

ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE AS SURVIVOR BENEFITS
UNDER SOCIAL SECURITY ACT AMENDMENTS OF 1950

By

Louis O. Shudde

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Division of the Actuary

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FOREWORD

The 1950 Amendments to the Old-Age and Survivors Insurance program are a further development of the framework established by the 1939 Amendments. The benefit level was adjusted for the changes in wage levels and in cost of living in the war and immediate postwar periods. This change, as well as others, greatly increased the amount of survivor insurance protection under the program. Previously Actuarial Studies Nos. 16 and 29 presented estimates of the equivalent amount of life insurance in force under the program established by the 1939 Amendments.

Although the amount of life insurance in force under the OASI program has many points of similarity with this concept under private insurance, there are certain important points of difference. Generally, the amount of insurance under a private contract is definitely known or easily determinable. However, under the OASI program, conditions for receipt of benefit are not based solely on life contingencies but rather also on elements more readily under the control of the individual beneficiary, such as marriage, employment, retirement, etc. Therefore, the concept of insurance in force under the OASI program allows of several interpretations and must necessarily be presented on a range basis.

The 1950 Amendments contain a number of provisions which increase the amount of survivor protection under the program, namely:

- (a) Increased coverage (which will, however, have little effect until the middle of 1952, the first time those newly covered can obtain insured status).
- (b) Increased benefit level both for present and near-future beneficiaries through the conversion table and for future beneficiaries through a new benefit formula (which will take effect about the middle of 1952).
- (c) Increases in minimum and maximum benefits and in the maximum creditable annual wage.
- (d) "New start" for insured status making many more persons "insured".
- (e) Granting of wage credits for World War II military service.

- (f) Increased benefit rate for dependent parents and for child-survivor families.
- (g) More liberal provisions in regard to child-survivor benefits payable in respect to married women workers.
- (h) Addition of survivor benefits for dependent widowers.
- (i) Lump-sum death payment available for all deaths.

The amount of insurance under the OASI program at the present time is compared with other types of life insurance in Section E, while in Section F a rough estimate is given of the increase that will occur when all the changes resulting from the 1950 Amendments become fully effective. The importance of the OASI system in the national economy is indicated by the fact that the amount of life insurance in force under the more restrictive concept of the net estimate is about \$185 billion at the present time, or more than three-fourths as large as that in all private insurance organizations combined. By the middle of 1952, it is likely that the amount of life insurance in force under the OASI program will be just about as large as that in all private life insurance organizations combined.

Robert J. Myers
Chief Actuary
Social Security Administration

ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE AS SURVIVOR BENEFITS
UNDER SOCIAL SECURITY ACT AMENDMENTS OF 1950

A. Introduction

The 1950 Amendments to the Social Security Act were quite extensive, particularly in increasing the coverage and the size of benefits under the old-age and survivors insurance system. The purpose of this study is to estimate the amount of life insurance in force as of January 1, 1951, as survivor insurance benefits under that system.^{1/} Such amount may then be compared with the amount of life insurance in force for policyholders in private insurance organizations and for servicemen and veterans under the insurance systems of the Veterans Administration.

Actuarial Study No. 16 was the pioneer study in this field and gave the results for 1940 under the 1939 Amendments, on the basis of the rather meager data available at that time. Actuarial Study No. 29 was a similar study, estimating the amount of life insurance in force for January 1, 1946 and for January 1, 1947 under the 1939 Amendments.

The amount of life insurance in force at any time under the old-age and survivors insurance program is the present value of monthly survivor benefits and lump-sum benefits available on the assumption that death occurred at that time. Monthly benefits are payable in accordance with the wage credits of insured workers to widows age 65 and over, to widowed mothers with children under age 18, to children under age 18 orphaned on account of the death of the insured father or mother, to dependent parents, and to dependent widowers.^{2/}

The 1950 Amendments relax eligibility requirements for child's insurance benefits on the basis of the mother's wage record and extend monthly benefits to one new survivor category, namely dependent widowers. Herein no account is taken of insurance benefits for the relatively minor categories of dependent parents and dependent widowers.

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- ^{1/} Herein no account is taken of the effect of the coordination of survivor benefits between this system and the railroad retirement program, arising from the 1946 Amendments to the latter.
- ^{2/} For more complete details as to beneficiary categories, amounts of benefits, etc., under the 1950 Amendments, see Actuarial Study No. 30, "Analysis of the Benefits Under Title II of the Social Security Act Amendments of 1950."

The following chart serves to clarify the meaning of "the amount of insurance" by type of benefit. It shows the amount of insurance in force for a typical family for 60 years after a worker enters employment. The illustration covers the case of a man entering covered employment January 1, 1951, at age 22 at \$200 per month and remaining so employed until retirement. Various marital and parental assumptions are made over the 60-year period as shown on the chart, and the amount of insurance has been calculated by type of benefit on a 3% interest assumption and under specified mortality and remarriage rates. The illustration assumes that the specific program remains unchanged although the system has now been in operation only slightly more than 14 years, has undergone two major changes, and is subject to additional changes. The chart shows the changing effect of the wife and children on the amount of insurance after the man has become insured.

This worker's eligibility period is 6 calendar quarters, after which time the amount of insurance under the lump-sum death payment is 3 times his primary insurance amount of \$65, or a total of \$195. In January 1954, he marries a woman age 20. One year after his marriage, the amount of insurance is increased by the present value of the widow's benefit (deferred to her age 65). Mother's and child's insurance protection is in force from the time the first child is born until the youngest child attains age 18. When the first child is born, 2 years after date of marriage, the amount of insurance increases greatly. There is another big jump in the amount of insurance when the second child is born 5 years after marriage. At this point the amount of insurance attains a peak of nearly \$18,000, but decreases rapidly thereafter as the children grow older and accordingly as their period of dependency to age 18 is smaller.

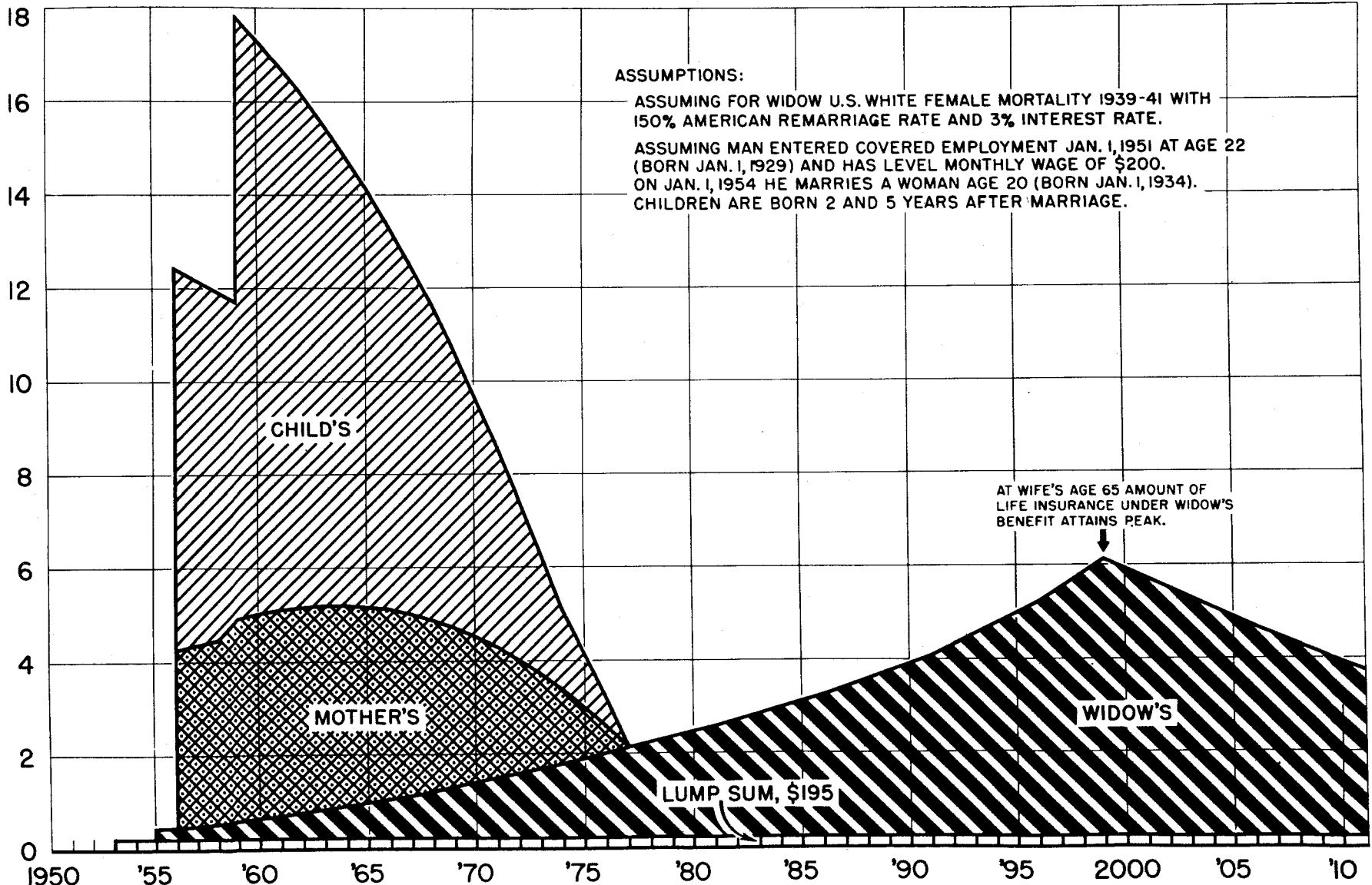
In terms of the primary insurance amount, the combined mother's and child's benefits total as follows: 150% after the first child is born, 200% after the second child is born, 150% after the first child becomes age 18, and nothing after the second child becomes age 18. The equivalent amount of life insurance under the widow's benefit is the present value of the monthly benefits which began at age 65 of the widow (or immediately, if the widow is 65 or over when the husband dies). Since the amount of life insurance depends on the duration and period of deferment of monthly benefits as well as on the interest rate and on the probability of surviving unremarried, the amount under the widow's benefit increases until her age 65 and thereafter decreases. The lump sum is payable in all cases upon death of the insured husband.

For persons with higher wages, the amount of insurance may be considerably greater than the above amounts. The maximum amount would be the very rare case of a husband with an average monthly wage of \$300 and with a wife age 47 and with three children age zero at which time the amount of life insurance in force under the 3% interest rate basis is about \$28,000. However, a more likely case involving considerable survivor insurance protection would be if the wife were age 40 and had two children age zero and one. Then the corresponding figure for an average monthly wage of \$300 is \$25,400.

CHART 1

AMOUNT OF INSURANCE FOR HYPOTHETICAL FAMILY BY TYPE OF BENEFIT

THOUSANDS OF DOLLARS



B. Factors Involved

Since a large proportion of survivor benefits is payable in monthly instalments over long periods of time, the calculation of the equivalent amount of life insurance protection in force involves an interest assumption. Just what interest rate should be assumed in discounting monthly benefits payable over periods which may extend 50 or 60 years into the future is a difficult question to answer. Perhaps one realistic answer is the current yield rate under long-term Government bonds, or better still the approximate interest rate earned on the OASI trust fund (approximately 2.2% on December 31, 1950). Another possible basis is the rate on the widely-held Series E bonds (about 2.9%). Accordingly, 2% has been adopted as one rate and 3% as the basis of the second estimate (the latter will allow ready comparison with the results in Actuarial Study No. 16 and Actuarial Study No. 29). It is evident that the higher the assumed interest rate, the lower will be the discounted values and the equivalent amount of insurance. Private insurance companies generally guarantee an interest rate varying from 2% to 3%, and currently the net average rate earned (and payable to beneficiaries through participating provisions) is about 3%.

Calculation of the equivalent amount of insurance also involves mortality rates which have been decreasing and may be expected to continue to decrease in the future. Mortality of survivor beneficiaries was assumed to follow the death rates of the U.S. White Females 1939-41 Life Table. This mortality table tends to understate the amount of life insurance in force, because mortality has improved since then and may be expected to improve in the future; the use of a mortality table based on white lives tends to correct for this understatement to some extent.

Since the rights to both widow's and mother's insurance benefits terminate on remarriage, this contingency must be measured, if the results are to be meaningful. The estimates assume remarriage rates of widows equal to 150% of those under the American Remarriage Table which was based on experience of 1916-29. This assumption was made because remarriage rates have increased considerably, and recent OASI experience indicates that the aggregate remarriage rate of widows is approximately at this level.^{3/}

Benefits are payable for any month only if the beneficiary does not earn as much as \$50 per month in covered employment. Many "eligible" beneficiaries such as mothers, widows, and older orphan children engage in covered employment and thus do not receive these

^{3/} Myers, Robert J., "Further Remarriage Experience," Proceedings, Casualty Actuarial Society, Vol. XXXVI, 1950.

benefits. In times of full employment like the present, a job with wages is usually much more attractive than the benefits. Thus the effect of the work clause is variable and depends to a great degree on fluctuations of the business cycle.

The "gross" estimate does not take into consideration the effects of the work clause; on this basis, and in respect to this factor, the amount of life insurance is the maximum potential amount available if eligible survivor beneficiaries take full advantage of their benefit rights and do not engage in covered employment. The gross estimate also excludes from consideration another factor of duplication. Female covered workers include a considerable number of widows of insured workers. Many of these widows have obtained fully insured status and have become or will become entitled to old-age insurance benefits in their own right. If their primary insurance amount is greater than the widow's benefit, the latter is not payable; if less, only the excess widow's benefit is payable. Here again is an indeterminate area which does not readily yield to accurate estimation, particularly as to the breakdown between survivor and retirement benefits. At this point it is convenient to introduce the term "net" estimate.

The net estimate allows for reduction of the amount of insurance, both for the work clause and for possible "forfeiture" of widow's benefits because of old-age insurance benefits earned by the widow in her own right. Reduction factors have been applied to the gross estimates by type of benefit as a basis for the net estimates. These reduction factors are 15% for widow's benefits, 30% for mother's benefits, 5% for child's benefits, and 1% for lump-sum death payments (the latter to allow for the relatively few cases of payments to other than spouses where the reimbursable funeral expenses are less than 3 times the primary insurance amount). These reduction factors are based on OASI claims statistics, but for the widow's benefit increased to the above figure as a measure of the estimated proportion who will have built up retirement benefits in their own right through their own covered earnings.

The 1950 Amendments provide under certain conditions for crediting World War II veterans with presumptive wages (in addition to wages, if any, actually paid) of \$160 per month for military or naval service during World War II. This provision has increased the number of insured workers. The extent of this estimated increase was based on an analysis by age of the number of veterans, the total population, and the numbers insured under OASI, under the Civil Service Retirement system, and under the Railroad Retirement system. The estimated number of veterans with insured status solely on account of this provision was found to be 1½ million. Likewise, taken into account are the increases in benefits from such wage credits for those who are insured without them.

C. Methodology

The amount of insurance in force at any time on the life of an insured worker is the present value of the equivalent amount of all survivor benefits, including the lump-sum benefit, payable on account of his death.

The present value of the widow's benefit, whether deferred to her age 65 or payable immediately if that age has been attained, takes into account both survivor and remarriage contingencies under both estimates.

The present value of the mother's insurance benefit was similarly calculated, but it terminates on attainment of age 18 of her youngest child (or death or marriage of the last child under 18). The child's annuity value was calculated as though terminating on attainment of age 18 and without considering the contingencies of the child's death or marriage prior to age 18 (both of which are relatively negligible). The years of dependency to age 18 of children were based on the data of the Family Composition Study of 1935-36.^{4/} Data on married working mothers with children was drawn largely from recent census data.

One of the most difficult factors to estimate is the average primary insurance amount. The Continuous Work History Sample, giving the cumulative wages by age, sex, and wage brackets had been used as the basis for estimating the average primary benefit under the 1939 Amendments by sex and by 10-year age groups.^{5/} From the relationships of these data and of claims data for deceased worker awards, the average primary amount under the 1950 Amendments has been estimated for January 1, 1951 for living insured workers by 5-year age groups separately for married and nonmarried men and for women. Since the Bureau of Old-Age and Survivors Insurance had available the numbers of fully insured workers on January 1, 1951 distributed according to whether fully insured, only currently insured, or uninsured under the previous law, these three categories were utilized throughout, because the average primary benefit under the old law was known. Conversion factors were then applied to the percentage distributions of insured workers by age, sex, insured status, and primary benefit amount brackets to obtain the average primary insurance amount.

It should be recalled throughout that only survivor benefits are considered in determining the amount of life insurance in force; retirement benefits of workers and supplementary benefits of their spouses do not belong in the category of life insurance that matures at death of an insured worker. However, the fully insured group age 65 and over considered herein includes those who are old-age beneficiaries and on whose death survivor benefits would become payable.

^{4/} Federal Security Agency, Social Security Board, Bureau of Research and Statistics, Statistics of Family Composition in Selected Areas of the United States 1934-36. Volume 11, The Urban Sample.

^{5/} Social Security Bulletin, Annual Statistical Supplement, 1949 Tables 17 and 18.

D. Analysis of Results

In considering the results of this study, due allowance should be made for the limitations of the data. For instance, the assumption that the family composition as to children parallels that of the Family Composition Study is subject to criticism, even though these data are the best available. The aggregate number of children under age 18 perhaps has not changed appreciably, but relatively the younger children have increased, while the older children have decreased. This is due to the heavy birth rates of the 1940's as compared with the low birth rates of the 1930's.

Table 1 summarizes the estimated amount of life insurance in force as of January 1, 1951 by type of benefit and by sex of the insured worker under the gross and net estimates. Under the gross estimate, the amount of insurance in force is \$209 billion on the 2% and \$191 billion on the 3% interest rate assumption. The net estimate for the total on either interest rate is 11% less than the gross estimate. The 3% interest rate assumption decreases the amount of insurance by an average of about 9% below the 2% interest basis -- more for the longer deferred widow's benefits, and less for the more immediate mother's and child's benefits. The amount of insurance on a 2% interest basis is distributed roughly by type of benefit as follows: 20% for widow's, 22% for mother's, 54% for child's, and 4% for the lump-sum benefit. On the 3% interest rate basis, the widow's proportion is decreased and the other proportions are increased; this is due to the effect of the much greater discounts on the 3% basis for the longer deferred widow's benefits.

Men account for 7/8 of the total insurance under either interest rate assumption. This leaves 1/8 on women, which is a much greater proportion than the corresponding fraction of 1/25 before the 1950 Amendments were enacted. The increase of life insurance on women is primarily because of the 1950 Amendments which provide child's survivor benefits on the wage records of currently insured married women, even though the husband is living, and whether or not he is also insured. As far as the total amount of life insurance is concerned, the protection has been taken as additive, that is, some children are protected on the wage records of both the insured father and the insured mother.^{6/}

Table 2, for the gross estimate, gives the amount of insurance under each interest rate assumption by age and sex.^{7/} For men, over

^{6/} Since the child cannot get benefits on both wage records (but only the larger benefit if both die) there is an element of overstatement in combining the amounts for men and women.

^{7/} The detailed tables are all based on the gross estimate since the net estimate was derived therefrom by rough approximation which is sufficiently accurate in the aggregate but hardly for detailed figures.

Table 1

SUMMARY OF ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE, JANUARY 1, 1951
 BY TYPE OF BENEFIT, 2% and 3% INTEREST,
 GROSS AND NET ESTIMATE
 (In billions of dollars)

Type of Benefit	Gross Estimate		Net Estimate	
	2%	3%	2%	3%
Total				
Widow's	41.7	32.2	35.4	27.4
Mother's	46.3	43.8	32.4	30.6
Child's	113.2	107.4	109.8	104.2
Lump-Sum	8.0	8.0	7.9	7.9
Total	209.2	191.4	185.6	170.1
Men				
Widow's	41.7	32.2	35.4	27.4
Mother's	46.3	43.8	32.4	30.6
Child's	91.0	86.3	88.3	83.8
Lump-Sum	5.6	5.6	5.5	5.5
Total	184.6	167.9	161.7	147.4
Women				
Child's	22.1	21.0	21.5	20.4
Lump-Sum	2.4	2.4	2.4	2.4
Total	24.6	23.4	23.9	22.8

Note: See text for description of methodology, concepts, and assumptions. Only the net estimate takes account of reductions in benefits because of the work clause and overlapping of survivor benefits with primary benefits. The gross estimate does not consider these factors.

Table 2

ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE, JANUARY 1, 1951
 BY AGE AND SEX, GROSS ESTIMATE
 (In billions of dollars)

Age of Insured Worker	2% Interest			3% Interest		
	Men	Women	Total	Men	Women	Total
Under 20	.4	.3	.7	.4	.2	.6
20-24	11.0	4.3	15.3	10.2	4.0	14.2
25-29	28.9	7.4	36.2	26.7	7.0	33.7
30-34	35.5	5.1	40.6	32.5	4.9	37.4
35-39	33.1	3.7	36.8	30.2	3.6	33.8
40-44	25.6	2.2	27.8	23.2	2.1	25.3
45-49	17.5	1.0	18.5	15.7	1.0	16.7
50-54	11.8	.3	12.1	10.4	.3	10.7
55-59	8.1	.2	8.3	7.1	.2	7.3
60-64	6.2	.1	6.3	5.4	.1	5.5
65-69	3.9	*	3.9	3.6	*	3.6
70-74	1.9	*	1.9	1.8	*	1.8
75+	.8	*	.8	.8	*	.8
Total	184.6	24.6	209.2	167.9	23.4	191.4

* Less than \$50 million.

Note: See text for description of methodology, concepts and assumptions.

half of the insurance in force is to be found in age group 25-39; for women, over half is in age group 25-34. The greatest protection is offered where child dependency is heaviest, that is, for the younger mothers with younger children. This fact is of tremendous social value.

Table 3, for the gross estimate, shows the amount of insurance by age, sex, and type of benefit. Under widow's benefits, about $\frac{3}{4}$ of the life insurance in force is on insured workers age 35-64. Under mother's and child's benefits, the peak occurs in age group 30-34 of the father and in age group 25-29 of the mother. The greatest amount as to total insurance for both sexes combined is at ages 30-34. The 2% interest rate assumption changes the absolute figures considerably but does not change the foregoing relationships.

Table 4 shows the amount of life insurance in force under the gross estimate by age, sex, marital, and parental status. The highest insurance amounts are for married men with children. By age, the heaviest concentration is in the thirties. For women, the highest amount of insurance occurs in ages 25-29 among married women with children. Non-married women (widowed and divorced) with children have almost twice as much protection as non-married men with children, while non-married persons without children have the least protection.

Table 5 shows the average amount of life insurance per insured worker under the gross estimate by age and sex. The average is much higher for men than for women--about 2 to 1 at the younger ages, increasing to over 25 to 1 at ages 75 and over. The average ratio is about 4 to 1.

Table 6 also shows the per capita amount of life insurance in force under the gross estimate but for the more homogeneous breakdowns of married men with children, married men without children, non-married men with children, and non-married men without children, and with similar breakdowns for women. The presence of children is the cause of the great difference in per capita figures. The fairly substantial average among married men without children is due to the effect of the widow's benefit; this average attains its maximum for men age 65-69.

Table 7 shows the total number insured, the total amount of insurance in force, and the average amount of insurance per capita by sex for Actuarial Study No. 16, Actuarial Study No. 29, and this study, all under the 3% interest basis and under the gross estimate. It is interesting to note how the absolute figures for the number insured and for the total amount increase with time. Most meaningful, however, are the figures for the average amount of insurance per capita which, for all insured workers, increased from \$1621 on January 1, 1947 to \$3113 on January 1, 1951, or 92%. The increase for men was from \$2330 to \$4247, or 82%; for women the increase was from \$217 to \$1069, or 390%.

Table 3

ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE, JANUARY 1, 1951
 BY TYPE OF BENEFIT AND AGE, GROSS ESTIMATE
 (In billions of dollars)

Age of Insured Workers	Widow's	Mother's	Child's		Lump-Sum		Grand Total
			Insurance				
			Men	Women	Men	Women	
2% Interest							
Under 20	*	.1	.2	.2	.1	.1	.7
20-24	.4	2.8	7.2	3.9	.6	.4	15.3
25-29	1.5	7.8	18.9	6.9	.7	.5	36.2
30-34	2.8	10.3	21.7	4.7	.7	.4	40.6
35-39	4.1	10.0	18.3	3.4	.7	.3	36.8
40-44	5.1	7.4	12.4	2.0	.7	.2	27.8
45-49	5.5	4.5	6.9	.8	.6	.2	18.5
50-54	5.7	2.3	3.3	.2	.5	.1	12.1
55-59	5.3	1.0	1.4	.1	.4	.1	8.3
60-64	5.1	.3	.5	*	.3	.1	6.3
65-69	3.5	.1	.1	*	.2	*	3.9
70-74	1.8	*	*	*	.1	*	1.9
75+	.7	*	*	*	.1	*	.8
Total	41.7	46.3	91.0	22.1	5.6	2.4	209.2

3% Interest							
Under 20	*	.1	.2	.1	.1	.1	.6
20-24	.3	2.6	6.7	3.6	.6	.4	14.2
25-29	1.0	7.3	17.7	6.5	.7	.5	33.7
30-34	1.8	9.5	20.5	4.5	.7	.4	37.4
35-39	2.7	9.3	17.5	3.3	.7	.3	33.8
40-44	3.6	7.0	11.9	1.9	.7	.2	25.3
45-49	4.1	4.3	6.7	.8	.6	.2	16.7
50-54	4.5	2.2	3.2	.2	.5	.1	10.7
55-59	4.3	1.0	1.4	.1	.4	.1	7.3
60-64	4.3	.3	.5	*	.3	.1	5.5
65-69	3.2	.1	.1	*	.2	*	3.6
70-74	1.7	*	*	*	.1	*	1.8
75+	.7	*	*	*	.1	*	.8
Total	32.2	43.7	86.3	21.0	5.6	2.4	191.4

* Less than \$50 million.

Note: See text for description of methodology, concepts and assumptions.

Table 4

ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE, JANUARY 1, 1951,
BY AGE, MARITAL AND PARENTAL STATUS, GROSS ESTIMATE
(In billions of dollars)

Age of Insured Workers	Men				Women			
	Married		Non-Married		Married		Non-Married	
	With Children	Without Children	With Children	Without Children	With Children	Without Children	With Children	Without Children
2% Interest								
Under 20	.2	*	-	.1	.1	*	.1	.1
20-24	10.1	.2	.4	.4	2.6	.1	1.4	.2
25-29	27.0	.5	1.2	.3	3.9	.1	2.9	.1
30-34	33.6	.6	1.1	.2	2.9	.1	1.7	.1
35-39	31.2	1.0	.7	.2	2.4	.1	1.2	.1
40-44	23.1	1.8	.5	.1	1.8	.1	.5	.1
45-49	14.3	2.7	.3	.1	.8	.1	.3	.1
50-54	7.9	3.7	.2	.1	.3	*	*	.1
55-59	3.7	4.2	.1	.1	.1	*	*	.1
60-64	1.4	4.6	*	.1	*	*	*	*
65-69	.3	3.5	*	.1	-	*	-	*
70-74	.1	1.9	-	*	-	*	-	*
75+	-	.8	-	*	-	-	-	*
Total	152.9	25.5	4.5	1.8	14.9	.6	8.1	1.0

3% Interest								
Under 20	.2	*	-	.1	.1	*	.1	.1
20-24	9.3	.2	.3	.4	2.4	.1	1.3	.2
25-29	25.0	.3	1.1	.3	3.9	.1	2.7	.1
30-34	30.9	.4	1.1	.2	3.0	.1	1.6	.1
35-39	28.6	.7	.7	.2	2.3	.1	1.1	.1
40-44	21.3	1.3	.5	.1	1.5	.1	.5	.1
45-49	13.2	2.1	.3	.1	.6	.1	.2	.1
50-54	7.2	3.0	.2	.1	.2	*	*	.1
55-59	3.4	3.5	.1	.1	.1	*	*	.1
60-64	1.3	4.0	*	.1	*	*	*	*
65-69	.3	3.2	*	.1	*	*	-	*
70-74	.1	1.7	-	-	-	*	-	*
75+	-	.7	-	-	-	-	-	-
Total	140.8	21.1	4.3	1.8	14.1	.6	7.5	1.0

* Less than \$50 million.

Note: See text for description of methodology, concepts and assumptions.

Table 5

AVERAGE AMOUNT OF LIFE INSURANCE, JANUARY 1, 1951
PER INSURED WORKER BY AGE AND SEX, GROSS ESTIMATE

Age of Insured Worker	2% Interest		3% Interest	
	Men	Women	Men	Women
Under 20	\$444	\$386	\$417	\$368
20-24	2419	1307	2238	1228
25-29	5173	1838	4778	1741
30-34	6576	1422	6024	1361
35-39	6573	1308	6000	1267
40-44	5739	948	5237	921
45-49	4707	541	4234	529
50-54	3901	289	3440	286
55-59	3211	171	2798	169
60-64	3106	122	2732	122
65-69	2909	103	2618	103
70-74	2668	99	2456	99
75+	1944	73	1821	73
Total	4669	1118	4247	1069

Note: See text for description of methodology, concepts, and assumptions. The average amount per insured worker is the average under all types of benefit including lump sum.

Table 6

AVERAGE AMOUNT OF LIFE INSURANCE PER INSURED WORKER, JANUARY 1, 1951
BY AGE, SEX, MARITAL, AND PARENTAL STATUS, GROSS ESTIMATE

Age of Insured Worker	Men				Women			
	Married		Non-Married		Married		Non-Married	
	With Children	Without Children	With Children	Without Children	With Children	Without Children	With Children	Without Children
2% Interest								
Under 20	\$9,875	\$326	---	\$132	\$5,647	\$111	\$5,727	\$125
20-24	9,981	420	\$6,017	141	5,082	127	6,035	128
25-29	10,111	587	5,642	136	3,408	117	4,998	116
30-34	10,815	843	5,063	128	2,451	107	3,679	102
35-39	10,883	1,246	4,806	128	2,240	106	2,997	99
40-44	10,202	1,709	3,886	133	2,533	106	2,679	106
45-49	9,674	2,252	3,210	132	2,540	100	2,282	110
50-54	8,876	2,727	2,690	138	1,807	97	1,690	108
55-59	7,815	3,088	2,312	133	1,611	95	1,500	106
60-64	7,728	3,690	1,625	138	2,125	96	1,000	109
65-69	7,167	4,011	800	134	---	86	---	104
70-74	6,667	3,966	---	134	---	80	---	103
75+	---	3,410	---	133	---	---	---	78
Total	10,182	2,382	4,524	135	2,876	108	3,986	113
3% Interest								
Under 20	9,125	261	---	132	5,235	111	5,364	125
20-24	9,239	310	5,650	141	4,742	127	5,659	128
25-29	9,356	420	5,340	136	3,450	117	4,749	116
30-34	9,933	587	4,837	128	2,563	107	3,541	102
35-39	9,988	883	4,639	128	2,196	106	2,907	99
40-44	9,421	1,269	3,786	133	2,114	106	2,610	106
45-49	8,914	1,730	3,124	132	1,763	100	2,236	110
50-54	8,154	2,173	2,638	138	1,298	97	1,655	108
55-59	7,185	2,547	2,281	133	926	95	1,438	106
60-64	7,150	3,184	1,625	138	1,250	96	1,000	109
65-69	6,774	3,590	800	134	---	86	---	104
70-74	6,444	3,639	---	134	---	80	---	103
75+	---	3,188	---	133	---	---	---	78
Total	9,380	1,966	4,337	135	2,733	108	3,811	113

Note: See text for description, methodology, concepts, and assumptions.
The average amount per insured worker is the average under all types of benefit.

Table 7

COMPARISON OF SUMMARY RESULTS OF THIS STUDY WITH PREVIOUS STUDIES

<u>Sex of Insured Worker</u>	<u>Actuarial Study</u>		<u>This Study 1951</u>
	<u>No. 16 1940</u>	<u>No. 29 1947</u>	
Number Insured (in millions)			
Men	18.2	27.6	39.5
Women	5.7	14.0	22.0
Total	24.0	41.6	61.5
Total Amount of Insurance (in billions)			
Men	\$41.4	\$64.3	\$167.9
Women	1.0	3.0	23.4
Total	42.4	67.3	191.4
Average Amount of Insurance			
Men	\$2270	\$2330	\$4247
Women	172	217	1069
Total	1768	1621	3113

Note: The dollar figures above are on a 3% interest basis. Figures for this Study are the gross estimate, those for Actuarial Study No. 29 are the high estimate (which is the same concept as "gross" estimate), and those for Actuarial Study No. 16 are the low estimate which is fairly comparable to the high or gross estimate in the later studies.

E. Comparison With Other Insurance

The amount of insurance under the old-age and survivors insurance system may be compared with the amount of insurance in private organizations and in the Veterans Administration as follows:

AMOUNT OF LIFE INSURANCE IN FORCE DECEMBER 31, 1950
(In billions)

<u>OASI System^{a/}</u>	<u>Veterans Administration^{b/}</u>	<u>Private Insurance^{c/}</u>
\$186	\$47	\$244

- a/ Based on the net estimate of this study with a 2% interest rate assumption.
- b/ U.S. Government Life Insurance (World War I) and National Service Life Insurance (World War II).
- c/ Ordinary, industrial, and group insurance in legal reserve life insurance companies, \$234 billion; savings bank insurance, \$1 billion; fraternal insurance, \$8 billion; and assessment life insurance, \$1 billion. Does not include death benefits under annuities.

Not included in the above is a considerable sum of life insurance in force as survivor benefits under the railroad retirement system, civil service retirement system, and other public systems. On January 1, 1951 the railroad retirement system had in force perhaps \$5 billion, and the civil service retirement system about \$10 billion of life insurance. Furthermore, private pension plans also had a considerable amount of survivor protection, although their primary purpose is providing retirement benefits.

F. Near-Future Trends

As indicated previously, the entire effect of the 1950 Amendments has not yet been felt because the new benefit formula and the extended coverage will not be effective benefit-wise until the middle of 1952. As a rough estimate, the amount of survivor insurance protection will be increased by about one-third by these two factors so that as of the beginning of 1953 the total under the gross estimate will be about \$280 billion using a 2% interest basis and \$255 billion at a 3% interest rate. Under the net estimate, which is somewhat more realistic, the corresponding figures are \$250 billion and \$225 billion respectively.