# ACTUARIAL STATUS OF THE TRUST FUNDS

Old-age, survivors, and disability insurance benefit payments will increase for many years—not only in dollars but also as a percentage of taxable payroll. Long-range estimates are needed, therefore, to show how much the cost is likely to increase and to indicate whether the

scheduled tax rates are adequate:

The cost of benefits to aged persons, which constitutes about 80 percent of the total cost, will rise for several reasons. The U.S. population is, in the long run, expected to become relatively much older on the average. A relatively older population will tend to result from the fact that the present aged population is made up of the survivors from past periods when death rates were much higher than they are now. Another such factor is that, after the turn of the century, the larger birth cohorts of the 1940's, 1950's, and 1960's will be attaining retirement age. Thus, in the future, relatively more persons, both in total

and in each cohort, will attain age 65 and older ages.

The cost of the program, when measured as a percentage of taxable payroll, is closely related to the ratio of the population aged 65 and over (potential beneficiaries) to the population aged 20-64 (potential contributors). On January 1, 1970, this ratio was 18.2 percent. In a stationary population that would result if the death rates of the U.S. Life Tables for 1959-61 were applied to a constant annual number of births the ratio would be 25.4 percent, but such a situation is not likely to occur within the next century. Ultimately, this ratio may become even greater because decreases in mortality below present rates would, in a stationary population, have the effect of increasing the proportion at the oldest ages.

Another reason for the increasing cost is that the proportion of the aged population eligible for and receiving benefits will increase. Some of the present persons aged 65 and over were not in covered employment long enough to obtain benefits, or, in the case of widows, their husbands did not work long enough in covered employment to be insured. Although the system began in 1937, many jobs were first covered in 1951 and 1955. It is estimated that the proportion of the aged population eligible for some type of cash benefit under the system will increase from a level of about 90 percent on January 1, 1970, to between 94 and 95 percent in 1980 and between 96 and 98 percent by

the end of the century.

Since the long-term future cost of the old-age, survivors, and disability insurance program will be affected by many factors that are difficult to determine, the assumptions used in the actuarial cost estimates may differ widely and yet be reasonable. The long-term cost estimates for the program (shown for 1980 and thereafter) are presented here on a range basis to indicate the plausible variation in future costs depending on the actual trends that develop for the various cost factors.

Both the low-cost and high-cost estimates are based on the assumption of a 3.8-percent unemployment rate, with average annual earnings remaining at about the level that prevailed in 1969. Thus, changes slightly above and slightly below this level of unemployment would tend to offset each other over the long-range future period considered. This assumption as to the unemployment rate is made only for purposes of these actuarial cost estimates and is not intended to be an official Government forecast of this factor. If the unemployment rate

were assumed to be somewhat lower, there would be relatively little effect on the resulting cost estimates.

Each estimate provides data on taxable payroll and contributions and on beneficiaries and benefit payments for every future year. The

data are presented here for selected future years.

It is considered likely, although by no means certain, that actual costs as a percentage of taxable payroll will lie between the low-cost and high-cost figures. Also, a single estimate of costs is needed as a guide in considering proposed legislation and developing tax schedules intended to make the system self-supporting. For these reasons, an intermediate-cost estimate is prepared, in which numbers of beneficiaries, amount of benefit payments, and taxable payrolls are taken halfway between the low-cost and high-cost figures. The intermediate percentage-of-payroll figures are obtained by dividing total benefit payments by taxable payroll, each on the intermediate basis, and are therefore not exactly equal to the average of low-cost and high-cost

percentage-of-payroll figures.

Table 20 shows benefit-payment costs for selected years and the corresponding level-costs over the next 75 years, expressed as percentages of taxable payroll, under each of the three estimates. The level-cost of the program on this basis is the constant combined employer-employee tax rate that, together with a tax on the selfemployed of about 75 percent of such combined rate (subject to a maximum self-employed tax rate of 7.0 percent), would exactly pay for future benefits and administrative expenses, after making allowance for the effect of the future interest earnings of the existing trust fund and for all other future interest earnings. All percentage-of-payroll figures are adjusted so that they represent the tax rate that employees and employers combined, and the self-employed at three-quarters of the combined rate, would have to pay in any given year to meet exactly the disbursements in that year.

TABLE 20.—ESTIMATED COSTS OF OLD-AGE , SURVIVORS, AND DISABILITY INSURANCE BENEFIT PAYMENTS AS PERCENT OF PAYROLL 1, 1969 LEVEL-EARNINGS ASSUMPTION, 1980-2040

[In percent] High-cost Intermediate-Low-cost cost estimate 2 estimate Calendar year Old-age and survivors insurance benefits 3 8, 15 8. 80 9. 32 9.01 9.61 9.05 8.70 10.24 9.63 11.43 10. 05 8. 39 13, 50 11.56 8.86 Disability insurance benefits 3 1. 05 1. 08 1. 18 1.17 95 1990. 1.01 1.32

<sup>1</sup> Taking into account the lower contribution rate on self-employment income, on tips, and on multiple-employer "excess

ages," as compared with the combined employer-employee rate.

Based on the averages of the dollar contributions and dollar costs under the low-cost and high-cost estimates.

Includes payments for vocational rehabilitation services.

Level contribution rate, at an interest rate of 4.25 percent for high-cost, 4.75 percent for intermediate-cost, and 5.25 percent for low-cost, for benefits after 1969, taking into account interest on the trust fund on Dec. 31, 1969, future administrative expenses, the railroad retirement financial interchange provisions, and reimbursement for additional cost of noncontributory credit for military service.

Tables 21 and 22 show, for each set of estimates, the contributions, benefit payments, administrative expenses, amount paid to or received from the railroad retirement system, and the balance in the trust funds for selected years.

TABLE 21.—ESTIMATED PROGRESS OF OLD-AGE AND SURVIVORS INSURANCE TRUST FUND, 1969 LEVEL-EARNINGS
ASSUMPTION 1

[In millions]

Calendar year	Contributions	Benefit payments	Adminis- trative expenses <sup>2</sup>	Financial interchange <sup>3</sup>	Interest on fund	Fund a end of year					
		Actual data									
958	\$7,566	\$8, 327	\$194	\$124	\$552	\$21,864					
959		9, 842	184	282	532	20, 141					
960		10, 677	203	318	516	20, 324					
10U											
61		11, 862	239	332	548	19, 725					
62		13, 356	256	361	526	18, 337					
63	14, 541	14, 217	281	423	521	18, 480					
64		14, 914	296	403	569	19, 125					
55		16, 737	328	436	593	18, 235					
66	20, 658	18, 267	256	444	644	20, 570					
67	23, 216	19, 468	406	508	818	24, 222					
)68 <b></b>		22, 642	476	438	939	25, 704					
			Low-cost	estimate							
980	\$42,436	\$38,009	\$580	\$630	\$4, 464	\$95, 614					
85		43, 509	625	585	6, 326	131, 381					
90	48, 177	48, 883	671	524	7, 937	163, 051					
			712	437	9, 658						
95		53, 027				197, 928					
00	56, 758	55, 308	743	338	12, 209	250, 473					
			High-cost	estimate							
980		\$38, 874	\$649	\$668	\$3, 065	\$79,909					
85	44, 324	44, 748	703	620	3,738	95, 302					
90	46, 981	50, 567	756	536	3, 822	96, 371					
95		55, 129	802	. 445	3, 421	86, 390					
993		58, 129 58, 184	839	345	2, 863	73, 321					
			ntermediate-c			,,,,,					
980	\$42, 080	\$38, 442	\$614	\$649	\$3,726	\$87,630					
					40,720	110 057					
85	44, 734	44, 129	664	602	4, 932	112, 857					
90	47, 578	49, 726	714	530	5,675	128, 435					
95	51, 231	54, 074	757	441	6, 167	139, 395					
00	55, 344	56, 748	79i	341	6, 898	156, 527					
				54							
025	72, 031	92, 411	1, 163	34	9, 281	203, 119					

Interest rates of 4.25 percent for high-cost, 4.75 percent for intermediate-cost, and 5.25 percent for low-cost, were used in determining the level-cost, but in developing the progress of the trust fund, varying rates in the early years were used, which—when averaged over a long period of time—are equivalent to such fixed rates. The projected values in this table are slightly different from those in the previously published cost estimates for the 1969 amendments (as contained in H. Rept. 91-700) due to refinements made in the financial interchange projections.

<sup>2</sup> These figures fluctuate in a nonsignificant manner from year to year, because of the method of reimbursement between this trust fund and the other 3 social security trust funds.

<sup>&</sup>lt;sup>3</sup> A positive figure indicates payment from the trust fund to the railroad retirement account; a negative figure indicates the reverse.

Note: Contributions include reimbursement for additional cost of noncontributory credit for military service and for special payments to persons aged 72 or over and benefits include payments for vocational rehabilitation services and special payments to persons aged 72 or over.

#### TABLE 22.—ESTIMATED PROGRESS OF DISABILITY INSURANCE TRUST FUND, 1969 LEVEL-EARNINGS ASSUMPTION 1

IIn millionsl

Calendar year	Contributions	Benefit payments	Adminis- trative expenses <sup>2</sup>	Financial interchange <sup>3</sup>	Interest on fund	Fund at
Actual data:					005	ø1 270
1958	\$966	\$249	\$12		\$25	\$1,379
1959	891	457	50	-\$22	40	1, 825 2, <b>2</b> 85
1960	1,010	568	36	5	53	2, 203
1961	1,038	887	64	5	66	2, 43
1962	1, 046	1,105	66	11	68	2, 368
1963	1,099	1,210	68	20	66	2, 23
1964	1,154	1,309	79	19	64	2, 04
1965	1,188	1,573	90	24	59	1,606
1966	2, 022	1,784	137	25	58	1,739
1967	2, 302	1, 950	109	31	78	2, 02
	2,302	2, 311	127	20	106	3, 02
1968	3, 348	2, 311	127			-,
Low-cost estimate:	E 00E	4 005	155	\$20	1,116	23, 29
1980	5, 265	4, 205	155	18	1,673	34, 35
1985	5, 610	4,747		9	2, 356	48, 07
1990	5, 989	5, 153	162	9	3, 228	65, 59
1995	6, 487	5, 685	175	1	3, 220	87, 27
2000	7,059	6, 492	196	-3	4, 311	07,27
High-cost estimate:	•				475	12.00
1980	5, 180	5, 121	197	\$29	475	12, 09
1985	5, 510	5, 847	212	25	498	12, 51
1990		6,433	226	19	449	11, 23
1995		7, 175	246	13	318	7,92
2000	6,715	8, 238	279	9	43	98
Intermediate-cost estimat		0, 200				
1980	5, 222	4,663	176	\$25	776	17, 57
1985		5, 299	184	22	1,020	23, 05
		5, 792	194	14	1, 281	28, 78
1990	5, 917	5, 792 C 421	210	*7	1, 566	35, 04
1995		6, 431	238	3	1,843	41, 01
2000	6, 887	7, 364	342	-11	1, 981	43, 70
2025	8, 946	10,702	342	-11	1, 301	40,70

<sup>1</sup> Interest rates of 4.25 percent for high-cost, 4.75 percent for intermediate-cost, and 5.25 percent for low-cost were used in determining the level-cost, but in developing the progress of the trust fund, varying rates in the early years were used, which—when averaged over a long period of time—are equivalent to such fixed rates. The projected values in this table are slightly different from those in the previously published cost estimates for the 1969 amendments (as contained in H. Rept. 91-700), due to refinements made in the financial interchange projections.

2 These figures fluctuate in a nonsignificant manner from year to year, because of the method of reimbursement between this trust fund and the old-age and survivors insurance trust fund.

3 A positive figure indicates payment from the trust fund to the railroad retirement account: a negative figure indicates

3 A positive figure indicates payment from the trust fund to the railroad retirement account; a negative figure indicates

Note.—Contributions include reimbursement for additional cost of noncontributory credit for military service. Benefits include payments for vocational rehabilitation services.

It should be emphasized that dollar figures projected for so many years into the future have only limited significance because of changes that are likely to occur in the general economy, as well as in the system itself. What are really most significant are relative figures such as those in table 20, showing the benefit costs as a percentage of taxable payroll.

For old-age and survivors insurance, annual benefit payments as a percentage of payroll are less than the scheduled tax rates in the early future years, but they eventually rise above the ultimate combined employer-employee rate of 8.90 percent. The excess income in the early years in addition to the interest earned by the fund, will be enough to finance the excess outgo in later years. For disability insurance, annual benefit payments as a percentage of taxable payroll are lower than the level allocation of 1.10 percent until 1990 (and higher thereafter) according to the intermediate-cost estimate; under the low-cost estimate, the benefit cost is below the allocation until after 2000, while under the high-cost estimate the benefit cost is above the allocation for all years after 1980.

To measure the extent to which the financing arrangements of the system result in a surplus or deficiency, a level contribution rate

equivalent to the actual increasing contribution rates has been computed, taking into account future interest. The level-equivalent rate of contributions minus the level-cost of benefit payments and administrative costs expressed as a percentage of taxable payroll (after making allowance for the interest-earning effect of the existing trust fund), gives the amount by which the contribution rate in all years would have to be changed to put the system in exact long-range balance according to the estimate. A negative figure would indicate that an increase in the tax rate is needed to make the system self-supporting, while a positive figure would indicate that the system is overfinanced.

The long-range balance of the system is shown by the following level-equivalent costs and contributions, expressed in percentages of taxable payroll, which are computed as of the beginning of calendar year 1970, at interest rates of 4.25 percent for high-cost, 4.75 percent for intermediate-cost, and 5.25 percent for low-cost:

[In percent of taxable payroll 1]

Item	OASI	DI	Total
LOW-COST ESTIMATE Contributions	8. 77 8. 39	1. 10 . 94	9. 87 9. 33
Actuarial balance	. 38	. 16	. 54
HIGH-COST ESTIMATE  Contributions Benefits <sup>2</sup>	8. 79 9. 43	1.10 1.27	9. 89 10. 70
Actuarial balance	64	17	81
INTERMEDIATE-COST ESTIMATE Contributions. Benefits <sup>2</sup> .	8. 78 8. 86	1. 10 1. 10	9. 88 9. 96
Actuarial balance	08		08

<sup>&</sup>lt;sup>1</sup> Based on adjusted payroll that reflects the lower contribution rate on self-employment income, tips, and multiple-employer "excess wages," as compared with the combined employer-employee rate.
<sup>2</sup> Including adjustments (1) for interest on the existing trust fund, (2) for administrative expenses, (3) for the railroad retirement financial interchange provisions, and (4) for reimbursement of military-wage-credits cost. Includes payments for vocational rehabilitation services.

After the 1969 amendments, the Old-Age, Survivors, and Disability Insurance system as a whole is in substantial actuarial balance (there is a negative balance of 0.08 percent of taxable payroll on the intermediate-cost basis, which is within the acceptable limit of variation). The Old-Age and Survivors Insurance portion is in substantial actuarial balance (there is a negative balance of 0.08 percent of taxable payroll on the intermediate-cost basis), while the Disability Insurance portion is in great actuarial balance.

bility Insurance portion is in exact actuarial balance.

If the intermediate-cost estimate had been based on a higher interest rate than 4.75 percent (which is the current average being earned by the total investments of the trust funds), but considerably below the prevailing market rate of interest on long-term Government obligations, which was about 7.25 percent in December 1969, the actuarial balance of the total program would have been higher. Thus, for example, the use of a 5 percent interest rate would increase the actuarial balance of the program by about 0.05 percent of taxable payroll, and a 5½ percent interest rate would increase it by 0.10 percent of taxable payroll. Similarly, using a 4.75 percent interest

rate, a change in the assumed earnings level from that prevailing in 1969 to that prevailing in 1970 would increase the actuarial balance

by 0.20 percent of taxable payroll.

If the experience exactly follows the assumptions, future computations would show a gradual increase in the actuarial balance (or lack of balance) under the intermediate-cost estimate for both the old-age and survivors insurance system and the disability insurance system. 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.

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 1969. If earnings levels rise, as they have in the past, the benefits and the taxable earnings base under the program will undoubtedly be modified. In fact, if all other assumed cost factors are closely followed by the experience, then increasing wage levels will automatically generate positive actuarial balances that can be used to increase benefit levels without changing the financing provisions. 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-costtaking into account benefit payments, administrative expenses, and interest on the existing trust fund—would be somewhat higher. However, the level-cost might not rise this much, or might even decline, if benefit adjustments do not fully 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.

This analysis includes the benefits and contributions in respect to all persons anticipated to be covered in the future under present statutory provisions and not merely (a) the benefits to be paid to workers who have been covered by the system in the past and to their dependents and survivors, (b) the future taxes to be paid by, and with respect to, such workers and (c) the existing trust funds. An insurance company must set up reserves equal to all currently accrued liabilities, since it cannot compel individuals to become new policyholders and must be in a position at any time so that in the future it can pay all benefits that will become due with respect to its

present and past policyholders, using only its present assets and the future premiums to be paid by present policyholders. In analyzing the actuarial condition of a compulsory social insurance system that will continue indefinitely, the income and outgo with respect to new entrants should properly be included, thus obviating the need to set up reserves for all currently accrued liabilities.

A discussion of the assumptions under which these estimates have

been made is presented in appendix I.

## MEDIUM-RANGE COST ESTIMATES

The preceding sections have presented both short-range cost estimates (for the next 5 years) and long-range cost estimates (for many decades into the future) for the old-age, survivors, and disability insurance system. This section presents medium-range cost estimates covering a period of 15 to 20 years that take into account possible variations in economic factors, such as level of earnings and level of employment, as well as variations in demographic factors.

Tables 23 and 24 present two medium-range projections based on different assumptions. For both projections, it is assumed that economic activity will have normal expansion throughout the period, with employment increasing steadily at an average annual rate of 13/4 percent and with the average total earnings of covered workers increasing at an annual rate of 4 percent (somewhat higher increases are assumed in the first few years).

TABLE 23.—ESTIMATED PROGRESS OF TRUST FUNDS, INCREASING EARNINGS ASSUMPTION, FIXED EARNINGS BASE, AND EQUIVALENT 4.75-PERCENT INTEREST RATE BASIS <sup>1</sup>

[In millions]								
Calendar year	Contribu-	Benefit	Administra-	Financial	Interest	Fund at		
	tions <sup>2</sup>	payments 3 t	ive expenses	interchange 4	on fund	year end		
		Old-age	and survivors	insurance trust f	und			
1980	\$54, 590	\$40, 348	\$774	\$590	\$6, 852	\$162,009		
1985	63, 679	47, 350	945	518	12, 231	281,899		
_		Disa	bility insuran	ce trust fund				
1980	\$6, 766	\$4, 870	\$228	\$14	\$1,183	\$27, 426		
1985	7, 898	5, 773	261	9	1,855	44, 388		

On the same basis as used to develop the trust funds for the long-range intermediate cost estimates in tables 21 and 22. Includes reimbursement for additional cost of noncontributory credits for military service and for old-age and survivors trust fund includes reimbursement from the General Treasury for the cost of special benefits to certain persons aged 72 and over

4 A positive figure indicates payment from the trust funds to the railroad retirement account; a negative figure indicate the reverse.

<sup>3</sup> For the old-age and survivors insurance trust fund, includes the special payments to certain persons aged 72 and over that are reimbursable from the General Treasury. Includes payments for vocational rehabilitation services.
4 A positive figure indicates payment from the trust funds to the railroad retirement account; a negative figure indicates

TABLE 24.—ESTIMATED PROGRESS OF TRUST FUNDS, INCREASING EARNINGS AND BENEFITS ASSUMPTIONS, VARIABLE EARNINGS BASE, AND EQUIVALENT 4.75 PERCENT INTEREST RATE BASIS 1

#### [In millions]

Calendar year	Contribu- tions <sup>2</sup>	Benefit payments <sup>3</sup>	Administra- tive expenses	Financial interchange 4	Interest on fund	Fund at year end			
	Old-age and survivors insurance trust fund								
1980 1985	\$66, 523 86, 830	\$59, 585 85, 656	\$958 1, 289	\$926 1,095	\$5, 179 7, 028	\$123, 128 162, 943			
_			Disability insur	ance trust fund					
1980 1985	\$8, 237 10, 759	\$7, 216 10, 256	\$282 356	\$34 39	\$949 1, 300	\$22, 036 29, 743			

On the same basis as used to develop the trust funds for the long-range intermediate cost estimates in tables 21 and 22 Includes reimbursement for additional cost of noncontributory credits for military service and for old-age and survivors trust fund includes reimbursements from the General Treasury for the cost of special benefits to certain persons aged 72 and over.

3 For the old-age and survivors insurance trust fund, includes the special payments to certain persons aged 72 and over that are reimbursable from the General Treasury. Includes payments for vocational rehabilitation services.
 4 A positive figure indicates payment from the trust funds to the railroad retirement account; a negative figure indicates

In the first projection (table 23), the maximum taxable earnings base is assumed to remain at \$7,800 per year, while for the second one (table 24), the base is assumed to be kept up-to-date—that is, changed periodically so as to cover about the same proportion of total earnings that was covered in 1971 by the \$7,800 base. These assumptions imply that, for the first projection, only about three-sevenths of the 97-percent increase in average earnings that is estimated to occur in 1970–85 will be taxable under the program, due to the dampening effect of the fixed maximum taxable earnings base. For the second projection, the entire 97-percent increase will be taxable because of the assumed constant up-dating of the taxable earnings base.

It is assumed for the first projection that all provisions of the law would remain as they were after the 1969 amendments. This projection is based on dynamic earnings-level assumptions and static benefit-provision assumptions. However, over the 16-year period covered by the estimates, changes will undoubtedly be made. The purpose of this estimate is to indicate the size of the financial commitments of present law, even though it is recognized that the law itself will undoubtedly be changed during the period. The extent and

timing of these changes are, of course, unpredictable.

It is assumed for the second projection that the maximum taxable earnings base and the benefit provisions of the law are amended periodically so that the relationships among total earnings, taxable earnings, and benefit expenditures during each of the years 1970–85 are the same as those shown in the long-range intermediate-cost estimates prepared on level-earnings assumptions. The cost estimate shown in table 24 is, therefore, very similar to the long-range cost estimate if costs are considered in terms of percentages of taxable payroll, but it has the advantage of presenting dollar figures of a more realistic magnitude. This projection, accordingly, is based on dynamic earnings-level assumptions, combined with an assumption that the law is frequently amended to keep the system fully up-to-date.

As shown in tables 23 and 24, according to the medium-range estimates, the old-age and survivors insurance trust fund grows

steadily through the 16-year period—reaching \$162 billion in 1980 in the first projection and \$123 billion in the second one. For 1985, the corresponding figures for the balance in the trust fund are \$282 billion and \$163 billion, respectively. In 1985, estimated contribution income exceeds benefit outgo by about 34.5 percent under the assumptions of dynamic earnings-level conditions and static benefit provisions, but by only 1.4 percent under the "double dynamic" assumptions basis.

The disability insurance trust fund, according to the first projection, increases rapidly-reaching about \$27 billion in 1980 and about \$44 billion in 1985. According to the second projection, with the "double dynamic" assumptions, the fund increases less rapidly reaching \$22 billion in 1980 and \$30 billion in 1985.

ACTUARIAL ANALYSIS OF BENEFIT DISBURSEMENTS FROM THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES

Effective January 1957, monthly benefits have been payable from the old-age and survivors insurance trust fund to disabled adult children aged 18 and over—sons and daughters of retired and deceased workers—with respect to disabilities that have continued since childhood. Effective February 1968, reduced monthly benefits have been payable from this trust fund to disabled widows and widowers

beginning at age 50.

On December 31, 1969, about 309,000 persons were receiving monthly benefits from the old-age and survivors insurance trust fund with respect to disability. In addition to disabled beneficiaries, this total includes 26,000 mothers. These mothers—wives under age 65 of retired-worker beneficiaries and widows of deceased insured workers-met all other qualifying requirements and were receiving benefits solely because they had at least one disabled-child beneficiary in their care. Benefits paid from this trust fund to this class of beneficiaries totaled \$254 million in calendar year 1969, or 0.065 percent of taxable earnings for that year. Similar figures are presented in table 25 to show the past experience in each of the calendar years 1957-69.

Table 25 also shows the expected future experience in calendar years 1970-74. Total benefit payments from the old-age and survivors insurance trust fund with respect to disabled beneficiaries will increase from \$325 million (or 0.079 percent of taxable payroll) in calendar

year 1970, to \$409 million (or 0.084 percent) in 1974.

TABLE 25.—BENEFITS PAYABLE FROM THE OLD-AGE AND SURVIVORS INSURANCE TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES, CALENDAR YEARS 1957-74 [Beneficiaries in thousands; benefit payments in millions]

•	Disabled beneficiaries, end of year		Amount of benefit payments 1		Benefit payments I as a percentage of taxable earnings 2				
Calendar year	Total	Children 3	Widows and widowers	Total	Children 3	Widows and widowers	Total	Children 3	Widows and widowers
Past experience:			•					-	
1957	34	34		\$7	\$7.		0, 004	0.004	
1958	59	Ē		Ž3 ·	23		. 013	. 013	
1959	94	94		āĭ	41		. 021	. 021	
1960	. 117	117		59	59		. 030	. 030	
1961	138	138		74	74		. 036		
1000	163	163		89	89		. 042		
1000	183	183		101	101		. 046	. 046	••••
	200	200		113	113		. 050		
1964				134	134		. 055		
1965	214	214					. 000		
1966	228	228		147	147 .		. 049		
1967	243			163	163 .	· : : <b>: -</b>	. 051	. 051	
1968	278	256	22	213	198	\$15	. 058	. 054	. 00
1969	30 <b>9</b>	270	39	254	214	40	. 065	. 055	. 01
Estimated future experience:									
1970	330	284	46	325	271	54	. 079	. 066	.01
1971	347	297	50	347	289	58	. 081	. 067	. 01
1972	364	311	53	368	307	61	. 082	. 068	. 01
1973	380	324	56	389	325	64	. 083	. 070	. 01
1974	396	338	58	409	343	66	. 084	. 070	. ŏi
13/4	330	330	30	403	343	00	. 004	.070	. 01

Beginning in 1966, includes payments for vocational rehabilitation services.
Percentage takes into account (1) lower contribution rate payable by the self-employed compared with combined employer-employee rate, (2) employee contributions subject to refund, and (3) for 1966 and later, that only the employee contribution is payable on tips taxable as wages.

<sup>&</sup>lt;sup>3</sup> Reflects effect of including a relatively small number (about 26,000 at the end of 1969) of mothers—wives under age 65 of retired-worker beneficiaries and widows of deceased insured workers—who met all other qualifying requirements and were receiving benefits solely because they had at least 1 disabled-child beneficiary in their care.

In calendar year 1969, benefit payments (including expenditures for vocational rehabilitation services) with respect to disabled persons from the old-age and survivors insurance trust fund and from the disability insurance trust fund (including payments from the latter fund to all dependents of disabled-worker beneficiaries) totaled \$2,811 million, of which \$254 million, or 9.0 percent, represented payments from the old-age and survivors insurance trust fund. Similar figures for all of the calendar years 1957–74 are presented in table 26.

TABLE 26.—BENEFIT PAYMENTS UNDER THE OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE PROGRAM WITH RESPECT TO DISABLED BENEFICIARIES, BY TRUST FUND, CALENDAR YEARS 1957-74

[In millions]

		Benefit payments 1 from-			
		Disability insurance trust fund <sup>2</sup>	Old-age and survivors insurance trust fund		
Calendar year	Total 1		Amount <sup>3</sup>	As a percentage of total benefit payments with respect to disabled beneficiaries	
ast experience:				_	
1957	\$64	\$57	\$7	11. 1	
1958	272	249	23	8. 5	
1959	498	457	41	8. 2	
1960	627	568	59	9. 4	
1961	961	887	74	7.7	
1962	I, 194	1, 105	89	7.4	
1963	1, 311	1, 210	101	7.7	
1964	1, 422	1,309	113	80	
1965	1,707	1,573	134	7. 9	
1966	1, 932	1,784	147	7.6	
1967	2, 113	1, 950	163	7.7	
1968	2, 524	2, 311	213	8. 5	
1969	2, 811	2, 557	254	9, 0	
stimated future experience:	*	•			
1970	3, 419	3, 094	325	9, 5	
1971	3, 646	3, 299	347	9. 5 9. 6 9. 7	
1972	3, 830	3, 462	368	9. 6	
1973	3, 996	3,607	389	9. 7	
1974	4, 153	3,744	409	9. 8	

<sup>&</sup>lt;sup>1</sup> Beginning in 1966, includes payments for vocational rehabilitation services.

The long-range level-cost of benefits to disabled workers and their dependents under the disability insurance program is estimated at 1.10 percent of taxable payroll, according to the intermediate-cost estimate. Similarly, the estimated long-range level-cost of benefits with respect to disabled beneficiaries under the old-age and survivors insurance program is estimated at 0.13 percent of taxable payroll (table 27), or about 11 percent of the combined level-cost of 1.23 percent of taxable payroll for benefits with respect to disabled beneficiaries under the old-age and survivors insurance and disability insurance programs. These estimates include expenditures for vocational rehabilitation services, which, over the long-range period of the cost estimates, are expected to be offset by lower benefit payment due to shorter durations of disabilities.

<sup>&</sup>lt;sup>2</sup> Benefit payments to disabled workers and their dependents.
<sup>3</sup> Benefit payments to disabled children aged 18 and over, to certain mothers (see footnote 3, table 25), and, beginning in 1968, to disabled widows and widowers.

TABLE 27.—ESTIMATED COSTS OF DISABILITY BENEFIT PAYMENTS UNDER OLD-AGE AND SURVIVORS INSURANCE PROGRAM AS PERCENT OF PAYROLL 1, 1969 LEVEL-EARNINGS ASSUMPTION

#### [in percent]

	Low-cost estimate		Intermediate- cost estimate 2
Disabled children aged 18 or over <sup>3</sup>	0. 10	0. 10	0, 10
	. 02	. 04	. 03
	. 12	. 14	. 13

¹ Taking into account the lower contribution rate on self-employment income, on tips, and on multiple-employer "excess wages." as compared with combined employer-employee rate.

ages," as compared with combined employer-employee rate.

Based on the average of dollar contributions and dollar costs under the low- and high-cost estimates.

<sup>3</sup> Including the related mother's and wife's benefits.

The cost of benefits to disabled children aged 18 and over of deceased or retired workers (including the related mother's and wife's benefits) is projected to increase in the future from the 1969 level of 0.05 percent of taxable payroll to an ultimate level of 0.11 percent. No significant difference is projected between the low-cost and high-cost estimates as a result of changes in the mortality rates of workers, since an eligible child may qualify either as a dependent of a retired worker or as a survivor of a deceased worker. Moreover, the proportion of persons in the population with childhood disabilities should be expected to remain stable. This occurs because most of their disabling conditions are of a congenital nature.

The cost of benefits to disabled widows and widowers aged 50 and over is projected to increase rapidly and then to level off at about 0.03 percent of taxable payroll. Initially, the cost will increase rapidly because of additional disabled widows and widowers coming on to the rolls each year. However, since the reduction in benefits is permanent, there will be, later, the offsetting effect of lower benefits that will be paid to disabled widows who continue to receive benefits past age 60 (and to disabled widowers past age 62) as compared to the higher nondisabled widow's (and widower's) benefit that would have been otherwise paid. Wide relative variation in cost is projected between the low-cost estimate and the high-cost estimate. This is due to differences in projected future mortality of insured workers and to differences in projected disability prevalence rates among eligible widows and widowers.

# Conclusion

The current long-range actuarial cost estimates for the old-age, survivors, and disability insurance program as a whole indicate that

the program is in close actuarial balance.

According to the intermediate-cost estimate, the old-age and survivors insurance program has a small negative actuarial balance (namely, —0.08 percent of taxable payroll on a level-cost basis computed over the next 75 years), which is within an acceptable margin of variation for the intermediate-cost estimate considering the long-range nature of the estimates. The disability insurance program shows exact actuarial balance.

These long-range cost estimates show that the system, as modified by the 1969 amendments, continues to be financed on an actuarially sound basis. Both the old-age and survivors insurance programs and the disability insurance program will have sufficient income from contributions (based on the tax schedule and taxable earnings base now in the law) and from investments to meet the cost of benefit payments and administrative expenses both for the next 15 to 20 years and for the distant future.

The Board of Trustees believes that the increase in the contribution rates for the old-age, survivors, and disability insurance program that is scheduled to go into effect on January 1, 1971, need not be as large as is provided (i.e., for the combined employer-employee rate, from 8.4 percent to 9.2 percent). The total contribution rate for old-age, survivors, and disability insurance and hospital insurance could well be left unchanged (i.e., a combined employer-employee rate of 10.4 percent for 1971, as against 9.6 percent for 1970), but a larger portion allocated to the hospital insurance program. If this were done, it would be necessary to have a somewhat higher ultimate contribution rate for the cash benefits program than would otherwise be the case.



# APPENDIXES

# APPENDIX I. ASSUMPTIONS, METHODOLOGY, AND DETAILS OF LONG-RANGE COST ESTIMATES

The basic assumptions used in the long-range estimates for the old-age, survivors, and disability insurance system are described in this appendix. Also given are more detailed data in connection with the results of these estimates.

#### Population

Projections were made of the U.S. population (including overseas areas covered by the old-age, survivors, and disability insurance program) for future quinquennial years, by 5-year age groups and by sex. The starting point was the population on July 1, 1965, as estimated by the Bureau of the Census from the 1960 census and from births, deaths, and migration in 1960-65. This population estimate was increased to allow for probable underenumeration in the 1960 census and adjusted for differences in the geographical areas covered by the estimate of the Bureau of the Census and those covered by the old-age, survivors, and disability insurance system.

In the projections for both cost estimates it is assumed that mortality rates will decline until the year 2000. In the high-cost estimates, mortality rates for the year 2000 are, on the average, about 73 percent of the 1959-61 level. The mortality is projected to decrease by about 40-55 percent at the younger ages, but with the rates at the older ages showing somewhat smaller improvements. The low-cost estimate assumes exactly half of the improvement in mortality used in the high-cost estimate.

In the low-cost estimate, fertility rates are assumed to decrease slowly until reaching a level in 1985 roughly equivalent to about 83 percent of the average rates prevailing in the period 1960-65. The high-cost fertility rates decrease more rapidly and reach an ultimate rate in 2010 equivalent to about 68 percent of the 1960-65 experience. Both estimates assume a small amount of net immigration.

The low-cost estimate is based on high fertility and high mortality, while the high-cost estimate assumes low fertility and low mortality. This makes the high-cost population relatively much older than the low-cost population, which is reasonable in view of the fact that benefits to aged persons account for more than 80 percent of the cost of the system. Complete details about the population projections are given in Actuarial Study No. 62, Social Security Administration.

Assumptions as to the percentage of the population who have covered employment during a year were made for each age group by sex for each quinquennial year. The estimated average percentages for 1963-67 for males were projected to increase slightly (so as to reflect some decrease in the unemployment rate over that prevailing in the period), except for the older ages where they were assumed to decrease for both the low-cost and high-cost assumptions (thus recognizing the possibility of higher retirement rates). An increase was assumed for females, except for the very old ages; these increases are higher in the middle ages and are a continuation of trends in the past.

The foregoing assumptions are consistent with the assumptions as to the average unemployment rate in the future. A depression lasting several years could substantially increase the cost, but it is believed that any periods of low employment would be of relatively short duration and would have virtually no

long-range cost effect.

<sup>&</sup>lt;sup>1</sup> A more detailed discussion of the procedures followed in making the long-range cost estimates can be found in Actuarial Study No. 69, Social Security Administration.

#### Earnings

Level average earnings at about the 1969 level were assumed for each sex. This assumption implies that within each sex group the earnings level would not rise on account of changes in the distribution of covered workers by occupation or industry.

In the past, average earnings have increased substantially, partly because of inflation, and partly because of increased productivity, although other factors such as hours worked and unemployment have also had an effect. If this trend continues and if the benefit formula is not changed the cost relative to payroll would be less than the estimates show because the formula provides a benefit that is a decreasing percentage of average wage as the average wage increases.

It is likely, however, that if average earnings increase, the benefit formula and the earnings base used for contributions will be modified.

If benefit payments are increased in exactly the same ratio as the increase in taxable earnings, the year-by-year cost estimates of benefit payments expressed as a percentage of payroll would be unchanged. There would, however, be some increase in the level-premium cost because of the diminished relative value of interest earnings on the trust funds.

#### Insured population

The term "insured" is used as meaning fully insured, since the number of persons who are currently insured only is relatively small and can be disregarded for long-range cost analysis purposes. The percentages of insured persons by age and sex in various future years are estimated from the percentages of persons covered. It is evident that eventually almost all males in the country will be insured for old-age and survivor benefits; the ultimate percentage for aged males is estimated at 96 percent in the low-cost estimate and 98 percent in the high-cost estimate. For females there is much greater uncertainty; it is estimated that the corresponding proportions for aged females will eventually be 70 percent in the low-cost estimate and 75 percent in the high-cost estimate (the differential reflecting the range possible because of women moving in and out of the labor market and whether thereby they do or do not obtain insured status).

The estimated numbers of persons insured for disability benefits are lower than those insured for old-age and survivor benefits because of the more restrictive

insured status provisions for disability benefits.

#### A ged beneficiaries

Old-age beneficiaries are estimated from the aged insured population. The proportions, by age and sex, of the insured population that were receiving benefits at the beginning of 1968 were projected to increase slightly in the high-cost estimate, following the trends in the past—thus, reflecting the assumed gradual increase in the retirement rates. In the low-cost estimate, the rates were assumed to remain at about the 1968 level, which reflects the most recent tendency for a leveling-off in this factor.

Wives aged 62 and over of male old-age beneficiaries were estimated by using census data and mortality projections. These potential wife beneficiaries, after adjustment for eligibility to benefits on their own account, were assumed to claim benefits as soon as they are eligible, even if this occurred at ages 62-64, when they would have to take reduced benefits. The experience to date indicates that in the vast majority of the cases such immediate claiming of wife's benefits

does occur.

To estimate widow beneficiaries the proportions of widows in the female aged population were projected according to mortality assumptions and adjusted for both eligibility for benefits on their own account and for the insured status of their deceased husbands. These uninsured eligible widows were assumed to claim benefits as soon as available even if this occurred at ages 60 and 61, when they would have to take reduced benefits. For ages 50-59 the disabled widow beneficiaries were estimated from the eligible widows by using disability prevalence rates.

It can be observed that the assumed wife and widow beneficiaries consist of the uninsured potential beneficiaries. In actual practice, some of the insured potential beneficiaries also receive a residual benefit consisting of the excess of the potential wife's or widow's benefit over their own old-age benefit. These residual benefits, although not giving rise to additional aged beneficiaries, were considered in the cost of the particular type of dependent or survivor benefit concerned.

The minor category of parent beneficiaries is estimated as a constant proportion of aged persons not eligible for any other benefit. The insignificant effect of the retirement test as it applies to wife's, widow's, and parent's benefits was ignored.

No estimates were made for benefits to dependent husbands and widowers since their cost is relatively negligible.

Appendix table 1 shows the estimated numbers of aged beneficiaries.

APPENDIX TABLE 1.-MONTHLY RETIREMENT BENEFICIARIES IN CURRENT-PAYMENT STATUS: 1958-2000 (In thousands)

Calendar year	Old-age beneficiaries		Wives of old- age benefi-	Aged	Dependent	
	Male	Female	ciaries 2	widows 3	parents	Tota
ctual data:						
1958	4, 617	2, 303	1, <b>9</b> 79	1, 233	30	10, 162
1959	4, 937	2, 589	2, 123	1, 394	35	11, 077
1960	5, 217	2, 845	2, 236	1, 544	36	11, 877
1961	5, 765	3, 160	2, 368	1, 697	37	13, 027
1962	6, 244	3, 494	2, 510	1, 859	37	14, 145
1963	6. 497	3, 766	2, 561	2, 011	37	14, 872
1964	6, 657	4, 011	2, 587	2, 159	36	15, 451
1965	6, 825	4, 276	2, 614	2, 371	35	16, 121
1966	7, 034	4, 624	2, 640	2, 602	35	16, 935
1967	7, 161	4, 859	2, 645	2,770	34	17, 469
1968	7, 310	5, 111	2,646	2, 938	32	18, 037
ow-cost estimate:	, 510	٠, ٠٠٠	2,0.0	-,		
1980	9. 027	7, 662	2, 849	3, 651	33	23, 222
1985	9, 830	8, 731	2, 948	3, 858	34	25, 401
1990	10, 575	9, 753	3, 056	3, 858	35	27, 277
1995	11, 013	10, 503	3, 003	3, 963	35	28, 517
2000	11, 128	10, 994	2, 865	3, 909	34	28, 930
ligh-cost estimate:	11, 120	10, 334	1,000	0,000	•	,
1980	9, 482	8,008	2, 987	3, 524	34	24, 035
	10, 513	9. 329	3, 120	3, 657	35	26, 654
1985	11, 496	10, 612	3, 244	3, 681	36	29, 069
		11, 626	3, 242	3, 723	34	30, 801
1995	12, 176 12, 512	12, 358	3, 242	3, 723	32	31, 867

<sup>&</sup>lt;sup>1</sup> Persons qualifying both for old-age benefits and for wife's, widow's, husband's, widower's, and parent's benefits are shown only as old-age beneficiaries. Minimum retirement age was 65 until November 1956, when it was lowered to 62 for women, and until August 1961, when it was also reduced to 62 for men, expet that for widows it was further lowered to 60 in September 1965. Actual data as of the end of the year (except for 1958—November); estimated data as of the middle of the year. Excluding effect of railroad financial interchange provisions.

2 Including dependent husbands and including wives of any age with child beneficiaries in their care (both relatively

small categories). <sup>3</sup> Including dependent widowers and disabled widows and widowers aged 50 and over.

# Beneficiaries under retirement age

Young wives and children of retired workers were estimated by reference to their ratios to male old-age beneficiaries, as derived from recent actual data and

projected according to the population fertility and mortality assumptions.

Child-survivor beneficiaries were obtained from estimates of total paternal orphans in the country in future years. The projected child population by age groups was multiplied by the probability of being a paternal orphan. These probabilities were derived by using distributions of age of fathers at birth of child and death rates consistent with the population projections. The number of paternal orphans was then adjusted to eliminate orphans of uninsured men, to add orphans of insured women and to include the eligible disabled orphans aged 18 and over. For the nondisabled children aged 18-21, a further reduction was made to exclude those not attending school. Mother survivor beneficiaries were estimated by assuming a constant ratio of mothers to children, after excluding maternal orphans and those aged 18–21 who are attending school. The numbers of lump-sum death payments were estimated by multiplying the insured population by death rates used in the population projections.

### Disabled beneficiaries and their dependents

The future number of persons receiving monthly disability benefits based on their own earnings is estimated by the application of incidence and termination rates. These rates were developed from the most recent experience data available from the operations of the disability insurance system. The population insured for disability (by sex, age, and cost assumption) is multiplied by the incidence rates to arrive at the number of new cases of disabled workers. These in turn are projected through the use of mortality and recovery rates to obtain the number of

Appendix table 2 shows the estimates of number of beneficiaries under the minimum retirement age (including disability insurance beneficiaries and their dependents).

APPENDIX TABLE 2.-MONTHLY BENEFICIARIES UNDER MINIMUM RETIREMENT AGE IN CURRENT-PAYMENT STATUS I AND NUMBER OF DEATHS RESULTING IN LUMP-SUM DEATH PAYMENTS, 1958-2000

#### [In thousands]

Calendar year			Disabi	lity beneficia	Total monthly	Lump-sum	
	Children <sup>2</sup>	Widowed - mothers	Workers	Wives <sup>3</sup>	Children 4	benefi- ciaries	death cases
Actual data:							
1958	1,606	354	238	12	18	2, 228	5 <b>6</b> 57
1959	1,754	376	334	48	78	2, 5 <del>9</del> 0	6 822
1960	1, 845	401	455	77	155	2,934	779
1961	1, 989	428	618	118	291	3, 444	813
1962	2, 160	452	741	147	387	3, 887	865
1963	2, 230	462	827	168	457	4, 144	969
1964	2, 298	471	894	179	490	4, 332	1,011
1965	2,535	472	988	193	558	4,746	990
1966	2, 739	488	1, 097	220	654	5, 197	1,060
1967	2, 873	496	1, 194	235	713	5, 511	1, 134
1968	3, 009	505	1, 295	253	787	5, 849	1, 218
Low-cost estimate:	0, 000	000	1, 200	200	, , ,	0,0.0	-,
1980	3, 347	519	1,702	291	929	6,788	1,563
1985	3, 471	542	1, 836	310	960	7, 119	1, 652
1990	3, 779	598	1, 947	325	977	7, 626	1, 812
1995	4,019	639	2, 121	350	1,022	8, 151	1, 923
2000	4, 187	671	2, 409	393	1, 117	8, 777	2, 044
High-cost estimate:	4, 107	0/1	2, 403	555	-,,	0,777	2,041
1980 :	3, 235	489	2,076	357	1,140	7, 297	1,519
1985	3, 214	484	2, 278	374	1, 197	7,547	1,636
1990	3, 326	500	2, 445	395	1, 260	7, 926	1,748
1995	3, 326 3, 381	505	2, 692	426	1, 360	8, 364	1, 740
		500	3,069	479	1,528	8, 940	1, 970
2000	3, 364	200	ა, სია	4/9	1, 520	6, 940	1, 3/0

<sup>1</sup> See footnote 1 of app, table 1 for definition of minimum retirement age. Does not include wives under age 62 of old-age beneficiaries; including disability beneficiaries aged 62-64, and spouses aged 62 and over of disability beneficiaries. For actual data, as of December (except for 1958—November); for estimated future data, as of middle of year. Excluding effect

of railroad financial interchange provisions.

2 Children of retired and deceased workers.

3 Spouses of disabled workers, including some such spouses aged 62 and over.

4 Children of disabled workers.

January through November 1958.
 December 1958 through December 1959.

#### Average benefits and total benefit payments

Average benefits in the various benefit categories were interpolated between the sizes of current benefit awards, estimated from recent claims data, and the sizes of the ultimate benefits computed. The latter were determined as though the 1969 earnings level were in effect throughout the entire working life of all workers with respect to whom benefits are being paid. The values were later adjusted to take into account the effect of the 1969 amendments. Total benefit payments are shown in dollar amounts, in tables 20 and 21, and as a percentage of payroll, in table 19.

The combined cost of old-age, survivors, and disability benefits (expressed as a percentage of taxable payroll) in 1970 as shown in tables 15 and 18 is projected to increase by about 45 percent in the low-cost estimate and by about 90 percent in the high-cost estimate, according to table 19. The significant upward cost trend is temporarily reversed around the year 2000, at which time a significant part of the aged population consists of persons born in the 1930's, when birth rates were low.

#### Administrative expenses

Assumed administrative expenses for old-age, survivors, and disability insurance are based on two factors—the number of persons having any covered employment in the given year and the number of monthly beneficiaries.

#### Railroad retirement financial interchange

A financial interchange between the old-age, survivors, and disability insurance system and the railroad retirement system is provided, as explained in appendix II. The purpose of this interchange is to place the old-age and survivors insurance and the disability insurance trust funds in the same position they would have been in if railroad employment were, and always had been, covered employment.

Because of the relatively older age distribution of railroad workers, the transfer is currently in favor of the railroad retirement system. But it is estimated that eventually the higher average wage of railroad employees and the increasing proportion of wives and widows of railroad workers receiving old-age, survivors, and disability insurance benefits on their own earnings records, rather on the record of the railroad worker, will shift the transfer the other way. The long-range effect is relatively insignificant insofar as old-age, survivors, and disability insurance costs are concerned, but the current estimates indicate a small "net gain" to the railroad retirement system over the entire period of these estimates.

#### Interest rate

The 1960 amendments revised the basis for determining the interest rate on public-debt obligations issued for purchase by the trust funds (special issues), which constitute a major portion of the investments of the trust funds. Under previous law, the interest rate on special obligations was related to the average coupon rate on all outstanding marketable obligations of the United States not due or callable for at least 5 years from the original issue date. Under present law, this interest rate is based on the average market yield of all such marketable obligations not due or callable for 4 or more years from the time of the issuance of the special obligations.

This change will have the immediate effect of gradually increasing the interest income of the trust funds as compared with the previous basis. The ultimate effect is expected to be only a slight increase in the interest income of the system since, over the long run, coupon rates on new long-term Government obligations tend to follow (both up and down) the average market yield on all outstanding

long-term issues.

For the intermediate-cost estimate, a level interest rate of 4.75 percent was assumed. This is somewhat above the average yield of the total investments of the old-age and survivors insurance trust fund as of December 31, 1969 (4.66 percent), but is below the corresponding rate for the disability insurance trust fund (5.40 percent); the rate applicable for new investments for both trust funds for December 1969 was 7½ percent. The interest rates for the low-cost and high-cost estimates were assumed at 5.25 percent and 4.25 percent, respectively.

# APPENDIX II. LEGISLATIVE HISTORY AFFECTING THE TRUST FUNDS <sup>1</sup>

Board of trustees.—From January 1, 1940, when the Federal old-age and survivors insurance trust fund was established, through July 15, 1946, the three members of the Board of Trustees, who served in an ex officio capacity, were the Secretary of the Treasury, the Secretary of Labor, and the Chairman of the Social Security Board. On July 16, 1946, under Reorganization Plan No. 2 of 1946, the Federal Security Administrator became ex officio member of the Board of Trustees in place of the Chairman of the Social Security Board, which agency

was abolished.

On April 11, 1953, Reorganization Plan No. 1 of 1953, creating the Department of Health, Education, and Welfare, went into effect, and the office of Federal Security Administrator was abolished. The functions of the Administrator as ex officio member of the Board of Trustees were taken over by the Secretary of Health, Education, and Welfare. The remaining membership of the Board has not changed since it was first established. Since the establishment of the fund, the Secretary of the Treasury has been managing trustee. The Social Security Act Amendments of 1950 designated the Commissioner for Social Security—since April 11, 1953, the Commissioner of Social Security—as Secretary of the Board of Trustees.

Under the Social Security Amendments of 1956, the functions of the Board of Trustees have related to both the Federal old-age and survivors insurance trust fund and the Federal disability insurance trust fund. The Social Security Amendments of 1960 eliminated the so-called three-times rule (requiring the Board of Trustees to report to the Congress whenever it expects that in the course of the next 5 fiscal years either of the trust funds will exceed three times

Amendments to the Social Security Act and to related sections of the Internal Revenue Code were made during the period 1939-69. The more important changes made in 1950-58 that are significant from an actuarial standpoint are described in appendix II of the 21st annual report of the Board of Trustees. The more important changes contained in the 1960 and 1961 amendments are described in the main body of the 23rd annual report, the changes made in 1964 are described in the 25th annual report, and the more important changes contained in the amendments made in 1965 and in 1966 are described in the 1967 annual report. The more important changes contained in the 1967 amendments are described in the 1969 annual report. The more important changes contained in the amendments made in 1969 are described in the main body of the present report.