

ong-Range Cost
Estimates for Old-Age,
Survivors, and
Disability Insurance
System, 1963

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TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
A. Introduction	1
B. Basic Assumptions.....	4
C. Results of Cost Estimates under Level Earnings Assumption.....	11
D. The Effect of an Increasing Earnings Assumption.....	17
E. Comparison with Previous Estimates.....	19
Tables	20
Actuarial Studies Available from the Division of the Actuary..	45

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Actual and projected U.S. population, 1950-2050.....	20
2a. Assumed ratios of persons under age 60 with earnings credits in year to total population in age group.....	21
2b. Assumed ratios of persons aged 60 and over with earnings credits in year to total population in age group.....	21
3. Assumed percentage distributions of persons with covered earnings in year by 4-quarter workers and all others.....	22
4. Estimated persons with earnings credits, total credited earnings, and average creditable earnings.....	23
5. Assumed ratios of insured persons to total population.....	24
6. Estimated insured population.....	25
7. Estimated old-age beneficiaries aged 65 and over in current payment status as percent of insured population aged 65 and over.....	26
8. Estimated old-age beneficiaries in current payment status as percent of insured population, by age and sex.....	27

LIST OF TABLES -- Continued

<u>Table</u>	<u>Page</u>
9. Estimated aged monthly beneficiaries in current payment status	28
10. Estimated beneficiaries aged 65 and over in current payment status as percent of total population aged 65 and over.....	29
11. Estimated monthly supplementary and survivor beneficiaries under retirement age in current payment status and lump-sum death payments in year.....	30
12. Estimated monthly disability beneficiaries in current payment status.....	31
13. Estimated female beneficiaries qualified for both old-age benefits and wife's or widow's benefits, in current payment status.....	32
14. Estimated average annual benefits for old-age beneficiaries and their dependents in current payment status.....	33
15. Estimated average annual survivor benefits in current payment status and lump-sum death payments.....	34
16. Estimated average annual disability benefits in current payment status.....	35
17. Estimated OASI benefit payments.....	36
18. Estimated DI benefit payments.....	37
19. Estimated OASI benefit payments as percent of taxable payroll..	38
20. Estimated DI benefit payments as percent of taxable payroll....	39
21. Analysis of Estimated Level-cost (as of January 1, 1964) of OASDI system as percent of taxable payroll.....	40
22. Estimated progress of OASI Trust Fund.....	41
23. Estimated progress of DI Trust Fund.....	42
24. Comparison of estimates of long-range costs of OASI system as percentage of taxable payroll for various acts.....	43
25. Comparison of estimates of long-range costs of DI system as percentage of taxable payroll for various acts.....	44

LONG-RANGE COST ESTIMATES FOR OLD-AGE, SURVIVORS,
AND DISABILITY INSURANCE SYSTEM, 1963

A. Introduction

This report is the eighth in a series of Actuarial Studies dealing with the actuarial costs of the Old-Age and Survivors Insurance program, and the second to give detailed actuarial cost estimates for the disability insurance program established by the 1956 Amendments. The estimates given here relate to the program as it was after the significant amendments of 1961, valued as of January 1, 1964.

The first cost estimates for the Old-Age and Survivors Insurance program were developed at the time the legislation was enacted (1939) and were subsequently presented in Actuarial Study No. 14. In the second of this series (developed in 1942 and presented in Actuarial Study No. 17), estimates were made on the basis of a certain amount of actual operations data, as well as more complete demographic data from the 1940 census and the 1935 Family Composition Study.

The third in this series of cost estimates was developed in 1943-44, and published as Actuarial Study No. 19. This differed from the previous study in that not only were there available more experience data, but also a differential average wage between the low-cost and high-cost illustrations was introduced. Because Actuarial Study No. 19 considered the terms "low-cost" and "high-cost" as indicating absolute dollar costs rather than percentage costs relative to payroll, certain difficulties of interpretation and analysis arose. Thus, for both estimates the average cost of the benefits from 1945 to 2000 without interest was 5.6% of payroll which led some to believe erroneously that, although the dollar costs might have a range, the relative costs were fairly closely predictable, a matter of importance in estimating the necessary contribution rates.

Actuarial Study No. 23 was the fourth in this series of estimates. It was published in 1947 and used more current data on population, wage levels, etc. Two further studies were prepared for and printed by the Committee on Ways and Means, dated July 27, 1950 and July 21, 1952, relating to the 1950 Amendments and 1952 Amendments, respectively.

The cost estimates presented in Actuarial Study No. 36, the fifth in the series, related to the 1952 Amendments and correspond to those in the committee print of July 21, 1952, but differ considerably because of the use of the new population projections (Actuarial Study No. 33) and revised cost factors. In order to have appropriate ranges in benefit costs, both as to dollar amounts and relative to payroll, there were developed, in effect, four separate cost illustrations. On the one hand, the low-employment assumptions basis used was somewhat lower than full employment and corresponded roughly on the average to 1940-41 conditions as to proportion of population in covered employment, combined with wage rates prevailing in the same period. On the other hand, the high-employment assumptions basis was near-full employment (corresponding closely to conditions just before the then-current recession).

When cost estimates were made for the 1954 legislation as it was being considered by the Congress, only the high-employment assumptions were used because the low-employment assumptions were so much below actual experience. The subsequent cost estimates used only one employment assumption.

Following the Conference Committee agreement on the 1954 Amendments, cost estimates were developed in the short time available before the President signed the bill and were published as a committee print of the Committee on Ways and Means ("Actuarial Cost Estimates for the Old-Age and Survivors Insurance System as Modified By the Social Security Amendments of 1954," Robert J. Myers, August 20, 1954). Subsequently, these cost estimates were carried out on a more complete basis, rather than using certain approximations and short cuts necessary in the rapid development of the original cost estimates. The figures in this more complete cost estimate differed only slightly from the original estimates and were presented in Actuarial Study No. 39, the sixth in the series.

The development of the actuarial cost estimates relating to the 1956 Amendments followed a similar pattern. Cost estimates were prepared on an approximate basis immediately after agreement was reached by the Conference Committee and were published as a committee print of the Committee on Ways and Means ("Actuarial Cost Estimates for the Old-Age, Survivors, and Disability Insurance System as Modified by Amendments to the Social Security Act in 1956," Robert J. Myers, July 23, 1956). The more refined cost estimates presented in Actuarial Study No. 48 (the seventh in the series) differed from the earlier ones to a greater extent than was the case in 1954 because of the use of revised population projections (Actuarial Study No. 46), the use of somewhat higher earnings assumptions (reflecting approximately 1956 earnings levels, whereas the figures in the committee print assumed earnings at about the level prevailing in 1955), and a considerable number of other changes in basic assumptions and methodology.

Within the single employment assumption there were two separate estimates: (1) using "low-cost" factors (i.e. low cost relative to payroll) as to fertility, mortality, retirement rates, etc.; and (2) using "high-cost" factors. As in the previous studies, the terms "low-cost" and "high-cost" apply in the aggregate since in some of the component parts (e.g. child's and mother's benefits) the costs were shown to be higher for "low-cost" than for the "high-cost" factors.

The actuarial cost estimates for the 1958, 1960, and 1961 Amendments were contained in various committee prints of the Committee on Ways and Means. In addition, the Annual Reports of the Board of Trustees of the Old-Age and Survivors Insurance and the Disability Trust Funds present actuarial cost estimates for the program and, at the same time, these incorporate changes as a result of using different assumptions based on the developing experience. Also, it should be pointed out that Actuarial Study No. 49 (issued in May 1959) gave an extensive description of the methodology involved in the long-range cost estimates then current; these procedures have been modified only slightly since then.

An important element affecting Old-Age, Survivors, and Disability Insurance (OASDI) costs arose through amendments made to the Railroad Retirement Act in 1951. These provide for a coordination of Railroad Retirement compensation and OASDI covered earnings in determining not only survivor benefits but also retirement benefits for those with less than 10 years of railroad service. In fact, all future survivor and retirement cases involving less than 10 years of railroad service are to be paid by the OASDI system.

Financial interchange provisions are established such that the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund are to be placed in the same financial position as if there never had been a separate Railroad Retirement program, and railroad employment had been covered under OASDI. It is estimated that the net effect of these provisions will be a relatively small loss to the OASDI system since the contributions from Railroad work will be somewhat smaller than the net additional benefits paid on the basis of railroad earnings. The long-range costs developed here are for the operation of the Trust Funds on the basis, as provided in current law, that all railroad employment be considered (beginning with 1937) covered employment, with the effect of the interchange provision shown as a separate item within the transactions of the funds.

B. Basic Assumptions

The various assumptions have been selected so as to be consistent with the actual operating data and with other assumptions, and at the same time so as to represent a reasonable range for the element under consideration. As in previous studies, the figures developed do not represent the widest possible range that could reasonably be anticipated, but rather our studied opinions as to a plausible range. For a more detailed analysis of items (1), (2), (3), and (4) below see Actuarial Study No. 46. The various basic assumptions are:

(1) Mortality

The low-cost and high-cost estimates are both based on decreasing rates of mortality to the year 2000 and level thereafter with greater decrease in the high-cost estimate. Assumptions as to mortality declines are based on analysis of recent mortality data by major groups of causes of death. Prior to Actuarial Study No. 36, no decrease in mortality had been assumed for the low-cost estimates.

(2) Birth Rates

The low-cost estimates assume age-specific birth rates which decline gradually from about 105% of the 1954-55 level in 1955-60 to rates for 2045-50 which produce a net reproduction rate of 1, while for the high-cost estimates the assumed age-specific birth rates decline from about the 1950-53 level to a net reproduction rate of 1 in 2005-10 and thereafter.

(3) Migration

For both the low-cost and high-cost estimates, it was assumed that survivors of net immigrants at the end of each 5-year period would amount to 1.2 million for 1955-60 and 1.0 million for each subsequent 5-year period up to 2005-10.

(4) Population

The above assumptions as to fertility, mortality, and migration when applied to the existing population yield the basic population projections. At the time this study was begun, there were available estimates of the U.S. population as of July 1, 1955 subdivided by age and sex. These were used as the starting point for the projections. Comparisons of these projections with the results of the 1960 Census indicate reasonably close correspondence. Accordingly, if new projections had been made using the data from the 1960 Census as the base point, there would have been relatively little change.

Table 1 summarizes the two population projections. It will be observed that the population for all ages combined does not show a very wide range as between the low-cost and high-cost assumptions in the early years, but ultimately the low-cost population is about 50%

greater than the high-cost one. The high-cost projection has nearly the same number of aged persons as in the low-cost projection and considerably fewer in the productive ages because of the lower fertility assumed in the former. For the year 2050 those aged 65 and over represent 13.7% of the total population for the low-cost projection as contrasted with 18.8% for the high-cost assumptions. Thus, in contrast with 1950, when the corresponding figure was 7.9%, there is a relatively increase in the proportion of the aged of about 73% for the low-cost projection and 138% for the high-cost one. In the 100-year period preceding 1950 the actual relative increase was about 225%.

(5) Employment

In developing bases for estimating both payrolls and insured populations, it is necessary to have the proportion of the total population who are in covered employment in a given year by age and sex. Valuable guides toward developing assumed ratios exist in the form of the actual coverage data for recent years, and labor force data and projections published by the Department of Labor. Roughly speaking, it has been assumed that, over the long range, the average unemployment rate will be about 4 to $4\frac{1}{2}$ %.

Table 2a shows the assumed ratio of persons with earnings credits in the year to total population for quinquennial age groups from 15 to 60 for three illustrative years (there are no changes after the year 2000). Table 2b shows corresponding figures for persons aged 60 and over. For the latter group, there are given low-cost and high-cost figures, as representing the range due to possible variations in retirement rates. Under high-employment assumptions the favorable employment opportunities, combined with good health and a philosophy of desiring to continue at work, might result in a considerable postponement; conversely, the increasing availability of supplementary old-age benefits from private pension plans might hasten retirement (even under high-employment conditions).

(6) Credited Wages for Male and Female Workers

Male employees are assumed to have average annual credited earnings of \$3,460. For women the corresponding figure is \$2,100. As in previous studies, no age differential in earnings is used because the relatively small variations existing for the vast majority of employees (those between ages 25 and 65) do not warrant the additional computation.

These earnings correspond to the estimated average for 1963 and are assumed to be level into the future. In a subsequent section, the use of an increasing-earnings assumption will be discussed.

(7) Credited Payroll

By applying the previous assumptions as to covered employment and earnings to the population projections, there are obtained the total number of persons with credited earnings in various years and the aggregate amount of such earnings. The resulting data for selected years are shown in Table 4, along with the developed average credits for persons with any earnings in the year. The number of persons with

earnings in the year is somewhat lower for the high-cost assumptions than for the low-cost ones. This results from the fact mentioned previously, namely that under the low-cost assumptions there is assumed higher fertility, which produces eventually a greater number of persons in the productive ages.

(8) Insured Population

From the most recent actual data on insured workers and the assumptions as to the proportions of the population in covered employment and the proportions of 4-quarter workers (Table 3), there may be developed by diagonal projection and the general reasoning the assumed proportions of the total population who are insured. As used hereafter the term "insured" includes both "fully insured" and "currently insured only," but the latter category is (and will be) relatively small.

Although only a single set of assumptions was made as to covered employment at most ages, a range is necessary in the proportions insured, representing the cumulative effect of employment, because of the uncertainty involved in the extent of year-by-year progression of covered employment as between individuals. Table 5 shows for three selected years the resulting ratios of insured persons to total population. The lower figure of the range in each case applies to the low-cost estimate, while the higher figure is used in the high-cost estimate. A constant figure at all ages is reached by 2000 for males and by 2030 for females.

By applying the assumed proportions insured to the total population projections, there are obtained the estimated insured populations shown in Table 6 (note that the term "insured population" includes only persons who are "insured" as a result of their own earnings credits, and not wives and widows of "insured" workers who do not have insured status based on their own earnings record). Although the insured population for all ages combined roughly doubles in the next half century, the insured population aged 65 and over almost quadruples in the high-cost estimate, with the increase being greater for females than for males.

(9) Marital Status

Assumptions as to marital status are necessary in estimating the costs of the various supplementary and survivor benefits. The various assumptions both for men and women are based on census and claims data. The proportion married in the future is adjusted upward at the older ages to allow for the effect of assumed improved mortality (resulting in fewer early broken marriages); the adjustment in the high-cost estimate is greater. Assumptions as to relative ages of husband and wife are based on census data.

(10) Child's and Mother's Benefits

Projected numbers of child survivor beneficiaries were obtained from projections of the population under age 18 by estimating the proportion of such children in each future quinquennial year who will be

orphans of insured workers. The method used for estimating benefit payments to child survivors and their mothers involves the implicit assumption that the distribution of family patterns reflected in recent claims statistics, and current remarriage rates of mothers, will continue to prevail in the future. Mother beneficiaries were obtained by multiplying the child beneficiaries by a factor which is based on current experience.

(11) Parent's Benefits

This relatively minor category is difficult to estimate. As more and more of the aged become eligible for old-age, wife's or widow's benefits, the number eligible for parent's benefits will be relatively less. Because of the relative unimportance of this category, its size has been roughly estimated by assuming that the number of parent beneficiaries will bear a constant ratio to the number of aged persons not eligible for any other OASDI benefit.

(12) Proportion of Potential Beneficiaries at Work

For the various beneficiary categories, a considerable saving in disbursements occurs because individuals otherwise eligible are engaged in substantial employment. In some instances, benefits are withheld, while in other cases the potential beneficiary never files (notably in the case of mother's benefits in families where there are sufficient children to obtain a maximum or near-maximum benefit anyhow).

The effect of employment in reducing benefit costs is most important in connection with old-age benefits and wife's benefits. Table 7 shows the percentages of aged insured workers receiving old-age benefits in selected years, and Table 8 shows similar percentages for a few of these years by separate age groups. The increase in these percentages is due primarily to a larger proportion of persons not currently in covered employment but insured on the basis of earnings in the past. It was assumed that all eligible aged widows and all children receive benefits and that no wives lose benefits because of their own work (wives who have larger benefits based on their own earnings record than wife's benefits are not shown as receiving wife's benefits, and it is this category that is most likely to be working beyond the minimum retirement age). Implicitly it was assumed that the percentage of eligible mothers who receive benefits remains at the present level.

(13) Alternative Receipt of Benefits

A very important cost element several decades hence, although not as important currently, is the provision that women may not receive full old-age benefits in their own right and full wife's, widow's, or parent's benefits (also applicable to men in respect to the corresponding benefits). In effect, in such cases the larger of the two benefits is payable. As a practical matter, it is to the advantage of the

individual to claim the full primary benefit and to obtain the other benefit as a supplement since the latter may be suspended for a number of reasons not applicable to the former (namely, employment of the spouse, divorce, remarriage, etc.). For this reason it has been assumed that all women eligible for old-age benefits file for them, even though qualified for a larger widow's or parent's benefit. For wives it is a legal requirement that they file for old-age benefits upon filing for their wife's benefit. In all cases it is assumed that they receive the excess of such benefits over their old-age benefits as a supplement.

The number of women qualified for both old-age benefits and wife's or widow's benefits has been estimated by assuming that with the increasing participation of married women in the labor force their proportion insured will eventually (in year 2050) reach the same levels as for widows. For the early years, it was assumed that widows are roughly twice as likely as married females of being insured. Then, based on claims data, with certain modifications to allow for changes in future distributions, estimates have been made as to the proportions of the cases in which the female old-age benefit would be smaller than the widow's benefit or the wife's benefit, as the case may be, and then for such cases what the average excess over the primary benefit would be.

(14) Average Benefits

An estimate was made of the average career wage of insured workers who retire far enough in the future so that the 1963 earnings level and the ultimate percentages of the population in covered employment will have been in effect throughout their working life. The effect of the dropout and disability freeze was taken into account. Because of the weighted nature of the benefit formula, the ultimate average primary insurance amount (PIA) is a little less than the figure obtained by substituting the average earnings in the PIA formula. These averages for persons retiring at age 65 or over are as follows (the averages are slightly lower for persons retiring at ages 62-64):

	<u>Low-Cost</u>		<u>High-Cost</u>	
	<u>Average Career Earnings</u>	<u>Average Annual PIA</u>	<u>Average Career Earnings</u>	<u>Average Annual PIA</u>
Males	\$3722	\$1285	\$3645	\$1265
Females	1977	890	1816	860

The high-cost figures are slightly lower than the low-cost ones because since there is a relatively larger number of insured workers in the high-cost estimate, they must have a smaller average amount of coverage. In obtaining the ultimate average benefits from the average PIA, the reductions in benefits because of the family maximum and because of early retirement (between 62 and 65) have been taken into account. Average benefits are graded from presently prevailing figures into the ultimate ones.

(15) Administrative Expenses

After study of the various elements involved, it is believed desirable to base the assumed administrative cost on two factors--the number of persons having any covered employment in a given year and the number of monthly beneficiaries. The estimated administrative expenses for future years were obtained from the following relationships:

Low-cost estimate--\$10.25 per monthly beneficiary
plus \$1.20 per covered person;

High-cost estimate--\$10.75 per monthly beneficiary
plus \$1.60 per covered person.

(16) Contributions

The previous discussion as to earnings and payroll dealt solely with credited earnings, which are used in determining benefits. However, the effective payroll on which contributions are based is slightly higher because of the provision that wages earned in a year in excess of \$4,800 when from several employers (with no more than \$4,800 from any one employer) are subject to contributions but are not credited towards benefits. In such cases, the employee contributions for wages in excess of \$4,800 are refundable, but those from the employers are not. Study of recent actual data indicates that the taxable payroll in respect to employees is about 2.6% greater than their credited payroll. The credited payroll of the self-employed, who pay about $1\frac{1}{2}$ times the employee rate, is assumed to remain at the current level of about 9% of the total credited payroll. Allowance is also made for the fact that part of the contributions of a given year (all contributions in respect to self-employment) are based on the earnings of the preceding year.

(17) Disability Rates

Estimates of the future cost of the Disability Insurance program have been based on the same general assumptions as were used in the estimates prepared at the time of the 1956 Amendments, but with some modifications to reflect the available experience.

The numbers of persons receiving monthly disability benefits are estimated by applying prevalence rates (by age and sex) to the population insured for disability. These prevalence rates (number of beneficiaries per thousand workers insured) were developed from disability incidence rates based on the so-called 165% modification of the Class 3 incidence rates and from 1924-27 German social insurance experience and Class 3 termination rates.

The prevalence rates resulting from the assumed incidence and termination rates are then adjusted to reflect the latest available experience of the program. In accordance with current experience the prevalence rates for females were assumed at 75% of those used for males.

(18) Interest Rate

Under the present law, which was amended in this respect in 1960, the interest rate for the U.S. special issues to the OASDI funds is based on the average yield of all U.S. marketable obligations not due or callable for another 4 years.

Due to the provision prevailing prior to the 1960 Amendments, the average yield of current investments of the funds is about 3.0%, but for new investments the funds are currently obtaining about 4.0%.

An interest rate of 3.50% has, therefore, been assumed for the intermediate-cost estimate, while the rates for the low-cost and high-cost estimates were assumed at 3.75% and 3.25%, respectively.

C. Results of Cost Estimates under Level Earnings Assumption

Table 9 shows the estimated aged monthly beneficiaries (including females aged 62-64 in 1956 and after and males aged 62-64 in 1961 and after) in current payment status and also the actual data for 1950-62 (without any allowance for the effect of the railroad retirement "coverage"--see page 3). During the next 40 years such beneficiaries are shown to increase from the present level of 14 million to a range of from 28 to 35 million. At that time, male old-age beneficiaries (retired workers) are shown to make up about 40% of the total, female old-age beneficiaries about 40%, wife beneficiaries not eligible for old-age benefits about 10%, widow beneficiaries not eligible for old-age benefits about 10%, and parent beneficiaries .1%. The proportion of old-age beneficiaries who are women increases from 36% in 1962 to about 50% in the year 2000.

In Tables 9-12, projected numbers of beneficiaries in current payment status are based on the assumption that there will be a reduction in the retroactivity of the first payments. Currently, the benefit payments in each month include substantial amounts of retroactive payments to beneficiaries to whom awards were made subsequent to the month of entitlement to benefits. Thus, current data as to the number of beneficiaries in current payment status in a given month significantly understate the number of persons who will eventually receive benefits for that month.

Table 10 relates the estimated total number of monthly beneficiaries aged 65 and over to the total population aged 65 and over by sex. Whereas at the end of 1962, about 75% of all aged men and 68% of all aged women were actually drawing benefits, eventually this proportion is shown to range from 84% to 91% for men and slightly higher for women. The proportion is higher now for men than for women, and lower ultimately, for the following reasons:

(a) Since many women do not work during the entire period from the younger ages to retirement age, but rather often only at the younger ages, currently relatively fewer women qualify on the basis of their own earnings.

(b) Currently many widows are not receiving benefits because their husbands died some years ago before the OASDI system was inaugurated (or before their employment was covered).

(c) In the ultimate condition, the lower retirement rates of men workers, as contrasted with female workers and widow beneficiaries, will be the controlling factor.

Table 11 shows for various future years the estimated OASI monthly beneficiaries under retirement age who are in current payment status, as well as the actual data for 1950-62 (again, without allowance for the railroad retirement "coverage"), while Table 12 gives corresponding figures for the DI program. All categories show a decided increase in

future years, except mother and child survivor beneficiaries under the high-cost assumptions; these categories remain relatively level after 1960 due to the lower fertility and mortality assumptions, which mean fewer survivor children created. Table 11 also gives the estimated number of lump-sum death payments, which for both estimates increase steadily as the insured population grows and becomes older on the average.

Table 13 shows the estimated amount of overlapping for female beneficiaries as between old-age benefits and wife's or widow's benefits. In the early years there are not many cases of such overlapping since relatively few of the current married older women worked sufficiently in covered employment to become insured for old-age benefits. However, in later years many aged married women will possess insured status for old-age benefits on account of employment at the younger ages, either before or shortly after marriage. Likewise, eventually many widows will qualify for old-age benefits by reason of employment while single or after the death of their husbands.

Ultimately, about 25 to 30% of the females qualified for old-age benefits are estimated to be also qualified for wife's benefits. However, since the unreduced wife's benefit is only 50% of the husband's old-age benefit, in only about 20% of such cases is the wife's benefit estimated to be larger than her old-age benefit. Likewise, ultimately, about 30 to 35% of the females qualified for old-age benefits are estimated as also being qualified for widow's benefits. Since the widow's benefit is $82\frac{1}{2}\%$ of the husband's old-age benefit, a relatively large proportion of such women (about 40%) have a widow's benefit that is larger than their old-age benefit. It should be emphasized again that these figures are particularly subject to fluctuations and uncertainty.

Table 14 gives the estimated average annual benefits in current payment status for old-age beneficiaries and their dependents. Also shown are the average additional wife's benefits payable for those women who receive an old-age benefit which is smaller than the wife's benefit otherwise payable. The averages tend to be slightly higher under the low-cost assumptions than under the high-cost assumptions because the latter assume a greater proportion to be insured; thus, spreading the total covered wages among more persons and resulting in lower average benefits. The average old-age benefit for males gradually rises as the effect of lower earnings levels prior to 1963 diminishes. The average old-age benefit for females rises less rapidly because of an increasing proportion of females who although fully insured have been out of the labor force for long periods, and because of the increasing proportion of women who retire before age 65 with reduced benefits.

Table 15 shows estimated average survivor monthly benefits and lump-sum death payments, while Table 16 shows average disability benefits. As in the case of the average old-age and supplementary benefits in Table 14, the average benefits shown in Tables 15 and 16 increase gradually in future years and are somewhat higher under the low-cost assumptions than under the high-cost assumptions.

Table 17 summarizes the estimated benefit payments for the OASI portion of the system, along with the actual data for the years 1950-62. The total benefit payments increase from the level of about \$13.4 billion in 1962 to \$32 to \$36 billion in the year 2000. Old-age benefits constitute from 65% to 75% of the total benefit payments in the year 2000, and together with the other benefits for those who have reached retirement age, make up all but about 10% of the total. In the actual 1962 data, old-age benefits were 66%, other benefits for the aged were 20%, and younger survivor and lump-sum death benefits were 14%.

Table 18 similarly summarizes the estimated benefit payments for the DI portion of the system. The total benefit payments increase from \$1.1 billion in 1962 to \$2.3 to \$2.6 billion in the year 2000. Payments to disabled workers represented 80% of the total outgo in 1962, with wife's benefits being 6% and child's benefits 14%. In the future, the proportion of the outgo for disabled workers is estimated to rise slightly as fertility declines.

In addition to the figures for the low-cost and high-cost estimates, there have been developed intermediate-cost estimates, which are merely the average of the low-cost and high-cost estimates and are not intended to represent "most probable" figures. Rather, they have been set down as a convenient and readily available single set of figures to be used for comparative purposes.

Furthermore, since the Congress has adopted the principle of establishing in the law a contribution schedule designed to make the system self-supporting, it is necessary to select a single set of estimates as the basis for the contribution schedule. The intermediate-cost estimate is used for this purpose. Quite obviously any specific schedule may require modification in the light of experience, but the establishment of the schedule in the law does make clear the congressional intent that the system be self-supporting. Further, exact self-support cannot be obtained from a specific set of integral or rounded fractional rates, but rather this principle of self-support has been aimed at as closely as possible by the Congress in 1950 and in subsequent occasions when developing the tax schedule in the law.

The low-cost and high-cost estimates result from two carefully considered series of assumptions. The intermediate-cost estimate represents an average of the low-cost and high-cost estimates of beneficiaries, benefit disbursements, and total taxable payroll. The corresponding estimates of benefits relative to payroll are developed from these dollar figures.

Tables 19 and 20 relate the estimated benefits to taxable payroll by type of benefit for the OASI and DI portions of the programs, respectively. The total cost for the ultimate condition ranges from 10.0 to 14.7% of payroll for OASI and from .64 to .82% for DI.

Another concept of long-range cost is the level-equivalent contribution rate required to support the system into perpetuity, based on discounting at interest and assuming that benefit payments and taxable

payroll remain level after the year 2050. If such a level rate were adopted, relatively large accumulations in the trust fund would result, and in consequence also sizable eventual income from interest. Even though such a method of financing is not followed, this concept may nevertheless be used as a convenient measure of long-range costs. This cost concept takes into account the heavy deferred load; on the other hand, some may consider it unrealistic because it deals with periods beyond the year 2050, and also because it is dubious to assume a leveling off or stabilization at any time.

Table 21 deals with level costs of the benefits in perpetuity by further taking into account administrative expenses and the accumulated fund on hand at the end of 1963. The resulting net level-cost would, if actual experience is the same as the particular estimate, be the level contribution rate payable by the employer and employee combined (with the self-employed paying only $\frac{3}{4}$ of this rate), which if in effect hereafter would result in an exactly self-supporting system; then, funds accumulating at interest would supply income eventually sufficient to offset the excess of benefit payments over contributions.

The net level-cost for the OASI system ranges from 7.6 to 10.1% of taxable payroll. In other words, for this system, a level employer-employee contribution rate (self-employed paying $\frac{3}{4}$) of as little as $7\frac{1}{2}\%$ might be sufficient or, on the other hand, a rate of 10% might be necessary under adverse circumstances. Using a higher interest rate naturally results in somewhat lower costs, and vice versa. A differential of $\frac{1}{2}\%$ in the interest rate has a net effect on the level-cost of about .2% of payroll.

Table 21 also shows the level-equivalents of the present contributions to the OASDI system based on the graded schedule in the Act. These figures are on a comparable basis with the net level-cost figures for benefits and may be utilized to indicate the relative sufficiency of the contribution schedule.

The lack of actuarial balance of the OASI portion of the program (.10% of taxable payroll on the intermediate-cost basis) is well within the acceptable limit of variation of .25% of taxable payroll that has been stated in Congressional discussions of the financing of the program. On the other hand, the DI portion of the program has a lack of actuarial balance of .14% of taxable payroll, which is significantly above the corresponding acceptable limit of variation of .05% or .06% (which was the estimated lack of balance at the time the 1961 Amendments were enacted).

If the experience exactly follows the assumptions, future computations would show a gradual increase in the actuarial lack of balance under the intermediate-cost estimate for both OASI and DI. The reason for this is that interest accumulations increase any surplus in the system, but the failure to accumulate all interest income that would have been earned in an exactly-balanced system increases any deficit. In the case

of a surplus, the excess contributions actually earn interest, while a deficit grows because of the absence of the annual interest that would have been earned if the contributions required for balance had been paid. It is estimated that, because of this effect, the present deficiency of 0.24% of taxable payroll would increase to 0.28% by the year 1970 if all elements of the assumptions hold true.

Continuing study of the emerging experience under the program provides a basis for prompt changes in the tax rate or other changes that may be necessary to keep the system from growing excessively out of actuarial balance in either direction.

It is important to note that these estimates are made on the assumption that earnings will remain at about the level prevailing in 1963. If earnings levels rise, as they have in the past, the benefits and the taxable earnings base under the program will undoubtedly be modified. If such changes are made concurrently and proportionately with changes in general earnings levels, and if the experience follows all the other assumptions, the future year-by-year costs of the system as a percentage of taxable payroll would be the same as those shown. However, the existing trust fund accumulated in the past, and its interest earnings, will represent a smaller proportion of the future taxable payrolls than if earnings were not to increase in future years. As a result, since interest earnings of the trust fund will play a relatively smaller role in the financing of the system, the "net" level-cost--taking into account benefit payments, administrative expenses, and interest on the existing trust fund--would be somewhat higher. However, the level-cost would not rise this much, or might even decline, depending on the degree to which benefits are adjusted to reflect rising earnings. Again, the effect of such events can be observed in ample time to make any needed changes in the contribution schedule or any other appropriate changes in the system.

Table 22 presents the estimated progress of the OASI Trust Fund under the contribution schedule in the 1961 Act. The contribution income figures shown in this table represent the payments which will actually be made directly to the Trust Fund by contributors. They also include reimbursements to the Trust Fund by the Federal Treasury for the cost of the "free" wage credits allowed for military service between September 15, 1940 and December 31, 1956, as provided by Public Law No. 84-881. Similarly, the benefit disbursement figures shown reflect only the payments which will actually be made from the Trust Fund to individual beneficiaries. The effect (positive or negative) of the Railroad Retirement financial interchange provisions is shown separately.

Under the low-cost estimate, the Trust Fund continues to grow in the future, reaching \$298 billion in the year 2000. However, under the other estimates the Trust Fund grows for a time and then declines until it is eventually exhausted. Under the high-cost estimate, the Trust Fund reaches a peak of \$55 billion in 1980-84 and is exhausted in 1999. Under the intermediate-cost assumptions, the Trust Fund reaches \$315

billion in the year 2035 and then declines, reaching \$249 billion in the year 2050. The actuarial balance of the OASI system, shown in Table 21, is positive only for the low-cost assumptions. Thus, it would be anticipated that the Trust Fund would continue to grow only under this assumption and would be ultimately exhausted under the other assumptions.

Table 23 shows the corresponding progress of the DI Trust Fund. As would be anticipated from the data on the actuarial balance of this system, as shown in Table 21, the DI Trust Fund is shown to continue the decline that it began after 1961 and is estimated to be exhausted at some time in the period 1969-71, unless additional financing is provided.

D. The Effect of an Increasing Earnings Assumption

A factor mentioned earlier, but not assumed in the actuarial projections, is the past observed trend of an irregular but upward movement in earnings, both on a dollar basis and in the form of real wages. If this secular trend continues, then--other things being equal--the curves of benefits and contributions would both be more steeply ascending than shown. The upward trend in the contribution curves, however, would be far more accentuated than would be such trend in the benefit curves. The main reasons are--

(1) The benefits are determined by the average monthly earnings up to the maximum of \$400; in essence, 58.85% is applied to the first \$110 thereof and 21.4% to that part above \$110. As average earnings increase and as more persons approach or reach the \$400 maximum, a larger portion of such earnings falls in that bracket of the benefit formula to which the 21.4% rate, rather than the 58.85% rate, applies. Thus, benefits become smaller in relation to earnings, and consequently in relation to contributions.

(2) Any year's contributions are substantially based on the covered earnings of that year, while any year's benefits in force are based on weighted composite earnings of all previous years in which the insured persons on whose account the benefits are paid worked in covered employment, thus including--in far-distant future years--earnings of as much as 80 years previous.

The assumption of steadily-rising earnings in conjunction with an unamended benefit formula would have an important bearing in considering the long-range cost of the program. With such an assumption, the future rises in earnings would seem to offer significant financial help in the financing of benefits because contributions at a fixed percentage rate would increase steadily relative to benefit disbursements; but the benefits paid to beneficiaries would steadily diminish in relation to current earnings levels. Under such circumstances, offsetting this apparent savings in cost, it is likely that from the long-range point of view the present benefit formula would not be maintained. Rather, revisions would probably be made by the Congress (perhaps with some delay) which would make average benefits as adequate relative to the then-existing covered earnings level as average benefits under the present formula are in relation to the level prevailing when the 1961 Amendments were enacted.

In revising the benefit schedule to conform with the altered earnings level, the changed cost and contribution picture would have to be considered. This is especially true as to changes resulting from the fact that benefits would be based on earnings prevailing at the time of such change and thereafter, while the accumulated Trust Funds at that time would have developed from contributions on the lower earnings prevailing during the past. The fund thus would not play as important a role in financing the program as would have been the case

if the earnings level had not changed. Accordingly, because of the diminution of the value of the existing fund toward financing of the program, the level-cost of the program would be increased if the benefit level were adjusted in exact proportion with the increase in the covered earnings level. For small rates of increase in the earnings level, the increase in cost may be partially counterbalanced by the time lag which would undoubtedly occur between the rise in earnings level and the amendment of the benefit provisions. However, for large rates of increase in earnings levels (i.e., for rates equal to or in excess of the assumed valuation interest rate), the level-cost would be equal to the ultimate cost, since accumulated funds would ultimately not play any role in the financing of the benefits.

In addition to excluding the assumption of increasing earnings in the future, the detailed cost estimates given have avoided dealing with various other important secular trends. These have diverse effects on costs which cannot now be adequately extrapolated into the future. One illustration is the lengthening of the period of childhood or preparation for work. Another possibility is a drastic change in the average age of retirement, either to a considerably lower effective age so that practically all persons would retire at the minimum age of 62, or conversely to a higher effective age under circumstances of greatly improved health conditions combined with good employment opportunities, such that few would retire before age 72.

E. Comparison with Previous Estimates

The cost estimates prepared from 1939 until 1953 had always contained the assumption that the system would mature in the year 2000 or, in other words, that benefit payments and contributions would be level thereafter. In the cost estimates of 1953 and thereafter, a different assumption was made by maturing any trends, such as mortality, in the year 2000 but going on with the estimates for another 50 years. In one sense, this seems necessary because the aged population itself cannot mature by the year 2000. The reason for this is that the number of births in the 1930's was very low as compared with subsequent and previous periods. As a result, a dip in the relative proportion of the aged occurs from 1995 to about 2010, which, in itself, would be reflected in OASI benefit costs for that period. Accordingly, the year 2000 is by no means a typical "ultimate year."

Table 24 compares OASI benefit costs related to taxable payroll for various years for all the major long-range cost estimates that have been made for the program, beginning with the 1935 Act and for each of the major Amendments, while Table 25 gives the corresponding figures for the DI program. No figures are shown after 1980 for the earliest estimates, and after 2000 for all but the more recent estimates. In those instances, the cost was assumed to level off after that point.

It is not appropriate to compare level-costs because of several factors, such as different interest rates, different assumptions as to when "maturity" would occur, and the different time elements involved. In regard to the latter point, the level-cost in a given estimate for a particular plan will shift over the course of time if a graded contribution schedule is involved. Thus, for instance, consider a plan beginning in 1937 and remaining unchanged thereafter, with the experience exactly following the cost assumptions originally used. Under such circumstances, if the level-cost were 5% at the inception of the plan, and if a graded contribution schedule beginning at 2% and running up to 6% over a period of years were established such as to be equivalent to the level rate of 5%, then the level-cost determined in later years would be higher than 5% because this amount had not been collected in the early years of operation. In fact, ultimately the level-cost would be 6% of payroll (by the time the contribution schedule reached 6%).

In 1960, the actual cost of the OASI system was 5.32% of taxable payroll. By coincidence this is only slightly above the original high-cost estimate for the 1935 Act, and well below the $5\frac{1}{2}$ to $6\frac{1}{2}$ % range shown for the 1939 Amendments in the estimates made at the time of their enactment. Subsequent estimates for 1960 made for the 1939 Act show lower costs than this. The primary reason for this is the rapid increase of wages that occurred in the 1940's. Corresponding estimates for the 1950 and later Amendments made at the time of their enactment, indicate an increase in cost due to increases in the benefit level and to changes in the Act that shifted the cost to the early years (for example, the actuarial reduction provision).

Table 1

ACTUAL AND PROJECTED U. S. POPULATION^{a/}, 1950-2050
(in millions)

Calendar Year	Aged 20-64			Aged 65 and Over			All Ages		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Actual Data ^{a/}									
1950	44.2	44.9	89.1	5.9	6.5	12.4	76.8	77.4	154.2
1960	47.0	48.7	95.7	7.6	9.1	16.7	90.5	92.7	183.2
Projection for Low-Cost Assumptions ^{b/}									
1965	50.8	52.4	103.2	8.0	10.1	18.1	100.1	102.1	202.2
1970	55	56	111	9	11	20	108	110	218
1980	64	66	130	10	14	24	125	128	254
1990	75	75	150	12	17	28	145	148	293
2000	90	90	180	12	17	29	165	168	332
2025	122	122	244	19	26	45	209	213	422
2050	137	137	274	27	37	65	232	239	471
Projection for High-Cost Assumptions ^{b/}									
1965	51.0	52.5	103.5	8.1	10.3	18.4	96.2	98.3	194.5
1970	55	57	112	9	12	21	101	104	206
1980	63	64	127	11	15	26	113	116	230
1990	69	70	139	14	19	32	125	128	252
2000	78	77	155	15	20	35	135	137	272
2025	88	87	174	23	28	51	152	155	307
2050	88	87	176	27	32	59	156	158	314

a/ From Census (as of April 1). These data relate to the total United States and not merely to the continental United States. Figures for 1965 and after incorporate a correction for under-enumeration (see Actuarial Study No. 46).

b/ As of July 1, estimated.

Note: Figures are individually rounded, and in some instances do not add exactly to totals shown.

Table 2a

ASSUMED RATIOS OF PERSONS UNDER AGE 60 WITH EARNINGS
CREDITS IN YEAR TO TOTAL POPULATION IN AGE GROUP^{a/}

Age Group	Male			Female		
	1965	1980	2000	1965	1980	2000
15-19	49-53%	47-53%	47-53%	37-38%	36-40%	36-40%
20-24	90-91	88-92	88-92	55-56	56-59	57-61
25-29	91-92	93-95	93-95	41-42	44-47	47-49
30-34	92	93	94	40	44	48
35-39	91	92	93	44	50	53
40-44	90	91	92	47	53	58
45-49	87	88	89	49	57	62
50-54	85	86	87	48	56	60
55-59	80	81	82	43	54	56

a/ When two figures are shown, the larger figure was used in the low-cost assumptions and the smaller figure in the high-cost assumptions.

Table 2b

ASSUMED RATIOS OF PERSONS AGED 60 AND OVER WITH EARNINGS
CREDITS IN YEAR TO TOTAL POPULATION IN AGE GROUP

Age Group	Male			Female		
	1965	1980	2000	1965	1980	2000
Low-Cost Assumptions						
60-61	75%	75%	75%	32%	37%	40%
62-64	70	71	71	27	29	29
65-69	52	48	48	17	19	19
70-74	30	29	29	9	10	10
75 and over	13	13	13	4	4	4
High-Cost Assumptions						
60-61	73%	73%	73%	32%	37%	40%
62-64	68	65	65	25	23	23
65-69	48	42	42	15	13	13
70-74	28	24	23	7	6	6
75 and over	12	9	9	4	4	4

Table 3

ASSUMED PERCENTAGE DISTRIBUTIONS OF PERSONS WITH COVERED EARNINGS
IN YEAR BY 4-QUARTER WORKERS AND ALL OTHERS

Age Group	Male		Female	
	4-Quarter Workers	Other Workers	4-Quarter Workers	Other Workers
15-19	31%	69%	31%	69%
20-24	52	48	52	48
25-29	75	25	53	47
30-34	81	19	57	43
35-39	82	18	62	38
40-44	82	18	66	34
45-49	83	17	69	31
50-54	83	17	70	30
55-59	81	19	70	30
60-64	80	20	70	30
65-69	71	29	66	34
70-74	70	30	63	37
75 and Over	69	31	63	37

Table 4

ESTIMATED PERSONS WITH EARNINGS CREDITS, TOTAL CREDITED EARNINGS,
AND AVERAGE CREDITABLE EARNINGS

Calendar Year	Persons with Earnings Credits in Year (in millions)			Total Credited Earnings in Year (in billions)	Average Credited Earnings
	Male	Female	Total		
Actual Data ^{a/}					
1950	32.6	15.7	48.3	\$ 85.4	\$1769
1951	38.5	19.6	58.1	118.5	2039
1952	39.2	20.4	59.6	125.7	2109
1953	39.8	21.0	60.8	132.5	2178
1954	39.1	20.5	59.6	130.4	2187
1955	43.1	22.1	65.2	154.7	2372
1956	44.6	23.0	67.6	166.8	2467
1957	47.3	23.4	70.7	177.2	2512
1958	47.0	23.2	70.2	176.7	2520
1959	47.7	24.0	71.7	198.2	2760
1960	48.0	24.6	72.6	202.3	2790
1961	48.2	24.7	72.9	205.1	2810
1962	49.6	25.4	75.0	215.0	2870
Low-Cost Assumptions					
1965	51.7	27.8	79.5	\$237.2	\$2985
1980	66.5	38.9	105.4	311.8	2959
2000	92.5	56.3	148.8	438.2	2945
2025	124.0	74.2	198.2	584.8	2950
2050	139.7	83.3	223.0	658.3	2952
High-Cost Assumptions					
1965	51.1	27.4	78.4	\$234.1	\$2985
1980	63.2	35.7	98.9	293.6	2970
2000	76.3	46.2	122.5	361.0	2947
2025	87.3	51.2	138.6	409.8	2957
2050	88.5	51.4	139.9	414.2	2960

a/ Preliminary for later years of period. Not adjusted to reflect effect of (1) provisions that coordinate the OASDI and Railroad Retirement programs and (2) earnings credits for military service.

Table 5

ASSUMED RATIOS OF INSURED^{a/} PERSONS TO TOTAL POPULATION

Age Group	Male			Female			
	1965	1980	2000 and After	1965	1980	2000	2050
15-19	19-21	17-23	17-23	14-14	13-15	13-15	13-15
20-24	84-86	83-87	83-87	55-55	57-59	57-59	57-59
25-29	92-94	91-95	91-95	68-68	69-73	71-75	71-75
30-34	96-98	96-98	96-98	70-70	72-74	73-77	73-77
35-39	96-98	96-98	96-98	70-70	71-75	73-77	73-77
40-44	96-98	96-98	95-98	67-68	70-73	71-75	71-75
45-49	95-97	95-98	95-98	64-65	66-70	67-73	67-73
50-54	94-96	95-98	95-98	57-59	60-66	63-69	63-69
55-59	93-94	95-98	95-98	52-54	59-65	64-71	64-71
60-61	91-92	95-98	95-98	47-49	56-63	65-72	66-73
62-64	86-88	93-96	93-96	48-50	57-63	66-72	66-73
65-69	88-89	94-97	95-98	47-49	55-62	65-71	66-73
70-74	89-90	93-96	95-98	41-43	53-60	61-68	66-73
75-79	88-88	92-93	95-98	32-34	50-57	58-65	66-73
80-84	80-80	90-91	95-98	26-26	46-52	56-63	66-73
85 and Over	56-56	87-88	95-98	14-14	38-41	53-60	66-73

^{a/} Includes both those fully insured and those currently insured only. The latter category is relatively negligible. For age group 62-64, the insured status is assumed to be determined only for eligibility to old-age benefits.

Note: In each case the smaller figure was used in the low-cost estimates and the larger figure in the high-cost estimates.

Table 6
ESTIMATED INSURED^{a/} POPULATION
(in millions)

Calendar Year	All Ages			Aged 65 and Over		
	Male	Female	Total	Male	Female	Total
Actual Data (as of January 1)						
1950	30.7	15.0	45.7	1.9	.3	2.2
1951	37.9	21.9	59.8	2.6	.6	3.1
1952	39.6	23.2	62.8	2.8	.7	3.5
1953	42.2	26.1	68.2	3.4	.9	4.4
1954	43.5	27.5	71.0	3.7	1.1	4.8
1955	43.6	27.0	70.6	4.0	1.3	5.3
1956	44.3	27.1	71.4	4.3	1.5	5.9
1957	46.6	27.8	74.3	5.0	1.9	6.9
1958	48.4	28.5	77.0	5.4	2.1	7.5
1959	50.1	28.8	78.9	5.7	2.4	8.1
1960	50.7	29.0	79.7	5.9	2.6	8.5
1961	52.5	32.9	85.4	6.1	2.9	9.0
1962	53.8	35.4	89.2	6.4	3.1	9.6
1963	54.4	36.1	90.5	6.6	3.4	10.1
Low-Cost Assumptions						
1965	55.7	37.4	93.0	6.9	3.8	10.7
1980	70.8	51.0	121.8	9.4	7.2	16.6
2000	97.3	73.0	170.3	11.4	10.5	21.9
2025	134.1	101.6	235.8	17.8	17.3	35.2
2050	156.5	119.7	276.2	25.5	25.1	50.6
High-Cost Assumptions						
1965	57.1	38.1	95.2	7.0	4.0	11.1
1980	73.2	54.1	127.3	10.6	8.7	19.3
2000	92.1	70.5	162.5	14.9	13.3	28.2
2025	109.4	84.4	193.8	22.7	20.4	43.2
2050	113.6	87.9	201.5	26.1	23.6	49.7

^{a/} Includes both fully insured and currently insured only. The latter category is relatively negligible.

Table 7

ESTIMATED OLD-AGE BENEFICIARIES AGED 65 AND OVER IN CURRENT PAYMENT
STATUS AS PERCENT OF INSURED POPULATION AGED 65 AND OVER

<u>Calendar Year</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
	Actual Data ^{a/}		
1950	59%	61%	59%
1951	57	55	56
1952	64	70	65
1953	60	64	61
1954	66	71	67
1955	70	75	71
1956	75	80	76
1957	71	77	74
1958 ^{b/}	78	81	79
1959 ^{b/}	81	85	82
1960	84	87	85
1961	85	87	86
1962	86	87	87
1963	88	88	88
	Low-Cost Assumptions		
1965	88%	90%	89%
1980	88	91	89
2000	89	92	91
2050	89	92	90
	High-Cost Assumptions		
1965	90%	93%	91%
1980	91	95	93
2000	93	96	94
2050	93	96	94

a/ At beginning of year, excluding effect of Railroad Retirement coverage under financial interchange provisions.

b/ As of December 1, 1958.

Table 8

ESTIMATED OLD-AGE BENEFICIARIES IN CURRENT PAYMENT STATUS
AS PERCENT OF INSURED POPULATION, BY AGE AND SEX

Calendar Year	Aged 62-64		Aged 65-69		Aged 70-71		Aged 72 and Over	
	Male	Female	Male	Female	Male	Female	Male	Female
Actual Data ^{a/}								
1956	--	--	58%	72%	74%	82%	95%	91%
1957	--	16%	55	67	70	82	90	90
1958 ^{b/}	--	35	62	73	75	85	95	92
1959 ^{b/}	--	41	65	76	82	90	97	95
1960	--	42	69	79	86	92	97	96
1961	--	37	70	77	85	90	98	97
1962	13%	38	73	77	86	91	98	98
1963	22	41	75	77	89	93	98	98
Low-Cost Estimates								
1965	26%	41%	74%	81%	89%	90%	99%	99%
1980	28	41	73	80	89	90	99	99
2000	28	41	73	80	89	90	99	99
2050	28	41	73	80	89	90	99	99
High-Cost Estimates								
1965	30%	45%	78%	86%	92%	95%	100%	100%
1980	32	45	79	87	93	96	100	100
2000	32	45	79	87	93	96	100	100
2050	32	45	79	87	93	96	100	100

a/ At beginning of year, excluding effect of Railroad Retirement coverage under financial interchange provisions.

b/ As of December 1, 1958.

Table 9

ESTIMATED AGED^{a/} MONTHLY BENEFICIARIES IN CURRENT PAYMENT STATUS^{b/}
(in thousands)

Calendar Year	Old-Age ^{c/}		Wife's ^{d/}	Survivors		Total
	Male	Female		Widow's ^{e/}	Parent's	
Actual Data ^{f/}						
1950	1,469	302	499	314	15	2,584
1951	1,819	459	618	384	19	3,273
1952	2,052	592	704	454	21	3,823
1953	2,438	784	846	540	24	4,632
1954	2,803	972	967	638	25	5,405
1955	3,252	1,222	1,135	701	25	6,335
1956	3,572	1,540	1,371	913	27	7,423
1957	4,198	1,999	1,746	1,095	29	9,067
1958	4,617	2,303	1,929	1,233	30	10,112
1959	4,937	2,589	2,057	1,394	35	11,012
1960	5,217	2,845	2,158	1,544	36	11,800
1961	5,765	3,160	2,252	1,697	37	12,911
1962	6,244	3,494	2,365	1,857	37	13,997
Low-Cost Assumptions						
1965	6,551	3,919	2,396	2,240	35	15,141
1970	7,331	5,043	2,496	2,627	34	17,531
1980	8,985	7,294	2,740	3,205	34	22,258
2000	10,915	10,514	2,627	3,576	28	27,660
2050	24,415	25,157	4,502	6,812	45	60,931
High-Cost Assumptions						
1965	6,969	4,340	2,496	2,198	36	16,039
1970	8,044	5,880	2,638	2,439	35	19,036
1980	10,564	9,191	2,945	2,769	34	25,503
2000	14,779	13,790	3,258	3,080	28	34,935
2050	25,789	24,475	4,088	4,405	30	58,787

a/ Before 1956, this implies persons aged 65 and over; in 1956-60, men aged 65 and over and women aged 62 and over; in 1961 and after, persons aged 62 and over.

b/ For projected data, this corresponds to average monthly number in current payment status.

c/ I.e., retired workers. Persons qualified both for old-age benefits and for other benefits are shown only as old-age beneficiaries, except in 1950 and 1951.

d/ Including husband's beneficiaries, but excluding wife's beneficiaries who are caring for an entitled child.

e/ Including widower's benefits.

f/ As of December (except for 1958--November). Excluding effect of Railroad Retirement coverage under financial interchange provisions. Wife's, widow's and parent's figures for 1950 and 1951 include persons also receiving old-age benefits.

Table 10

ESTIMATED BENEFICIARIES AGED 65 AND OVER IN CURRENT PAYMENT STATUS
AS PERCENT OF TOTAL POPULATION AGED 65 AND OVER

<u>Calendar Year</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
	Actual Data ^{a/} (as of December)		
1950	24%	16%	20%
1951	29	21	25
1952	32	24	28
1953	37	29	33
1954	42	33	37
1955	47	38	43
1956	51	42	46
1957	58	48	53
1958	63	53	58
1959	66	57	61
1960	68	61	64
1961	71	64	67
1962	75	68	71
	Low-Cost Assumptions		
1965	76	73	74
1970	78	79	78
1980	81	83	82
2000	85	87	86
2050	84	88	86
	High-Cost Assumptions		
1965	78	76	77
1970	82	82	82
1980	86	87	87
2000	91	91	91
2050	91	93	92

^{a/} Excluding effect of Railroad Retirement coverage under financial interchange provisions.

Table 11

ESTIMATED MONTHLY SUPPLEMENTARY AND SURVIVOR BENEFICIARIES
 UNDER RETIREMENT AGE^{a/} IN CURRENT PAYMENT STATUS^{b/}
 AND LUMP-SUM DEATH PAYMENTS IN YEAR
 (in thousands)

Calendar Year	Supplementary Benefits ^{c/}		Survivor Benefits		Lump-Sum Payments ^{e/}
	Wife's ^{d/}	Child's	Mother's	Child's	
Actual Data ^{f/}					
1950	9	46	169	653	200
1951	29	68	204	778	414
1952	34	75	229	864	438
1953	41	90	254	963	512
1954	49	107	272	1,054	516
1955	57	122	292	1,154	567
1956	62	131	301	1,201	547
1957	81	180	328	1,322	689
1958	93	208	354	1,398	656
1959	103	246	376	1,508	822
1960	111	268	401	1,577	779
1961	140	338	428	1,650	813
1962	167	405	452	1,755	865
Low-Cost Assumptions					
1965	182	443	530	2,061	975
1970	209	510	603	2,348	1,132
1980	240	586	701	2,726	1,425
2000	218	531	899	3,499	1,930
2050	375	915	984	3,828	4,089
High-Cost Assumptions					
1965	191	467	480	1,866	940
1970	214	523	471	1,832	1,098
1980	230	562	441	1,717	1,389
2000	231	563	427	1,663	1,985
2050	373	910	418	1,626	3,360

a/ Excluding effect of Railroad Retirement coverage under financial interchange provisions.

b/ For projected data, this corresponds to average monthly number in current payment status.

c/ Payable to dependents of old-age beneficiaries (retired workers).

d/ Wife is under age 65, with eligible child in her care.

e/ Number of decedents on whose account payments are made during the year. The 1958 figure covers from January 1 to November 30. Payments made in December 1958 are included in the 1959 figure.

f/ For monthly benefits, as of December (except 1958--November). Excluding effect of Railroad Retirement coverage under financial interchange provisions.

Table 12

ESTIMATED MONTHLY DISABILITY BENEFICIARIES^{a/}
 IN CURRENT PAYMENT STATUS^{b/}
 (in thousands)

Calendar Year	Disabled Worker	Supplementary Benefits ^{c/}	
		Wife's ^{d/}	Child's
Actual Data ^{e/}			
1957	150	--	--
1958	238	12	18
1959	334	48	78
1960	455	77	155
1961	618	118	291
1962	741	147	387
Low-Cost Assumptions			
1965	856	168	466
1970	983	185	528
1980	1,167	214	610
2000	1,520	267	703
2050	2,975	425	885
High-Cost Assumptions			
1965	934	183	507
1970	1,178	222	601
1980	1,430	234	558
2000	1,852	274	595
2050	2,480	326	665

a/ Includes only beneficiaries who receive benefits from DI Trust Fund.

b/ For projected data, this corresponds to average monthly number in current payment status.

c/ Payable to dependents of disabled-worker beneficiaries.

d/ Wife is either (1) aged 62 or over, or (2) with eligible child in her care.

e/ For monthly benefits, as of December (except 1958--November). Excluding effect of Railroad Retirement coverage under financial interchange provisions.

Table 13

ESTIMATED FEMALE BENEFICIARIES QUALIFIED FOR BOTH OLD-AGE BENEFITS^{a/}
AND WIFE'S OR WIDOW'S BENEFITS^{b/}, IN CURRENT PAYMENT STATUS^{c/}
(in thousands)

Calendar Year	Qualified for Old-Age and Wife's		Qualified for Old-Age and Widow's	
	Total Eligible	With Smaller Old-Age Benefit	Total Eligible	With Smaller Old-Age Benefit
Low-Cost Assumptions				
1965	918	193	1,661	299
1980	1,788	338	3,651	1,077
2000	2,984	537	5,307	2,043
2050	8,244	1,484	10,954	4,382
High-Cost Assumptions				
1965	1,019	214	1,857	334
1980	2,405	455	4,425	1,305
2000	4,551	819	6,611	2,545
2050	9,996	1,799	9,971	3,988

a/ I.e., retired workers.

b/ Number eligible for both old-age and parent's benefits is negligible.

c/ This corresponds to average monthly number in current payment status.

Table 14

ESTIMATED AVERAGE ANNUAL BENEFITS FOR OLD-AGE BENEFICIARIES
AND THEIR DEPENDENTS IN CURRENT PAYMENT STATUS

Calendar Year	Old-Age ^{a/}		Total	Supplementary Wife's ^{b/}		Child's
	Male	Female		With No Old-Age Benefit	With Smaller Old-Age Benefit ^{e/}	
Actual Data ^{c/}						
1950	\$548	\$421	\$526	\$283 ^{d/}	d/	\$205
1951	533	396	506	273 ^{d/}	d/	160
1952	626	470	591	312 ^{d/}	d/	176
1953	654	488	613	325	\$ 99	189
1954	760	565	710	381	107	222
1955	797	599	743	397	117	240
1956	819	604	757	405	125	248
1957	846	627	775	412	132	263
1958	873	643	796	421	141	276
1959	961	706	873	458	146	328
1960	982	716	888	465	149	339
1961	998	744	908	473	121	330
1962	1,005	751	914	476	130	329
Low-Cost Assumptions						
1965	\$1,003	\$754	\$910	\$491	\$123	\$337
1980	1,094	766	947	532	133	384
2000	1,165	782	977	553	138	411
2050	1,177	788	979	560	140	417
High-Cost Assumptions						
1965	\$ 999	\$751	\$904	\$491	\$123	\$337
1980	1,083	752	929	527	132	380
2000	1,147	759	960	545	136	405
2050	1,160	762	966	551	138	410

a/ I.e., benefit for retired worker.

b/ Including husband's benefits.

c/ Excluding effect of Railroad Retirement coverage under financial interchange provisions.

d/ Subdivision not available; figure shown is for all wife's and husband's benefits.

e/ Figures represent the average residual wife's benefit paid in addition to their own old-age benefit.

Table 15

ESTIMATED AVERAGE ANNUAL SURVIVOR BENEFITS IN CURRENT PAYMENT STATUS
AND LUMP-SUM DEATH PAYMENTS

Calendar Year	Widow's ^{a/}		Mother's	Child's	Parent's	Lump-Sum ^{b/} Death Payments
	With No Old-Age Benefit	With Smaller Old-Age Benefit ^{e/}				
Actual Data ^{c/}						
1950	\$ 438 ^{d/}	d/	\$411	\$341	\$440	\$164
1951	432 ^{d/}	d/	399	337	440	139
1952	488 ^{d/}	d/	434	376	496	145
1953	490	\$179	450	387	504	171
1954	555	195	534	444	569	179
1955	584	199	551	457	599	199
1956	602	206	568	472	609	200
1957	613	216	589	490	622	201
1958	623	228	606	505	634	203
1959	681	246	688	570	706	213
1960	692	253	711	616	724	212
1961	779	291	712	633	806	210
1962	791	293	713	643	818	212
Low-Cost Assumptions						
1965	\$ 817	\$306	\$725	\$651	\$ 845	\$214
1980	958	359	802	719	964	225
2000	1,037	389	850	763	1,031	233
2050	1,050	394	861	772	1,044	233
High-Cost Assumptions						
1965	\$ 817	\$306	\$725	\$651	\$ 845	\$214
1980	949	356	794	713	954	221
2000	1,021	383	837	751	1,015	227
2050	1,034	388	848	761	1,027	228

a/ Including widower's benefits.

b/ Based on number of decedents on whose account payments are made.

c/ As of December (except 1958--November). Excluding effect of Railroad Retirement coverage under financial interchange provisions.

d/ Subdivision not available; figure shown is for all widow's and widower's benefits.

e/ Figures represent the average residual widow's benefit paid in addition to their own old-age benefit.

Table 16

ESTIMATED AVERAGE ANNUAL DISABILITY BENEFITS^{a/}
IN CURRENT PAYMENT STATUS

<u>Calendar Year</u>	<u>Disabled Worker</u>	<u>Supplementary Benefits^{b/}</u>	
		<u>Wife's^{c/}</u>	<u>Child's</u>
Actual Data ^{d/}			
1957	\$ 873	--	--
1958	985	\$407	\$327
1959	1,068	433	371
1960	1,072	413	363
1961	1,075	397	350
1962	1,080	389	343
Low-Cost Assumptions			
1965	\$1,103	\$403	\$345
1980	1,144	428	367
2000	1,161	447	383
2050	1,163	449	385
High-Cost Assumptions			
1965	\$1,100	\$401	\$344
1980	1,132	426	365
2000	1,142	441	378
2050	1,139	442	379

a/ With respect only to beneficiaries who receive benefits from DI Trust Fund

b/ Payable to dependents of disabled-worker beneficiaries.

c/ Wife is either (1) aged 62 or over, or (2) with eligible child in her care.

d/ As of December (except 1958--November). Excluding effect of Railroad Retirement coverage under financial interchange provisions.

Table 17

ESTIMATED OASI BENEFIT PAYMENTS
(in millions)

Calendar Year	Monthly Benefits to the Aged				Monthly Benefits to Younger Persons		Lump-Sum Death Payments	Total Benefits
	Old-Age ^{a/}	Wife's ^{b/}	Widow's ^{c/}	Parent's	Child's	Mother's		
Actual Data ^{d/}								
1950	\$ 557	\$ 88	\$ 89	\$ 4	\$ 142	\$ 49	\$ 33	\$ 961
1951	1,135	175	156	9	271	82	57	1,885
1952	1,328	200	191	10	310	92	63	2,194
1953	1,884	275	248	12	385	114	88	3,006
1954	2,340	338	304	13	451	133	92	3,670
1955	3,253	466	396	16	561	163	113	4,968
1956	3,793	536	469	17	614	177	109	5,715
1957	4,888	756	653	19	694	198	139	7,347
1958	5,567	851	758	20	776	223	133	8,327
1959	6,548	982	921	25	931	263	171	9,842
1960	7,053	1,051	1,057	29	1,037	286	164	10,677
1961	7,802	1,124	1,232	31	1,186	316	171	11,862
1962	8,813	1,216	1,470	34	1,304	336	183	13,356
Low-Cost Assumptions								
1965	\$ 9,666	\$1,291	\$1,998	\$30	\$1,565	\$403	\$209	\$15,162
1980	15,605	1,629	3,554	33	2,272	584	321	23,998
2000	21,147	1,648	4,593	29	3,004	795	450	31,666
2050	49,033	2,940	9,058	47	3,470	881	953	66,382
High-Cost Assumptions								
1965	\$10,376	\$1,347	\$1,974	\$30	\$1,441	\$365	\$201	\$15,734
1980	18,575	1,735	3,180	32	1,496	364	307	25,689
2000	27,695	2,018	4,202	28	1,536	371	451	36,301
2050	49,061	2,705	6,224	31	1,674	368	765	60,828
Intermediate-Cost Assumptions								
1965	\$10,022	\$1,319	\$1,986	\$30	\$1,503	\$384	\$205	\$15,449
1980	17,090	1,682	3,367	32	1,884	474	314	24,843
2000	24,420	1,833	4,398	29	2,270	583	450	33,983
2050	49,046	2,822	7,641	39	2,572	624	859	63,603

a/ I.e., for retired workers.

b/ Including husband's and young wife's benefits.

c/ Including widower's benefits.

d/ Excluding effect of Railroad Retirement coverage under financial interchange provisions.

Note: Where persons are qualified both for old-age benefits and for other benefits, the full old-age benefit is assumed to be paid, with supplementary payment of the excess of the other benefit if larger, except that in 1955 and after some of such supplementary payments are included with old-age benefits.

Table 18

ESTIMATED DI BENEFIT PAYMENTS
(in millions)

<u>Calendar Year</u>	<u>Disabled Worker</u>	<u>Wife's^{a/}</u>	<u>Child's</u>	<u>Total Benefits</u>
Actual Data ^{b/}				
1957	\$ 57	--	--	\$ 57
1958	246	\$ 1	\$ 2	249
1959	391	29	38	457
1960	489	32	48	568
1961	724	54	109	887
1962	888	68	149	1,105
Low-Cost Assumptions				
1965	\$1,029	\$ 76	\$180	\$1,285
1980	1,401	98	240	1,739
2000	1,854	127	288	2,269
2050	3,634	204	365	4,203
High-Cost Assumptions				
1965	\$1,119	\$ 82	\$195	\$1,396
1980	1,699	107	218	2,024
2000	2,221	129	241	2,591
2050	2,965	154	270	3,389
Intermediate-Cost Assumptions				
1965	\$2,074	\$ 79	\$188	\$1,341
1980	1,550	102	229	1,881
2000	2,037	128	264	2,429
2050	3,299	179	318	3,796

a/ Wife is either (1) aged 62 or over, or (2) with eligible child in her care.

b/ Excluding effect of Railroad Retirement coverage under financial interchange provisions.

Table 19

ESTIMATED OASI BENEFIT PAYMENTS AS PERCENT OF TAXABLE PAYROLL^{a/}

Calendar Year	Monthly Benefits to the Aged				Monthly Benefits to Younger Persons		Lump-Sum Death Payments	Total Benefits
	Old-Age	Wife's	Widow's	Parent's	Child's	Mother's		
	Actual Data ^{c/}							
1950	.65%	.10%	.10%	.01%	.16%	.06%	.04%	1.10%
1951	.97	.15	.13	.01	.23	.07	.05	1.61
1952	1.06	.16	.15	.01	.25	.07	.06	1.76
1953	1.43	.21	.19	.01	.29	.09	.07	2.28
1954	1.81	.26	.23	.01	.35	.10	.07	2.83
1955	2.13	.31	.26	.01	.37	.11	.07	3.26
1956	2.31	.33	.29	.01	.37	.11	.07	3.48
1957	2.79	.43	.37	.01	.40	.11	.08	4.20
1958	3.19	.49	.43	.01	.44	.13	.08	4.77
1959	3.35	.50	.47	.01	.48	.13	.09	5.03
1960	3.51	.52	.53	.01	.52	.14	.08	5.32
1961	3.84	.55	.61	.02	.58	.16	.08	5.84
1962	4.15	.57	.69	.02	.61	.16	.09	6.30
	Low-Cost Assumptions							
1965	4.11%	.55%	.85%	.01%	.67%	.17%	.09%	6.45%
1970	4.46	.54	.98	.01	.71	.18	.10	6.98
1980	5.01	.52	1.14	.01	.73	.19	.10	7.70
1990	5.26	.47	1.17	.01	.74	.19	.10	7.95
2000	4.80	.37	1.04	.01	.68	.18	.10	7.19
2050	7.42	.45	1.37	.01	.53	.13	.14	10.04
Level-Cost ^{b/}	5.19	.45	1.08	.01	.67	.17	.11	7.67
	High-Cost Assumptions							
1965	4.47%	.58%	.85%	.01%	.62%	.16%	.09%	6.78%
1970	5.08	.58	.95	.01	.59	.15	.09	7.45
1980	6.35	.59	1.09	.01	.51	.12	.11	8.78
1990	7.54	.62	1.20	.01	.49	.12	.12	10.10
2000	7.64	.57	1.16	.01	.42	.10	.12	10.01
2050	11.82	.65	1.50	.01	.40	.09	.18	14.66
Level-Cost ^{b/}	7.60	.58	1.16	.01	.48	.12	.12	10.07
	Intermediate-Cost Assumptions							
1965	4.29%	.57%	.85%	.01%	.64%	.16%	.09%	6.61%
1970	4.77	.56	.96	.01	.65	.17	.10	7.21
1980	5.65	.56	1.11	.01	.62	.16	.10	8.22
1990	6.32	.54	1.19	.01	.62	.16	.11	8.95
2000	6.08	.46	1.10	.01	.57	.15	.11	8.47
2050	9.11	.52	1.42	.01	.48	.12	.16	11.82
Level-Cost ^{b/}	6.25	.51	1.11	.01	.58	.15	.11	8.72

a/ Taking into account lower contribution rate for self-employed as compared with employer-employee rate.

b/ Level contribution rate for benefit payments after 1963 and in perpetuity, not taking into account accumulated funds through 1963 or administrative expenses (see Table 21). These level-cost rates assume benefits and payrolls remain level after the year 2050.

c/ Excluding effect of Railroad Retirement coverage under financial interchange provisions.

Table 20

ESTIMATED DI BENEFIT PAYMENTS AS PERCENT
OF TAXABLE PAYROLL^{a/}

<u>Calendar Year</u>	<u>Disabled Worker</u>	<u>Wife's</u>	<u>Child's</u>	<u>Total Benefits</u>
Actual Data ^{c/}				
1957	.03%	--	--	.03%
1958	.14	.00%	.00%	.14
1959	.20	.01	.02	.23
1960	.24	.02	.02	.28
1961	.36	.03	.05	.44
1962	.42	.03	.07	.52
Low-Cost Assumptions				
1965	.44%	.03%	.08%	.55%
1970	.46	.03	.08	.57
1980	.45	.03	.08	.56
1990	.42	.03	.07	.52
2000	.42	.03	.07	.52
2050	.55	.03	.06	.64
Level-Cost ^{b/}	.46	.03	.07	.56
High-Cost Assumptions				
1965	.48%	.04%	.08%	.60%
1970	.55	.04	.09	.68
1980	.58	.04	.07	.69
1990	.59	.04	.07	.69
2000	.61	.04	.07	.71
2050	.71	.04	.07	.82
Level-Cost ^{b/}	.61	.04	.07	.72
Intermediate-Cost Assumptions				
1965	.46%	.03%	.08%	.57%
1970	.50	.04	.09	.62
1980	.51	.03	.08	.62
1990	.50	.03	.07	.60
2000	.51	.03	.07	.61
2050	.61	.03	.06	.71
Level-Cost ^{b/}	.53	.03	.07	.63

a/ Taking into account lower contribution rate for self-employed as compared with employer-employee rate.

b/ Level contribution rate for benefit payments after 1963 and in perpetuity, not taking into account accumulated funds through 1963 or administrative expenses (see Table 21). These level-cost rates assume benefits and payrolls remain level after the year 2050.

c/ Excluding effect of Railroad Retirement coverage under financial interchange provisions.

Table 21

ANALYSIS OF ESTIMATED LEVEL-COST (AS OF JANUARY 1, 1964)
OF OASDI SYSTEM AS PERCENT OF TAXABLE PAYROLL^{a/}

Level Equivalent of	Estimate		
	Low-Cost	High-Cost	Intermediate-Cost
OASI System			
Benefit Payments	7.67%	10.07%	8.72%
Administrative Expenses	.13	.17	.14
Railroad Interchange	.03	.05	.04
Military Credits	- .02	- .01	- .01
Interest on 1963 Trust Fund ^{b/}	- .18	- .18	- .18
Net Cost ^{c/}	7.63	10.09	8.71
Contributions ^{d/}	8.61	8.61	8.61
Actuarial Balance ^{e/}	.98	- 1.48	- .10
DI System			
Benefit Payments	.56%	.72%	.63%
Administrative Expenses	.03	.04	.03
Railroad Interchange	.00	.00	.00
Military Credits	- .00	- .00	- .00
Interest on 1963 Trust Fund ^{b/}	- .02	- .02	- .02
Net Cost ^{c/}	.57	.74	.64
Contributions ^{d/}	.50	.50	.50
Actuarial Balance ^{e/}	- .07	- .24	- .14

- a/ Effective taxable payroll (adjusted to take into account that the self-employed pay approximately $\frac{3}{4}$ of the combined employer-employee tax rate).
- b/ Interest on Trust Fund existing at end of 1963 as earned in future years (in percent of effective taxable payroll).
- c/ Level-equivalent of benefit payments, plus administrative expenses, less interest on existing Fund at end of 1963 and including effect of the Railroad Retirement interchange and reimbursement from the general treasury of the additional cost for noncontributory wage credits for military service.
- d/ Level contribution rate for employer and employee combined equivalent to the graded rates in the 1961 Act (assuming that the self-employed pay approximately $\frac{3}{4}$ as much).
- e/ A negative figure indicates the extent of lack of actuarial sufficiency.

Table 22

ESTIMATED PROGRESS OF OASI TRUST FUND
(in millions)

<u>Calendar Year</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Administrative Expenses</u>	<u>Railroad Retirement Financial Interchange^{b/}</u>	<u>Interest on Fund</u>	<u>Fund at End of Year</u>
Actual Data						
1949	\$ 1,670	\$ 667	\$ 54	--	\$ 146	\$ 11,816
1950	2,671	961	61	--	257	13,721
1951	3,367	1,885	81	--	417	15,540
1952	3,819	2,194	88	--	365	17,442
1953	3,945	3,006	88	--	414	18,707
1954	5,163	3,670	92	\$ 21	447	20,576
1955	5,713	4,968	119	7	454	21,663
1956	6,172	5,715	132	5	526	22,519
1957	6,825	7,347	162	2	556	22,393
1958	7,566	8,327	194	- 124	552	21,864
1959	8,052	9,842	184	- 282	532	20,141
1960	10,866	10,677	203	- 318	516	20,324
1961	11,285	11,862	239	- 332	548	19,725
1962	12,059	13,356	256	- 361	526	18,337
Low-Cost Assumptions						
1970	\$22,764	\$18,125	\$323	-\$385	\$ 1,248	\$ 40,269
1980	27,340	23,998	398	- 115	3,378	97,409
1990	32,354	29,330	469	30	6,023	170,867
2000	38,575	31,666	515	80	10,549	298,251
2025	51,374	47,268	731	110	38,272	1,065,318
2050	57,856	66,382	955	110	84,233	2,591,671
High-Cost Assumptions						
1970	\$22,241	\$18,875	\$374	-\$445	\$ 929	\$ 31,823
1980	25,677	25,689	464	- 185	1,711	55,097
1990	28,324	32,621	550	- 50	1,249	40,491
2000	31,805	36,301	603	0	c/	c/
Intermediate-Cost Assumptions						
1970	\$22,502	\$18,499	\$348	-\$415	\$ 1,061	\$ 35,984
1980	26,508	24,843	431	- 150	2,448	75,507
1990	30,339	30,974	510	- 10	3,410	103,363
2000	35,190	33,983	559	40	4,562	138,633
2025	43,664	50,246	769	70	10,236	304,076
2050	47,088	63,603	924	70	8,485	248,589

a/ Includes reimbursement for additional cost of noncontributory wage credits for military service.

b/ A positive figure indicates payment to the Trust Fund from the Railroad Retirement Account, and a negative figure indicates the reverse.

c/ Fund exhausted in 1999.

Table 23

ESTIMATED PROGRESS OF DI TRUST FUND
(in millions)

<u>Calendar Year</u>	<u>Contributions</u> ^{a/}	<u>Benefit Payments</u>	<u>Administrative Expenses</u>	<u>Railroad Retirement Financial Interchange</u> ^{b/}	<u>Interest on Fund</u>	<u>Fund at End of Year</u>
Actual Data						
1957	\$ 702	\$ 57	\$ 3	--	\$ 7	\$ 649
1958	966	249	12	--	25	1,379
1959	891	457	50	\$21	41	1,825
1960	1,010	568	36	5	53	2,289
1961	1,038	887	64	- 5	66	2,437
1962	1,046	1,105	66	-11	67	2,368
Low-Cost Assumptions						
1970	\$1,304	\$1,467	\$ 90	-\$17	\$30	\$ 969
1980	1,565	1,739	94	2	c/	c/
High-Cost Assumptions						
1970	\$1,271	\$1,733	\$110	-\$23	d/	d/
Intermediate-Cost Assumptions						
1970	\$1,288	\$1,601	\$100	-\$20	\$ 6	\$ 127
1980	1,516	1,881	105	- 3	e/	e/

a/ Includes reimbursement for additional cost of noncontributory credits for military service.

b/ A positive figure indicates payment to the Trust Fund from the Railroad Retirement Account, and a negative figure indicates the reverse.

c/ Fund exhausted in 1974.

d/ Fund exhausted in 1969.

e/ Fund exhausted in 1971.

Table 24

COMPARISON OF ESTIMATES OF LONG-RANGE COSTS OF OASI SYSTEM
AS PERCENTAGE OF TAXABLE PAYROLL FOR VARIOUS ACTS

Act	Actuarial Study No.	Employment Assumption	Benefit Cost in Year					
			1955	1960	1970	1980	2000	2050
Low-Cost Assumptions								
1935	12	a/	2.81%	4.18%	6.38%	9.35%		
1939	14	a/	4.46	5.36 ^{c/}	6.33 ^{c/}	7.22 ^{c/}		
1939	17	a/	2.58 ^{c/}	3.35	4.71	6.13	7.55%	
1939	19	a/	2.51	3.45	5.19	7.29	8.98	
1939	23	Low	2.54	3.20	4.14	5.13	5.87	
1939	23	High	1.36	1.81	2.63	3.41	4.28	
1950	b/	a/	2.21	2.83	4.00	4.93	5.80	
1952	b/	a/	2.14	2.87	4.03	4.93	5.77	
1952	36	Low	3.31	4.41	5.57	6.57	6.99	7.63%
1952	36	High	2.80	3.76	4.85	5.86	6.29	6.88
1954	39	a/	2.78 ^{a/}	4.04	5.57	6.79	7.24	7.89
1956	48	a/	3.26 ^{a/}	4.72	6.27	7.16	6.74	9.62
1958	b/	a/	3.26 ^{a/}	5.04 ^{c/}	6.47	7.46	7.06	10.08
1960	b/	a/	3.26 ^{a/}	5.32 ^{a/}	6.69	7.75	6.94	9.90
1961	b/	a/	3.26 ^{a/}	5.32 ^{a/}	7.03	7.78	7.15	10.19
1961	58	a/	3.26 ^{a/}	5.32 ^{a/}	6.98	7.70	7.19	10.04
High-Cost Assumptions								
1935	12	a/	3.46%	5.13%	8.41%	13.36%		
1939	14	a/	5.45	6.72 ^{c/}	8.54 ^{c/}	10.60 ^{c/}		
1939	17	a/	3.70 ^{c/}	4.75	6.77	9.55	12.66%	
1939	19	a/	2.14	3.00	4.68	6.94	10.64	
1939	23	Low	3.12	3.85	5.35	7.37	10.76	
1939	23	High	1.95	2.55	3.77	5.32	8.31	
1950	b/	a/	2.69	3.74	5.34	7.14	10.20	
1952	b/	a/	2.45	3.74	5.33	7.08	10.08	
1952	36	Low	3.76	4.97	6.27	7.58	9.33	12.07%
1952	36	High	3.29	4.44	5.66	6.95	8.42	10.93
1954	39	a/	3.10 ^{a/}	4.63	6.39	7.90	9.31	11.92
1956	48	a/	3.26 ^{a/}	4.95	6.62	8.15	9.61	14.39
1958	b/	a/	3.26 ^{a/}	5.29 ^{c/}	6.84	8.49	10.06	15.09
1960	b/	a/	3.26 ^{a/}	5.32 ^{a/}	7.02	8.57	9.89	14.85
1961	b/	a/	3.26 ^{a/}	5.32 ^{a/}	7.37	8.78	10.12	15.18
1961	58	a/	3.26 ^{a/}	5.32 ^{a/}	7.45	8.78	10.01	14.66

a/ Only one employment assumption was made.

b/ Prepared at time of enactment.

c/ Not shown in Actuarial Study; taken from worksheets.

d/ Actual experience.

Table 25

COMPARISON OF ESTIMATES OF LONG-RANGE COSTS OF DI SYSTEM
AS PERCENTAGE OF TAXABLE PAYROLL FOR VARIOUS ACTS

<u>Act</u>	<u>Actuarial Study No.</u>	<u>Benefit Cost in Year</u>				
		<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>2000</u>	<u>2050</u>
Low-Cost Assumptions						
1956	48	.14%	.22%	.22%	.22%	.31%
1958	a/	.20b/	.32	.36	.30	.43
1960	a/	.28c/	.40	.41	.39	.49
1961	a/	.28c/	.40	.41	.39	.49
1961	58	.28c/	.57	.56	.52	.64
High-Cost Assumptions						
1956	48	.23%	.45%	.48%	.50%	.64%
1958	a/	.33b/	.63	.72	.68	.87
1960	a/	.28c/	.65	.72	.74	.85
1961	a/	.28c/	.65	.72	.74	.85
1961	58	.28c/	.68	.69	.71	.82

a/ Prepared at time of enactment.

b/ Not shown in Actuarial Study; taken from worksheets.

c/ Actual experience.

Actuarial Studies Available from the Division of the Actuary*

10. Various Methods of Financing Old-Age Pension Plans--September 1938.
14. An Analysis of the Benefits and Costs under Title II of the Social Security Act Amendments of 1939--December 1941.
19. OASI 1943-44 Cost Studies--May 1944.
21. Analysis of Long-Range Cost Factors--September 1946.
32. Analysis of 346 Group Annuities Underwritten in 1946-50--October 1952.
34. Analysis of the Benefits under the OASI Program as Amended in 1952--December 1952.
37. Estimated Amount of Life Insurance in Force as Survivor Benefits under Social Security Act Amendments of 1952--August 1953.
38. Long-Range Cost Estimates for Changes Proposed in the OASI System by H.R. 7199, with Supplementary Estimates for Universal Coverage--March 1954.
40. The Financial Principle of Self-Support in the OASI System--April 1955.
41. Analysis of Benefits, OASI Program, 1954 Amendments-- May 1955.
43. Estimated Amount of Life Insurance in Force as Survivor Benefits under OASI--1955--September 1955.
44. Analysis of 157 Group Annuity Plans Amended in 1950-54--July 1956.
45. Present Values of OASI Benefits in Current Payment Status 1940-56 --May 1957.
46. Illustrative United States Population Projections--May 1957.
47. Estimated Amount of Life Insurance in Force as Survivor Benefits under OASI--1957--July 1958.
48. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance under 1956 Amendments--August 1958.

* Numbers not listed are out of print.

49. Methodology Involved in Developing Long-Range Cost Estimates for the Old-Age, Survivors, and Disability Insurance System--May 1959.
50. Analysis of Benefits, OASDI Program, 1960 Amendments--December 1960.
51. Present Values of OASI Benefits in Current Payment Status, 1960 -- February 1961.
52. Actuarial Cost Estimates for Health Insurance Benefits Bill-- July 1961.
53. Medium-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance and Increasing-Earnings Assumption--August 1961.
54. Estimated Amount of Life Insurance in Force as Survivor Benefits under OASI 1959-60--October 1961.
55. Remarriage Tables Based on Experience under OASDI and U.S. Employees' Compensation Systems--December 1962.
56. Analysis of Benefits under 26 Selected Private Pension Plans-- January 1963.
57. Actuarial Cost Estimates for Hospital Insurance Bill--July 1963.
58. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance System, 1963--January 1964.