Medium-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance under Increasing-Earnings Assumption

by Robert J. Myers

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This study has been issued by the Division of the Actuary under authority delegated by the Commissioner of Social Security. It is designed for the use of the staff of the Social Security Administration and for limited circulation to other persons in administration, insurance, and research concerned with the subject treated.

FOREWORD

This is the first Actuarial Study presenting medium-range cost estimates for the Old-Age, Survivors, and Disability Insurance program on the basis of dynamic economic conditions.

Long-range cost estimates on the basis of static economic conditions have been presented in various Actuarial Studies, in actuarial cost reports prepared for Congress in connection with proposed and enacted legislation, and in the Annual Reports of the Board of Trustees. The long-range cost estimates (for many decades into the future) encompass demographic developments; however, for reasons given in Actuarial Study No. 49 (page 8) and in the 21st Trustees Report (H. Doc. No. 60, 87th Cong., page 32), they do not reflect changes in such economic factors as general business conditions and earning levels. Short-range estimates for 5 years, on the basis of dynamic economic conditions, have also been developed to supplement the long-range estimates.

The 1957-58 Advisory Council on Social Security Financing suggested that a third type of actuarial cost estimates be included in the Trustees Report--namely, medium-range cost estimates for the next 15 to 20 years (19th Trustees Report, H. Doc. No. 181, 86th Cong., pages 66-67). It was suggested that these estimates should take into account possible variations both in economic factors, such as earnings and employment levels, and in demographic developments.

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MEDIUM-RANGE COST ESTIMATES FOR OLD-AGE, SURVIVORS, AND DISBILITY INSURANCE UNDER INCREASING-EARNINGS ASSUMPTION

A. Introduction

This Actuarial Study presents two sets of medium-range cost estimates, for the period 1960-80, for the Old-Age, Survivors, and Disability Insurance system as it existed after enactment of the 1960 Amendments. The first set, included in part in the 21st Trustees Report, is based on the assumption that the law remains unchanged in the period under consideration. The second set is based on the assumption that the law is continuously modified to reflect the assumed changes in earnings, with the maximum taxable (and creditable) earnings base rising proportionally. As a result, benefit costs (expressed as a percentage of taxable payroll) remain the same in each future year as in the level-earnings long-range cost estimates.

Throughout this Study, terms such as "the law," "the 1960 Act," and "the 1960 Amendments" refer to the OASDI system as it existed before enactment of the 1961 Amendments. The program so defined is the basis of the first set of estimates, while the second set assumes the indicated modification of the 1960 Act.

In addition, the Study contains a high-cost estimate based on the assumption that the law remains unchanged through 1980. The purpose of its inclusion is to indicate the situation arising from the "safety factor" of a possibly rising earnings trend even under adverse demographic conditions interpreted broadly to include such factors as retirement rates, as well as fertility and mortality rates).

The cost estimates, except for the economic assumptions, correspond to those developed for the 1960 Amendments and presented in the actuarial cost report of September 1960[1] but contain differences arising out of the increasing-earnings assumption.

Medium-range cost estimates based on the program after enactment of the 1961 Amendments are contained in the actuarial cost report of July 10, 1961[2] and will be included in the 22nd Trustees Report, to be published in the spring of 1962. Development of the estimates will be deferred until the latest practicable moment so that the underlying economic assumptions may reflect the results of continuing analyses of current trends.

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[1] "Actuarial Cost Estimates and Summary of Provisions of the OASDI System as Modified by the Social Security Amendments of 1960," by Robert J. Myers, prepared for the House Ways and Means Committee.

[2] "Actuarial Cost Estimates and Summary of Provisions of the OASDI System as Modified by the Social Security Amendments of 1961," by Robert J. Myers, prepared for the House Ways and Means Committee.

B. Basic Assumptions

Throughout the cost estimates the assumptions have been selected so as to be consistent with actual operating data and with each other, and at the same time represent reasonable estimates under the law. While separate long-range cost estimates are developed to encompass both high-cost and low-cost demographic factors, it is believed that for medium-range estimates the demographic factors involved can be reasonably closely forecast. Because a single set of economic assumptions has also been selected, it is possible to confine development of these medium-range estimates to intermediate-cost estimates, avoiding a confusing multiplicity of figures. However, in order to determine whether the OASI Trust Fund remains adequate under increasing-earnings assumptions with the use of high-cost demographic factors, a corresponding high-cost estimate is also presented.

High-employment assumptions are used for the entire future period.[3] Within high-employment assumptions, intermediate-cost and high-cost factors as to demographic factors such as fertility, mortality, retirement, and remarriage rates are used in the intermediate-cost and high-cost estimates, respectively. Business cycle conditions of the postwar type are taken into consideration, but their effect is averaged out in the trend projected for the 1960-80 period.

Over the period covered by the estimates, many changes will undoubtedly be made in the law. In particular, if earnings levels rise, changes may be made in benefit levels. This Study, therefore, includes a set of intermediate-cost estimates for the situation that would result if the maximum taxable earnings base were modified to keep pace with rising earnings, so as to bear the same relationship to average earnings as $4,800 did in 1959. Contributions on this basis then, of course, increase at the same rate as do the assumed earnings. It is assumed that the benefit provisions will be liberalized so that, in conjunction with the larger creditable earnings from the higher earnings base, the benefit disbursements in a particular year will represent the same percentage of taxable payroll as in the long-range cost estimates for the 1960 Act for that year.

The following discussion relates primarily to the development of the intermediate-cost estimates. The high-cost estimates for OASI under the increasing-earnings assumption are obtained by assuming the same percentage increase over the intermediate-cost level-earnings estimates as is present in the high-cost level-earnings estimates compared with the intermediate-cost level-earnings estimates.

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[3] For a detailed description of the economic assumptions used in the medium-range projections, see "Economic Assumptions Underlying the Medium-Range Projections of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, 1966-75," Social Security Administration, Division of Program Research, August 1961.

C. Development of Intermediate-Cost Estimates

To reflect the increasing-earnings assumption, a compound annual increase of 4% in the total earnings of each covered worker is used for the period 1959-64. A compound annual increase of 3% is assumed for 1965-80. If the maximum earnings base remains unchanged at $4,800 and total earnings rise at these rates, then average covered earnings (on which contributions and benefits are based) will rise to a lesser extent because of the dampening effect of the fixed base, as illustrated in Table 1. In 1959, about 80.7% ($2,769/$3,431) of the total earnings of covered individuals was taxable. Under the assumptions made, this proportion will drop to 53% by 1980 if the earnings base remains unchanged.

The data shown in Table 1 are based on the estimated distribution of civilian wage and salary workers in 1959, by interval of covered earnings. Corresponding data for total covered employment are not available, but should differ little (and in any event would have little effect in analysis on a relative basis). A uniform distribution within each wage group is assumed (actual data indicate that this is a reasonable hypothesis) so that the average wage for the group is at the midpoint of the group interval. Likewise, in future years, the assumed compound annual increases in earnings are applied uniformly to all groups. In the data for the average wage with a $4,800 maximum, when the increases applied bring the upper--but not the lower--limit of a group above $4,800, the average wage is computed by considering that the proportion of the group above $4,800 have exactly $4,800 of creditable earnings, and the remainder have average earnings midway between the lower limit of the group and $4,800.

Table 2 presents the trend of the ratio of the estimated future average wage to the 1959 average, under a $4,800 taxable earnings base and under a variable taxable earnings base. The ratios are determined from the data in Table 1. By applying these ratios (average wage under the assumption of annual increases to the 1959 average wage) to the estimated future payrolls based on the level-earnings assumption (using the estimates for the 1960 Amendments as a base), there are obtained the estimated payrolls under the increasing-earnings assumption. The ratios are adjusted slightly, however, in order that the 1960-65 estimates under the $4,800 base correspond to the short-range estimates that were developed for the 1960 Act. These short-range estimates, it should be noted, were developed on the assumption of a gradual rise in the future earnings level paralleling that which has occurred in the past few years.

Other assumptions taken into consideration in projecting the payroll are high employment (close to full employment), and the future participation of women in the covered labor force to an increasing extent, while males continue to participate at current levels. It is also assumed that the mortality rates applicable to the covered population will continue to decline throughout the period of the estimate.

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Contributions under the increasing-earnings assumption for each year are assumed to increase over those under the level-earnings-assumption estimate in about the same ratio as is the case for the taxable payroll estimates (slightly less to allow for lag in collection). Again, the final results are adjusted in order that the 1960-65 estimates on the basis of a fixed $4,800 earnings base correspond to the short-range estimates for the 1960 Act.

Table 3 shows the estimated contributions under the increasing-earnings assumption for the intermediate-cost estimate. For purposes of comparison, the estimated contributions under the level-earnings assumption, presented in the cost report for the 1960 Act, are also shown. Under the increasing-earnings assumption, the OASI contributions in 1980 for a fixed $4,800 maximum taxable base are 26% higher than under the level-earnings assumption. The medium-range estimate assuming modification of the law, so that the maximum taxable earnings base increases proportionately with earnings, shows contributions 51% higher than if the base is fixed at $4,800. Under the increasing-earnings estimate, the DI contributions rise relative to the level-earnings estimate in a similar manner.

In computing the estimated benefit payments under the basis of rising earnings and a fixed $4,800 maximum earnings base, the "adjustment" factors used to estimate payrolls and contributions cannot properly be applied to the estimated benefit disbursements under the level-earnings assumption because of the weighted nature of the benefit formula and other factors by which benefits are determined. It is naturally assumed that total benefits paid in a year are not merely awards of that year, but include also the benefits awarded in preceding years that are still in force.

The estimated benefit payments in future years under the level-earnings assumption are distributed according to year of award after 1960, with awards of 1960 and before grouped. Projecting the OASI benefit disbursements is done by projecting the beneficiaries on the 1960 roll and the awards in later years to 1980 using, from the U.S. White males Life Table for 1949-51, an average age of 70 for those on the roll in 1960 and 67 for the later awards. Age 70 was chosen since the average annuity factor (for the value at 3% interest of a benefit of $1 per year) for all monthly benefits in current payment status at the end of 1960 was $8.22;[4] this corresponds to $\bar{a}_{70}$ (to the nearest integral age) in the life table mentioned. Age 67 is chosen for the awards of succeeding years to reflect the younger age of the entrants in those years. For corresponding projections of the DI benefit disbursements, German social-insurance select termination rates are used for awards after 1960, and aggregate population mortality rates producing an average duration of disability-benefit receipt of 4 years is used for the 1960 roll.

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[4] This value is based on separate male and female mortality, according to the U.S. White Life Tables for 1949-51, and is derived from Tables 1 and 2 of Actuarial Study No. 51, (namely, 88,704 minus 1,193 divided by 12 times 887.198).

The "adjustment" factors applied to the benefits awarded in a year (and to the projection thereof) take into consideration both the assumed annual increases in the earnings underlying the benefits for each year of award and the number of computation years to be used in the benefit formula for retirees in the year. To take care of the first item (assumed compound annual rises in the earnings that increase the benefits awarded in a year), the ratio of average earnings in the year to the 1959 average is used as a base. The number of computation years are determined in accordance with the "new start" method for retirees in each year, with the assumption that retirement occurs on the average at age 67. The earnings ratios for the number of computation years corresponding to the year of retirement are then averaged to obtain the factor for that year. However, since the factor still refers to earnings, it is converted to one that can apply to benefits by using a multiplying factor of .6 (for a 10% increase in the average monthly wage, on the average there is an increase of 6% in the primary insurance amount obtained by the "new start" method). The resulting factors are applied to the benefits awarded in each year and to their projection. Then, the total estimated benefit disbursements in each year under the increasing-earnings assumption are obtained by combining the adjusted data for awards of the given year and of previous years projected to this year.

Table 4 summarizes the estimated benefit payments under the increasing-earnings assumption for the intermediate-cost estimate. The OASI benefit payments under a fixed $4,800 earnings base rise from the level of about $10.7 billion in 1960 to $23.6 billion in 1980. Under a variable earnings base, the corresponding figures are $11.2 billion in 1960 to $42.1 billion in 1980. The DI benefit payments under a fixed $4,800 earnings base increase from $570 million in 1960 to $1.7 billion in 1980, while under a variable earnings base the rise is from $590 million in 1960 to $2.9 billion in 1980.

The OASI benefit disbursements in 1980 under the medium-range, increasing-earnings estimates with a fixed $4,800 maximum earnings base are only 7% higher than those in the long-range, level-earnings cost estimates. Since this rise is considerably smaller than that for contributions, the actuarial balance of the OASI system would be materially improved under the conditions assumed in the medium-range estimates. It is improbable, however, that under such conditions there would be no legislation liberalizing the benefits.

An element affecting costs arose through amendments to the Railroad Retirement Act in 1951, which provide for coordination of Railroad Retirement compensation and OASDI covered earnings in determining benefits. Not only are all retirement and survivor benefits in cases involving less than 10 years of railroad service paid by the OASDI system, but also, under financial interchange provisions, the OASDI Trust Funds are each to be placed in the financial position that would have resulted if railroad employment had always been covered under OASDI. It is estimated that the effect of these provisions will be a relatively small net loss to the OASDI system since reimbursements from the Railroad Retirement system will be smaller than the additional benefits paid on the basis of railroad earnings. The medium-range cost estimates assume that, for financial interchange purposes, all railroad employment is covered employment.

In projecting the Trust Funds it is essential to consider the relatively small item of administrative costs, which in the long run has a significant cumulative effect. The administrative expenses under the increasing-earnings assumption, for both assumptions as to the maximum taxable earnings base, are obtained by applying the final ratios used in estimating the payrolls to the administrative-expense estimates on the level-earnings basis, with adjustments such that the 1960-65 data correspond to the short-range estimates for the 1960 Act. Table 5 shows the resulting estimates. For a particular increasing-earnings assumption, the expenses would not change significantly for different assumptions as to the taxable earnings base. It is true that administrative expenses would be somewhat higher if the earnings base and the benefit provisions were frequently changed than if the law remained unaltered, but the resulting increases would not be large as compared with total disbursements of the system.

Table 6 presents the estimated progress of the OASDI Trust Funds under increasing-earnings assumptions for the intermediate-cost estimate, based on retention of all provisions of the 1960 law. The interest rate used in developing the progress of the Trust Funds is based on (a) the distribution of the investments in September 1960 (just before the new basis of the 1960 Amendments became effective for new issues), which were at $2\frac{1}{2}\%$ and 2-5/8%, with maturities spread at roughly equal intervals over the next 15 years, (b) an assumed rate for new issues beginning at about 4% and decreasing to 3.1% after 1975, and (c) an uninvested balance equal to 10% of annual benefit disbursements.

The OASI Trust Fund grows steadily through the period up to 1980--reaching about $129 billion in 1980. The DI Trust Fund also increases steadily and is $5.3 billion in 1980.

Table 7 shows the progress of the Trust Funds under the same assumptions except that the maximum taxable base is variable; it is assumed to increase in the same proportion as earnings rise relative to the 1959 level, and the benefits are assumed to be liberalized proportionately. Here, the OASI Trust Fund also increases steadily until it reaches $106 billion in 1980. The DI Trust Fund also rises, reaching its peak in 1969 at $3.5 billion, after which it decreases gradually to $1.2 billion in 1980. This occurs because, under the assumptions made, benefit payments will increase more rapidly than contributions, which are scheduled at a level rate (a combined employer-employee rate of $\frac{1}{2}\%$ of payroll in all future years). For OASI, the rates as scheduled in the 1960 Act increase until 1969, as follows (note that these have been changed by the 1961 Amendments):

Years	Tax Rate
1960-62	$5\frac{1}{2}\%$
1963-65	$6\frac{1}{2}$
1966-68	$7\frac{1}{2}$
1969 and after	$8\frac{1}{2}$

Table 8 presents, for comparison, the estimated progress of the OASI Trust Fund under the high-cost estimate on the assumption that, despite increasing earnings levels, the provisions of the 1960 law remain unchanged. The Trust Fund increases steadily to $110 billion in 1980.

D. Comparison of OASI Intermediate-Cost and High-Cost Estimates

Table 9 presents a comparison of the estimated OASI benefit cost relative to taxable payroll for quinquennial years from 1960 to 1980, under the $4,800 maximum taxable earnings base and under both level-earnings and increasing-earnings assumptions for both intermediate-cost and high-cost estimates. The benefit cost under each of these assumptions for each year is less than the OASI contribution rate scheduled under the 1960 Act, except for the high-cost level-earnings estimate in 1980, when there is a small excess. The benefit payments relative to payroll under the increasing-earnings assumptions are less throughout the period than those under the level-earnings assumptions.

Table 10 shows the estimated balance in the OASI Trust Fund, at the end of 1970, 1975, and 1980, under the provisions of the 1960 Act. Throughout the period considered, the Trust Fund grows steadily under both cost assumptions, although, of course, more slowly under the high-cost assumption. The Trust Fund under the increasing-earnings assumption naturally exceeds that under the level-earnings assumption.

The assumption of steadily rising earnings in conjunction with an unamended benefit formula would have an important bearing on the long-range cost of the program. Under such an assumption of a future rise in earnings, contributions (at a fixed percentage of creditable earnings) would increase steadily relative to benefit disbursements; but the average benefit paid would diminish steadily relative to current earnings levels. In such a case, offsetting this apparent savings in cost, it is unlikely that the benefit formula would stand unchanged. Rather, Congress would probably act to maintain benefits so that they would be adequate relative to the then-existing earnings level.

The possibility that a rise in earnings levels will produce lower costs of the program in relation to payroll is an important "safety factor" in its financial operations. The financing is based essentially on the intermediate-cost estimate with the assumption of level earnings; if experience follows the high-cost assumptions, additional financing will be necessary. However, if covered earnings increase in the future as they have in the past, the resulting reduction in the cost of the program (expressed as a percentage of taxable payroll) will more than offset the higher cost arising under experience following the high-cost estimate. If the latter conditions prevail, the reduction in the relative cost of the program due to rising-earnings levels can be used to maintain the actuarial soundness of the system, and any remaining savings can be used to adjust benefits upward (though not to the full extent of the increase in the earnings level).

Table 1

AVERAGE ANNUAL EARNINGS UNDER INCREASING-EARNINGS ASSUMPTION

Group	Distri-bution[1/]	Average Total Earnings in Group					Average Creditable Earnings in Group ($4,800 Maximum)				
		1959	1964	1970	1975	1980	1959	1964	1970	1975	1980
$0-$599	17.0%	$300	$365	$436	$505	$585	$300	$365	$436	$505	$585
600-1199	10.0	900	1,095	1,307	1,515	1,756	900	1,095	1,307	1,515	1,756
1200-1799	8.0	1,500	1,825	2,179	2,526	2,928	1,500	1,825	2,179	2,526	2,928
1800-2399	8.0	2,100	2,555	3,051	3,537	4,100	2,100	2,555	3,051	3,537	4,100
2400-2999	8.0	2,700	3,285	3,922	4,547	5,271	2,700	3,285	3,922	4,516	4,794
3000-3599	9.0	3,300	4,015	4,794	5,558	6,443	3,300	4,015	4,688	4,800	4,800
3600-4199	8.0	3,900	4,745	5,666	6,568	7,614	3,900	4,679	4,800	4,800	4,800
4200-4799	7.0	4,500	5,475	6,537	7,578	8,785	4,500	4,800	4,800	4,800	4,800
4800-5399	7.0	5,100	6,205	7,409	8,589	9,957	4,800	4,800	4,800	4,800	4,800
5400-5999	5.0	5,700	6,935	8,281	9,600	11,129	4,800	4,800	4,800	4,800	4,800
6000-6599	4.0	6,300	7,665	9,152	10,610	12,300	4,800	4,800	4,800	4,800	4,800
6600-7199	2.0	6,900	8,395	10,024	11,621	13,472	4,800	4,800	4,800	4,800	4,800
7200-7799	2.0	7,500	9,125	10,896	12,631	14,643	4,800	4,800	4,800	4,800	4,800
7800-8399	1.0	8,100	9,855	11,767	13,641	15,814	4,800	4,800	4,800	4,800	4,800
8400-8999	1.0	8,700	10,585	12,639	14,652	16,986	4,800	4,800	4,800	4,800	4,800
9000 and over	3.0	17,067	20,765	24,794	28,743	33,321	4,800	4,800	4,800	4,800	4,800
Average		3,431	4,174	4,984	5,778	6,698	2,769	3,056	3,279	3,436	3,573
% of 1959 Average		100.0	121.7	145.3	168.4	195.2	100.0	110.4	118:4	124.1	129.0

1/ Based on percentage distribution of 1959 civilian wage earners.

Table 2

TAXABLE PAYROLL UNDER INCREASING-EARNINGS ASSUMPTION, INTERMEDIATE-COST ESTIMATE

| | Ratio of Average Earnings to 1959 Average | | | | Taxable Payroll (in millions) | | |
| | Before Adjustment | | After Adjustment | | | Increasing Earnings | |
Calendar Year	Variable Maximum[1]	$4,800 Maximum	Variable Maximum	$4,800 Maximum	Level Earnings[2]	Variable Maximum	$4,800 Maximum
1960	1.045	1.022	1.034	1.011	$201,371	$208,218	$203,586
1961	1.085	1.044	1.080	1.039	204,477	220,835	212,452
1962	1.127	1.065	1.116	1.054	207,582	231,662	218,791
1963	1.172	1.085	1.151	1.065	210,688	242,502	224,383
1964	1.217	1.104	1.193	1.082	213,793	255,055	231,324
1965	1.254	1.121	1.224	1.094	216,899	265,484	237,288
1966	1.293	1.136	1.262	1.109	220,591	278,386	244,635
1967	1.332	1.150	1.300	1.122	224,284	291,569	251,647
1968	1.373	1.165	1.340	1.137	227,976	305,488	259,209
1969	1.412	1.173	1.378	1.145	231,669	319,240	265,261
1970	1.453	1.184	1.418	1.156	235,361	333,742	272,077
1975	1.684	1.241	1.644	1.211	254,974	419,177	308,774
1980	1.952	1.290	1.905	1.259	274,430	522,789	345,507

1/ "Variable Maximum" is used to describe modification of the law so that maximum taxable earnings maintain the same ratio to average total earnings as was the case in 1959.

2/ From long-range cost estimates for 1960 Act.

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Table 3

CONTRIBUTIONS UNDER INCREASING-EARNINGS ASSUMPTION, INTERMEDIATE-COST ESTIMATE
(In millions)

Calendar Year	Level Earnings $4,800 Maximum	Increasing Earnings $4,800 Maximum	Variable Maximum
		OASI Contributions	
1960	$10,630	$10,747	$11,160
1961	10,931	11,486	11,793
1962	11,190	11,790	12,487
1963	13,181	13,882	15,181
1964	13,842	14,609	16,502
1965	14,148	14,925	17,310
1966	16,220	17,409	20,461
1967	16,865	18,379	21,926
1968	17,141	18,997	22,973
1969	19,311	21,630	26,625
1970	20,006	22,704	28,368
1975	21,673	26,224	35,630
1980	23,327	29,345	44,437
		DI Contributions	
1960	$1,007	$1,012	$1,041
1961	1,022	1,040	1,104
1962	1,038	1,066	1,158
1963	1,053	1,092	1,213
1964	1,069	1,126	1,275
1965	1,084	1,154	1,327
1966	1,103	1,193	1,392
1967	1,121	1,231	1,458
1968	1,140	1,271	1,527
1969	1,158	1,304	1,596
1970	1,177	1,341	1,669
1975	1,275	1,543	2,096
1980	1,372	1,726	2,614

Table 4

BENEFIT PAYMENTS UNDER INCREASING-EARNINGS ASSUMPTION, INTERMEDIATE-COST ESTIMATE
(In millions)

Calendar Year	Level Earnings, $4,800 Maximum	Increasing Earnings $4,800 Maximum	Variable Maximum
OASI Benefit Payments			
1960	$10,726	$10,726	$11,244
1961	11,290	11,658	12,190
1962	11,737	12,326	13,089
1963	12,167	12,913	13,992
1964	12,598	13,424	15,023
1965	13,029	13,880	15,956
1966	13,650	14,503	17,232
1967	14,270	15,126	18,544
1968	14,891	15,752	19,948
1969	15,511	16,378	21,389
1970	16,132	17,003	22,861
1975	19,044	19,899	31,313
1980	22,092	23,553	42,085
DI Benefit Payments			
1960	$570	$570	$593
1961	802	802	883
1962	862	864	973
1963	920	924	1,067
1964	970	978	1,148
1965	1,019	1,029	1,248
1966	1,061	1,077	1,336
1967	1,103	1,125	1,429
1968	1,145	1,173	1,527
1969	1,187	1,221	1,628
1970	1,229	1,270	1,735
1975	1,401	1,476	2,305
1980	1,550	1,659	2,928

Table 5

ADMINISTRATIVE EXPENSES UNDER INCREASING-EARNINGS ASSUMPTION
INTERMEDIATE-COST ESTIMATE
(In millions)

Calendar Year	OASI Administrative Expenses		DI Administrative Expenses	
	Level Earnings	Increasing Earnings	Level Earnings	Increasing Earnings
1960	$200	$205	$44	$44
1961	206	227	46	52
1962	212	221	47	51
1963	218	223	48	53
1964	224	225	49	55
1965	230	229	50	57
1966	233	239	51	60
1967	236	249	51	61
1968	239	260	52	65
1969	242	270	52	67
1970	245	282	53	70
1975	260	347	58	88
1980	270	417	62	110

Table 6

PROGRESS OF TRUST FUNDS UNDER INCREASING-EARNINGS ASSUMPTION
AND $4,800 MAXIMUM, INTERMEDIATE-COST ESTIMATE
(In millions)

Calendar Year	Contributions	Benefit Payments	Administrative Expenses	Financial Interchange[1]	Interest on Fund	Fund at End of Year
OASI Trust Fund						
1960	$10,747	$10,726	$205	$-308	$506	$20,164
1961	11,486	11,658	227	-278	508	19,995
1962	11,790	12,326	221	-255	511	19,494
1963	13,882	12,913	223	-270	540	20,510
1964	14,609	13,424	225	-265	606	21,811
1965	14,925	13,880	229	-240	694	23,135
1966	17,409	14,503	239	-234	767	26,335
1967	18,379	15,126	249	-210	903	30,032
1968	18,997	15,752	260	-181	1,043	33,879
1969	21,630	16,378	270	-184	1,215	39,892
1970	22,704	17,003	282	-160	1,426	46,577
1975	26,224	19,899	347	-91	2,440	84,843
1980	29,345	23,553	417	1	3,721	128,803
DI Trust Fund						
1960	$1,012	$570	$44		$47	$2,270
1961	1,040	802	52		71	2,527
1962	1,066	864	51		82	2,760
1963	1,092	924	53		93	2,968
1964	1,126	978	55		103	3,164
1965	1,154	1,029	57		107	3,323
1966	1,193	1,077	60		116	3,495
1967	1,231	1,125	61		122	3,662
1968	1,271	1,173	65		127	3,822
1969	1,304	1,221	67		131	3,969
1970	1,341	1,270	70		134	4,104
1975	1,543	1,476	88		140	4,733
1980	1,726	1,659	110		155	5,313

1/ Payments to the Trust Fund from the Railroad Retirement Account (included in Contributions for DI).

Table 7

PROGRESS OF TRUST FUNDS UNDER INCREASING-EARNINGS ASSUMPTION AND VARIABLE MAXIMUM, INTERMEDIATE-COST ESTIMATE
(In millions)

Calendar Year	Contributions	Benefit Payments	Administrative Expenses	Financial Interchange [1]	Interest on Fund	Fund at End of Year
			OASI Trust Fund			
1960	$11,160	$11,244	$205	$-308	$506	$20,059
1961	11,793	12,190	227	-278	497	19,654
1962	12,487	13,089	221	-255	492	19,068
1963	15,181	13,992	223	-270	522	20,286
1964	16,502	15,023	225	-265	595	21,870
1965	17,310	15,956	229	-240	669	23,424
1966	20,461	17,232	239	-234	774	26,954
1967	21,926	18,544	249	-210	917	30,794
1968	22,973	19,948	260	-181	1,052	34,430
1969	26,625	21,389	270	-184	1,217	40,429
1970	28,368	22,861	282	-160	1,421	46,915
1975	35,630	31,313	347	-91	2,247	78,651
1980	44,437	42,085	417	1	3,036	106,141
			DI Trust Fund			
1960	$1,041	$593	$44		$47	$2,276
1961	1,104	883	52		70	2,515
1962	1,158	973	51		81	2,730
1963	1,213	1,067	53		91	2,914
1964	1,275	1,148	55		100	3,086
1965	1,327	1,248	57		106	3,214
1966	1,392	1,336	60		110	3,320
1967	1,458	1,429	61		113	3,401
1968	1,527	1,527	65		114	3,450
1969	1,596	1,628	67		114	3,465
1970	1,669	1,735	70		112	3,441
1975	2,096	2,305	88		83	2,785
1980	2,614	2,928	110		32	1,155

[1] Payment to the Trust Fund from the Railroad Retirement Account (included in Contributions for DI).

Table 8

PROGRESS OF OASI TRUST FUND UNDER INCREASING-EARNINGS ASSUMPTION
AND $4,800 MAXIMUM, HIGH-COST ESTIMATE
(In millions)

Calendar Year	Contributions	Benefit Payments	Administrative Expenses	Financial Interchange [1]	Interest on Fund	Fund at End of Year
1960	$10,729	$10,967	$205	$-308	$505	$19,904
1961	11,465	11,916	229	-284	490	19,430
1962	11,767	12,595	225	-267	480	18,590
1963	13,851	13,192	229	-288	493	19,225
1964	14,574	13,711	233	-289	542	20,108
1965	14,886	14,171	239	-270	589	20,903
1966	17,363	14,808	250	-270	668	23,606
1967	18,331	15,446	262	-252	786	26,763
1968	18,947	16,086	274	-229	907	30,028
1969	21,568	16,728	286	-238	1,060	35,404
1970	22,642	17,366	299	-220	1,252	41,413
1975	25,983	20,474	374	-141	2,152	75,009
1980	28,724	24,536	448	-39	3,179	110,044

[1] Payment to the Trust Fund from the Railroad Retirement Account.

Table 9

OASI BENEFIT PAYMENTS AS PERCENTAGE OF TAXABLE PAYROLL
($4,800 MAXIMUM)

Calendar Year	Intermediate-Cost Estimate		High-Cost Estimate	
	Level Earnings	Increasing Earnings	Level Earnings	Increasing Earnings
1960	5.30%	5.30%	5.30%	5.30%
1965	6.01	5.85	6.15	5.99
1970	6.85	6.25	7.02	6.40
1975	7.47	6.44	7.76	6.69
1980	8.05	6.82	8.57	7.25

Table 10

BALANCE IN OASI TRUST FUND AT END OF YEAR ($4,800 MAXIMUM)
(In millions)

Calendar Year	Intermediate-Cost Estimate		High-Cost Estimate	
	Level Earnings	Increasing Earnings	Level Earnings	Increasing Earnings
1970	$41,270	$ 46,577	$36,974	$ 41,413
1975	63,305	84,843	54,617	75,009
1980	81,581	128,803	64,999	110,044

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.

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* 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.