Estimated Amount of Life Insurance in Force as Survivor Benefits under Social Security Act Amendments of 1952

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Social Security Administration · · · · · · · Division of the Actuary

ACTUARIAL STUDY NO.37

AUGUST 1953

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FOREWORD

This Study is another in the series presenting the results of analysis as to the "amount of life insurance in force" as survivor benefits under the Old-Age and Survivors Insurance program. Since the previous investigation (Actuarial Study No. 31, as of the end of 1950), the amount of life insurance in force has increased because of several factors: the broadened coverage and new benefit computation method of the 1950 Amendments; the increase in the wage level in 1950-52; the Railroad Retirement Act Amendments of 1951, bringing railroad employment under the OASI system insofar as financial bases are concerned; and the increased benefits and military service wage credits (for post-World War II service) under the 1952 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 importance of the OASI system in the national economy is indicated by the fact that the amount of insurance in force under the more restrictive concept of the net estimate is about $300 billion at the present time. This is slightly larger than that in all private insurance organizations combined.

The "cost of insurance" is also examined. This represents the aggregate value of the survivor protection provided by the life insurance in force under the OASI program and can be compared with the contributions paid by the covered persons. Because of the relatively low contribution rates applicable in the past (for 1937-49, less than $\frac{1}{3}$ of the ultimate scheduled rate, and 1950-52, less than $\frac{1}{2}$ of the ultimate rate), employee contributions have in the aggregate been less than the value of the survivor benefits arising.

In general, then, it can be fairly said that as a group, individuals covered during the past received sufficient value as survivor benefit protection to at least offset the employee contributions made. This is, of course, true on a group basis since younger individuals with large families and older individuals with wives above or near age 65 received far more in survivor protection than their contributions, while, on the other hand, young single individuals received less. Moreover, any comparison of benefit protection with employee contributions might well consider the retirement protection that was furnished to individuals age 65 and over, some of whom took advantage of it by retiring and others of whom had potential protection which they did not use because they continued at work.

Robert J. Myers
Chief Actuary
Social Security Administration

This study has been prepared for the use of the staff of the Social Security Administration and for limited circulation to other administrative, insurance, and research persons concerned with the subject treated. It has not been submitted to the Commissioner of Social Security for official approval.

ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE AS SURVIVOR BENEFITS UNDER SOCIAL SECURITY ACT AMENDMENTS OF 1952

A. Introduction

The purpose of this study is to present an estimate of the amount of life insurance in force as of January 1, 1953, as survivor insurance benefits under the Old-Age and Survivors Insurance system. 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 as of January 1, 1946 and January 1, 1947 under the 1939 Amendments. Actuarial Study No. 31 estimated the amount of insurance as of January 1, 1951 immediately after the 1950 Amendments became effective as to the increase in benefits on account of the conversion table and as to the liberalized eligibility conditions.

The amount of life insurance in force at any time under the old-age and survivors insurance program in any individual case 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 by the death of the insured father or mother, to dependent aged parents, and to dependent aged widowers1/. Herein no account is taken of insurance benefits for the relatively minor categories, dependent parents and dependent widowers.

The present study includes in the amount of life insurance in force under OASI that arising from railroad employment, all of which is assumed to be OASI employment. This is in accordance with the 1951

1/ For more complete details as to beneficiary categories, amounts of benefits, etc., under the 1952 Amendments, see Actuarial Study No. 34, "Analysis of the Benefits Under the Old-Age and Survivors Insurance Program as Amended in 1952".

Amendments to the Railroad Retirement Act; under the financial interchange provisions the OASI Trust Fund is to be placed in the same position in which it would have been if railroad service had always been covered under OASI. This study also includes the amount (or increased amount) of life insurance in force on the lives of veterans and servicemen by virtue of presumed wage credits of $160 per month while in military or naval service.

Chart 1 serves to clarify the meaning of "amount of insurance" by type of benefit. It shows the amount of insurance in force for a typical family from age 22 to age 80 of an insured worker. The illustration covers the case of a man entering covered employment on January 1, 1953 at age 22 earning $200 per month and remaining so employed until retirement. Various marital and parental assumptions are made over the 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 program as amended in 1952 remains unchanged, although the system has now been in operation only 17 years and has already undergone three major changes.

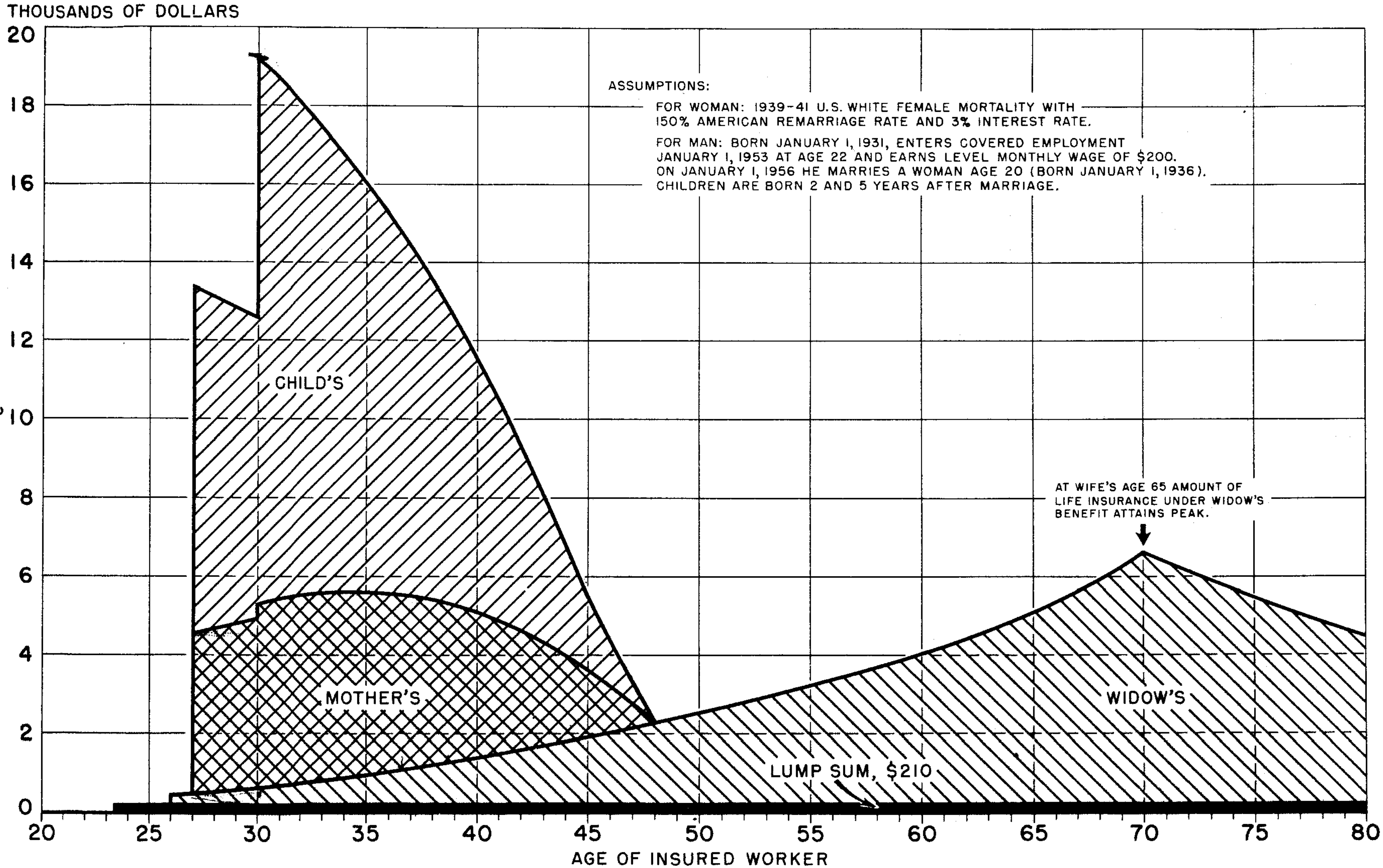
In the sixth calendar quarter of employment, the worker becomes "insured". At that time the amount of insurance under the lump-sum death payment is 3 times his $70 primary insurance amount, or $210. The lump-sum is payable upon death of the insured man regardless of whether or not he leaves dependents eligible for immediate monthly benefits.

One year after his marriage in January 1956 the amount of insurance is increased by the present value of the widow's benefit of $52.50 per month. The equivalent amount of life insurance under the widow's benefit is the present value of these monthly benefits which begin at age 65 of the widow (or immediately, if she 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 as monthly payments are made.

Mother's and child's insurance protection is in force from the time the first child is born (when the man is age 27) until the youngest child attains age 18. In terms of the primary insurance amount, the combined mother's and child's monthly benefits are as follows: 150%, or $105, after the first child is born;

CHART I.

LIFE INSURANCE IN FORCE FOR HYPOTHETICAL FAMILY BY TYPE OF BENEFIT



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200%, or $140, after the second child is born; 150%, or $105, after the first child becomes age 18; and nothing after the second child becomes age 18. When the first child is born, the amount of insurance increases greatly. There is another big jump in the amount of insurance when the second child is born (when the man is age 30). At this point the amount of insurance attains a peak of over $19,000 but decreases rapidly thereafter as the children grow older and accordingly as their period of dependency to age 18 becomes shorter.

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 and improbable case of a man with an average monthly wage of $300 and with a wife age 47 and four children age 0, at which time the amount of life insurance in force under the 3% interest rate basis is about $31,650. A more likely case involving considerable survivor insurance protection would be if the wife were age 40 and had two children age 0 and 1; and then the corresponding figure if $28,100.

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 rate. 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 (currently close to 3%), or else the average interest rate earned on the OASI trust fund (approximately 2.4% as of July 1953). Another possible basis is the rate on the widely-held Series E bonds, now bearing 3% compounded semi-annually. The previous analysis on this subject, Actuarial Study No. 31, used both 2% and 3% (the former rate being consistent with that used then in the long-range cost estimates and only slightly below the then OASI trust fund rate). 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 slightly over 3%. Accordingly, 2% has been adopted as one rate and 3% as the basis of the second estimate.

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 widow 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 in the past decade and may be expected to improve in the future; the use of a mortality table based on white lives throughout tends to some extent to correct for this understatement. Mortality of children, which is relatively negligible, is accordingly ignored. The use of current mortality rates would increase the aggregate amount of life insurance by only about 2½% over that derived here on the basis of 1939-41 mortality.

Since the rights to both widow's and mother's insurance benefits terminate on remarriage, this contingency must be measured. 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 level2/.

Benefits for any month are payable only if the beneficiary does not earn over $75 per month in covered employment. Many "eligible" beneficiaries such as mothers, widows, and older orphan children engage in covered employment, earn over $75 per month, and thus do not receive these 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 employment on benefit receipt is variable and depends to a great degree on fluctuations of the business cycle.

The "gross" estimate does not take into consideration the effect of employment on benefit receipt; 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 with earnings exceeding $75 per month. The gross estimate also includes another element of duplication. Female covered workers include a considerable number of widows of insured workers. Many of these widows 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 of the 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.

The "net" estimate allows for reduction of the amount of insurance, both to allow for the effect of covered employment on current benefit receipt 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 estimate by type of benefit as a basis for the net estimate. These reduction factors are 15% for the widow's benefits, 30% for mother's benefits, 5% for child's benefits, and 1% for lum-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, with the reduction factor for the widow's benefit being based on the long-range cost estimates data and methodology.

Under certain conditions presumptive wages (in addition to wages, if any, actually paid) of $160 per month for military or

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2/ Myers, Robert J., "Further Remarriage Experience," Proceedings, Casualty Actuarial Society, Vol. XXXVI, 1950.

naval service during World War II and thereafter to June 30, 1955 are credited. This provision has increased the number of insured workers included herein. The extent of this estimated increase was based on an analysis by age of the number of veterans, the total population, and the number 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 thus found to be 1.4 million, and their distribution by age was determined. Likewise, taken into account are the increases in benefits for those insured without the use of such wage credits.

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 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.

The present value of the mother's insurance benefit was similarly calculated. This benefit also terminates on attainment of age 18 of her youngest child or on death or marriage of the last child under 18. The present value of the child's benefit was calculated as though the monthly payments terminate on attainment of age 18 without considering the contingencies of the child's death or marriage prior to age 18 (both of which are relatively negligible). However, in cases where the maximum family benefit is payable, an allowance was made for an increase in the child's benefit on death or remarriage of the mother or in any event when other children attain age 18. The years of dependency to age 18 of children were based on the data of the Family Composition Study of 1935-36 3/. Data on married working mothers with children were drawn from recent census data and 1951 OASI Substantive Claims Statistics.

One of the most difficult factors to estimate is the average primary insurance amount. This statistic was taken from the work sheets of Actuarial Study No. 36 as the mean of the low-cost and high-cost figures under high employment conditions as obtained for January 1, 1953.

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 properly includes those who are old-age beneficiaries (on whose death survivor benefits become payable).

This study includes the "cost of insurance" concept which had heretofore been shown only in Actuarial Study No. 16. As used herein it is a measure of the equivalent present value of death claims arising in a year under the insurance in force January 1, 1953. This estimate is on four bases, the 2% and 3% interest bases, each combined with 1939-41 and 1950 mortality.

3/ 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 II, The Urban Sample.

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. Perhaps the aggregate number of children under age 18 in a family has not changed appreciably, but relatively the younger children have increased, while the older children in a family have decreased. This is due to the heavy birth rates of the last decade as compared with the low birth rates of the 1930's. Since the end of World War II, the percent married and the percent with children has increased rapidly.

Table 1 summarizes the estimated amount of life insurance in force as of January 1, 1953 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 \$375 billion on the 2% interest rate assumption and \$342 billion on the 3% interest rate assumption. The net estimates are \$326 billion and \$298 billion respectively, or about 13% 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 the net estimate (the more realistic basis) on a 2% interest basis is distributed roughly by type of benefit as follows: 20% for widow's, 19% for mother's, 57% for child's, and 4% for the lump-sum death payment (on the 3% interest rate basis, the widow's proportion is decreased, and the other proportions are increased).

Men account for 93% of the total insurance under either interest rate assumption. The 7% in respect to women is a much greater proportion than the corresponding 4% before the 1950 Amendments were enacted. This increase arose primarily because the 1950 Amendments provided child's survivor benefits on the wage records of currently insured married women, even though the husband is living, working and insured. As far as the total amount of life insurance is concerned, the protection has been taken as additive in regard to children protected under the wage records of both the insured father and the insured mother 4/.

The estimated "cost of insurance" is calculated on the basis of the net estimate of life insurance in force on January 1, 1953. The present value of benefits arising from a year's death claims currently varies from \$2.0 billion to \$2.6 billion depending on the

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4/ Since the child cannot get benefits on both wage records (but in effect only the larger benefit if both die), there is a slight element of over-statement in combining the amounts for men and women.

Table 1

SUMMARY OF ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE AS OASI SURVIVOR BENEFITS, JANUARY 1, 1953
(In billions)

Type of Benefit	Gross Estimate[a/]		Net Estimate[b/]	
	2% Interest	3% Interest	2% Interest	3% Interest
		Total		
Widow's	$77	$59	$65	$50
Mother's	90	85	63	59
Child's	195	185	186	176
Lump-Sum	13	13	13	13
Total	375	342	326	298
		Men		
Widow's	77	59	65	50
Mother's	90	85	63	59
Child's	176	167	167	159
Lump-Sum	9	9	9	9
Total	352	320	304	277
		Women		
Child's	19	18	18	17
Lump-Sum	4	4	4	4
Total	23	22	22	21

a/ The gross estimate does not take into consideration the effects of the work clause; it also fails to eliminate the duplication in widow's and primary benefits that widows may earn in their own right.
b/ The net estimate takes into account both the work clause and the payment of only the excess of the widow's benefit if greater than her primary insurance amount.

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

assumptions as to interest rates and mortality, as indicated below (in billions):

1939-41 Mortality		1950 Mortality	
2% Interest	3% Interest	2% Interest	3% Interest
$2.6	$2.4	$2.2	$2.0

The cost of insurance on any one of the four assumptions equals or exceeds the total amount of the contributions paid in 1952 by employees and self-employed persons (i.e. excluding employer taxes) --namely, about $2.0 billion. This indicates that insured workers in the aggregate currently get their money's worth in survivor insurance. In 1940 the total cost of insurance was $\frac{2}{3}$ greater than the total employee contributions. Thus, it may be concluded that survivor benefits have had, on the average, a greater value than the employee tax since the beginning of monthly benefits in 1940. It is conceivable that, if the future brings still lower mortality and higher tax rates, this relationship will no longer hold, but employees will still get their money's worth in survivor and old-age benefits.

Table 2, for the gross estimate, and Table 3, for the net estimate, show 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 ages 30-34 of the father and in ages 25-29 of the mother. The greatest amount of total insurance for both sexes combined is at ages 30-34, since this is the period where child dependency is greatest.

Table 4 shows the total number insured and the total amount of insurance in force by sex for Actuarial Study No. 16, Actuarial Study No. 29, Actuarial Study No. 31, and this study, all under the gross estimate on the 3% interest basis. The absolute figures for the number insured and for the total amount of insurance have increased considerably with time.

During the 2-year interval between January 1, 1951 and January 1, 1953, the total increase in the gross estimate of the amount of insurance was 79%, while the corresponding figure for the net estimate was 76%. At least five factors contributed to this large increase:

(1) an increase of 14% in the number of insured persons,

(2) an increase of 14% on account of the "new start" benefit formula being applicable for the first time during 1952, whereas only the conversion table, which yields somewhat lower benefits on the average, could be used at the end of 1950,

Table 2

ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE BY AGE AND TYPE OF BENEFIT, GROSS ESTIMATE
(In billions)

Age of Insured	Widow's	Mother's	Child's Insurance		Lump-Sum		Total
			Men	Women	Men	Women	
2% Interest							
Under 20	*	*	*	*	*	*	$1
20-24	$1	$7	$19	$4	$1	*	33
25-29	3	15	36	5	1	$1	61
30-34	5	20	41	4	1	1	72
35-39	8	19	35	3	1	1	66
40-44	9	14	23	2	1	*	50
45-49	10	8	13	1	1	*	34
50-54	10	4	6	*	1	*	21
55-59	10	2	2	*	1	*	15
60-64	8	1	1	*	*	*	10
65-69	7	*	*	*	*	*	7
70-74	3	*	*	*	*	*	3
75+	2	*	*	*	*	*	2
Total	77	90	176	19	9	4	375
3% Interest							
Under 20	*	*	*	*	*	*	1
20-24	1	7	18	4	1	*	31
25-29	2	14	34	5	1	1	56
30-34	3	19	39	4	1	1	67
35-39	5	18	33	3	1	1	60
40-44	7	13	22	2	1	*	46
45-49	8	8	12	1	1	*	30
50-54	8	4	5	*	1	*	19
55-59	8	2	2	*	1	*	13
60-64	7	1	1	*	*	*	9
65-69	6	*	*	*	*	*	6
70-74	3	*	*	*	*	*	3
75+	1	*	*	*	*	*	2
Total	59	85	167	18	9	4	342

* Less than $500 million.

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

Table 3

ESTIMATED AMOUNT OF LIFE INSURANCE IN FORCE BY AGE AND TYPE OF BENEFIT, NET ESTIMATE
(In billions)

Age of Insured	Widow's	Mother's	Child's Insurance		Lump-Sum		Total
			Men	Women	Men	Women	
			2% Interest				
Under 20	*	*	*	*	*	*	$1
20-24	$1	$5	$18	$4	$1	*	30
25-29	2	11	34	5	1	$1	54
30-34	5	14	39	4	1	1	63
35-39	6	13	33	3	1	1	57
40-44	8	10	22	2	1	*	43
45-49	9	6	12	1	1	*	29
50-54	9	3	5	*	1	*	18
55-59	8	1	2	*	1	*	13
60-64	7	*	1	*	*	*	9
65-69	6	*	*	*	*	*	6
70-74	3	*	*	*	*	*	3
75+	1	*	*	*	*	*	1
Total	65	63	167	18	9	4	326
			3% Interest				
Under 20	*	*	*	*	*	*	1
20-24	1	5	17	4	1	*	27
25-29	2	10	32	5	1	1	50
30-34	3	13	37	4	1	1	58
35-39	4	12	32	3	1	*	52
40-44	6	9	21	2	1	*	39
45-49	7	6	12	1	1	*	26
50-54	7	3	5	*	1	*	16
55-59	7	1	2	*	1	*	11
60-64	6	*	1	*	*	*	8
65-69	5	*	*	*	*	*	6
70-74	2	*	*	*	*	*	3
75+	1	*	*	*	*	*	1
Total	50	59	159	17	9	4	298

* Less than $500 million.

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

Table 4

COMPARISON OF SUMMARY RESULTS OF THIS STUDY AND PREVIOUS STUDIES

Sex of Insured Worker	Actuarial Study No. 16 1940	No. 29 1947	No. 31 1951	This Study January 1, 1953
	Number Insured (in millions)			
Men	18.2	27.6	39.5	44.9
Women	5.7	14.0	22.0	25.0
Total	24.0	41.6	61.5	69.9
	Amount of Insurance in Force (in billions)			
Men	$41	$64	$168	$320
Women	1	3	23	22
Total	42	67	191	342

Note: The dollar figures are on a 3% basis. Figures for this study and for Actuarial Study No. 31 are the gross estimate, those for Actuarial Study No. 29 are the high (or gross) estimate and those for Actuarial Study No. 16 are the low estimate, which is fairly comparable to the high (or gross) estimate in later studies.

(3) an increase of 9% because of the higher wage level at the end of 1952 as contrasted with the end of 1950,

(4) an increase of 12% in the primary insurance amount because of the 1952 amendments,

(5) an increase of 11% in the composite annuity factors to reflect the higher assumed percentage of workers married and of those with children5/.

When Actuarial Study No. 31 was developed, it was recognized that the first two factors would necessarily become effective in increasing the amount of insurance in the next 2 years, but the other three factors could not have been foreseen.

The 1952 Amendments increased the insurance on the lives of women because of the higher benefits thereunder. However, there is a slight decrease shown in the amount of insurance for women as between this Study and Actuarial Study No. 31 because of the availability and use in this Study of more reliable data on the dependents of women in the labor force, which indicated fewer such dependents than had been assumed in the previous study.

5/ These increases are not additive but cumulative, i.e., (1.14)(1.14)(1.09)(1.12)(1.11) = 1.76, or a 76% increase

E. Comparison With Other Life 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, JANUARY 1, 1953
(in billions)

Old-Age and Survivors Insurance System1/	$298
Veteran's Administration2/	49
Private Insurance3/	288
Total	635

1/ Based on the net estimate of this Study and 3% interest rate assumption.

2/ U.S. Government Life Insurance (World War I), $2 billion; National Service Life Insurance (World War II), $47 billion; and Veteran's Special Term Insurance (Korean Conflict) and Service-Disabled Veteran's Insurance (Korean Conflict), a relatively small amount.

3/ Ordinary, industrial, and group insurance, $277 billion; savings bank insurance, $1 billion; fraternal insurance, $9 billion; and assessment life insurance, $1 billion. Does not include death benefits under annuities.

Not included above is an estimated $10 billion of life insurance in force as survivor benefits under Civil Service Retirement; other public retirement systems have perhaps $2 billion more. Private pensions plans also have a considerable amount of survivor protection in force (mostly in the form of potential refunds of employee contributions), although their primary purpose is providing retirement benefits.

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17. New Cost Estimates for the Old-Age and Survivors Insurance System With the Assumption of a Static Future Wage Level -- December 1942.

18. Not Printed.

19. Old-Age and Survivors Insurance 1943-44 Cost Studies -- May 1944.

20. Not Printed.

21. Analysis of Long-Range Cost Factors -- September 1946.

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24. Illustrative U.S. Population Projection, 1946 -- January 1948.

* 25. Analysis of Recent Group Annuities Supplementing Retirement Benefits Under Old-Age and Survivors Insurance -- February 1948.

26. Present Values of OASI Benefits Awarded and In Current Payment Status, 1940-46 -- May 1948.

27. Long-Range Cost Estimates for Old-Age and Survivors Insurance Under Universal Coverage and Present Benefit Provisions -- August 1948.

28. Long-Range Cost Estimates for Expanded Coverage and Liberalized Benefits Proposed to the Old-Age and Survivors Insurance System by H.R. 2893 -- February 1949.

29. Estimated Amount of Life Insurance in Force as Survivor Benefits Under Old-Age and Survivors Insurance System -- April 1949.

30. Analysis of the Benefits Under Title II of the Social Security Act Amendments of 1950 -- February 1951.

31. Estimated Amount of Life Insurance in Force as Survivor Benefits Under Social Security Act Amendments of 1950 -- September 1951.

32. Analysis of 346 Group Annuities Underwritten in 1946-50 -- October 1952.

33. Illustrative U.S. Population Projections, 1952 -- November 1952.

34. Analysis of the Benefits Under the Old-Age and Survivors Insurance Program as Amended in 1952 -- December 1952.

35. Present Values of OASI Benefits in Current Payment Status 1940-52 -- May 1953.

36. Long-Range Cost Estimates for Old-Age and Survivors Insurance -- June 1953.

37. Estimated Amount of Life Insurance in Force as Survivor Benefits Under Social Security Act Amendments of 1952 -- August 1953.

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GPO 863499