.0838	.0818	.0496	.0352	30
26	.0404	.0990	.0781	.0761	.0462	.0328	31
27	.0376	.0921	.0726	.0708	.0431	.0305	32
28	.0349	.0855	.0674	.0658	.0400	.0283	33
29	.0324	.0793	.0626	.0611	.0372	.0263	34
30	.0300	.0733	.0579	.0565	.0344	.0243	35
31	.0277	.0678	.0535	.0522	.0318	.0226	36
32	.0257	.0627	.0495	.0483	.0294	.0208	37
33	.0237	.0578	.0456	.0445	.0271	.0192	38
34	.0218	.0532	.0420	.0409	.0249	.0176	39
35	.0201	.0490	.0386	.0376	.0230	.0163	40
36	.0184	.0449	.0354	.0345	.0211	.0149	41
37	.0169	.0412	.0324	.0316	.0193	.0137	42
38	.0155	.0377	.0297	.0290	.0177	.0126	43
39	.0142	.0345	.0272	.0266	.0162	.0115	44
40	.0130	.0315	.0249	.0243	.0149	.0105	45
41	.0118	.0288	.0228	.0222	.0136	.0096	46
42	.0107	.0263	.0208	.0202	.0124	.0087	47
43	.0098	.0241	.0191	.0185	.0114	.0080	48
44	.0090	.0220	.0174	.0169	.0104	.0073	49

Table 15 (Continued)

100% AMERICAN REMARRIAGE TABLES, 1939-41a/

$r^{r}_{[x]}$ Probability of Remarriage

Age at Entry [x]	Years Elapsed Since Husband's Death						Age Attained x+5
	0	1	2	3	4	5 or more	
	$r^{r}_{[x]}$	$r^{r}_{[x]+1}$	$r^{r}_{[x]+2}$	$r^{r}_{[x]+3}$	$r^{r}_{[x]+4}$	r^{r}_{x+5}	
45	.0082	.0200	.0159	.0154	.0095	.0066	50
46	.0075	.0184	.0146	.0141	.0087	.0061	51
47	.0069	.0169	.0134	.0131	.0080	.0056	52
48	.0063	.0155	.0124	.0121	.0074	.0051	53
49	.0058	.0142	.0113	.0110	.0067	.0047	54
50	.0054	.0132	.0105	.0102	.0063	.0043	55
51	.0050	.0123	.0098	.0095	.0058	.0041	56
52	.0047	.0115	.0092	.0089	.0055	.0038	57
53	.0044	.0108	.0086	.0083	.0051	.0036	58
54	.0041	.0102	.0081	.0078	.0049	.0034	59
55	.0040	.0097	.0077	.0075	.0046	.0032	60
56	.0038	.0093	.0073	.0071	.0044	.0031	61
57	.0036	.0088	.0070	.0068	.0042	.0029	62
58	.0035	.0085	.0067	.0066	.0041	.0028	63
59	.0034	.0084	.0066	.0064	.0040	.0028	64
60	.0034	.0082	.0065	.0063	.0039	.0028	65
61	.0032	.0079	.0063	.0061	.0037	.0027	66
62	.0032	.0078	.0061	.0060	.0036	.0027	67
63	.0032	.0076	.0060	.0059	.0036	.0026	68
64	.0032	.0076	.0060	.0059	.0036	.0026	69
65	.0032	.0076	.0059	.0058	.0035	.0025	70
66	.0031	.0074	.0058	.0056	.0034	.0024	71
67	.0030	.0071	.0055	.0055	.0033	.0023	72
68	.0028	.0070	.0055	.0054	.0032	.0023	73
69	.0027	.0067	.0053	.0052	.0031	.0022	74
70	.0025	.0062	.0049	.0048	.0029	.0020	75
71	.0024	.0058	.0047	.0046	.0027	.0019	76
72	.0021	.0052	.0042	.0041	.0024	.0017	77
73	.0019	.0046	.0038	.0037	.0022	.0015	78

a/ Based on 100% remarriage rates from American Remarriage Table combined with U.S. White Females 1939-41 mortality rates.