



**PRESENT VALUES
OF
OASI BENEFITS
IN CURRENT
PAYMENT
STATUS,
1968**

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FOREWORD

This study presents a valuation of old-age and survivors insurance benefits in current payment status at the end of various years through 1966 with preliminary estimates for 1967 and 1968. It is a sequel to Actuarial Study No. 51, which presented similar data through 1959 with a preliminary estimate for 1960. The analysis parallels valuations of private retirement plans. It should be noted, however, that OASI benefits are suspended when the beneficiary is in substantial employment. The valuation annuities have not been modified to allow for such benefit suspensions; rather, it has been assumed that benefits in current payment status will be constant by amount and type, except when diminished by natural termination such as death or remarriage. The valuation of disability benefits in current payment status has not been attempted in this Study, but will be presented separately in a future Study.

The Congress has consistently maintained the position that the OASI system should be "actuarially sound" (in approximate actuarial balance, on the basis of intermediate-cost estimates). Actuarial balance is attained when the present Trust Fund plus the present value of future contributions (i.e., considering future interest earnings on these income sources) equals the present value of future disbursements for benefits and administrative expenses.

Although this definition of actuarial soundness is appropriate for OASI (a compulsory social insurance system where cost estimates are made over a 75 year future period), it does not pertain to private retirement plans, where future contributions of new entrants are not considered, and where termination of the plan is more likely. The analysis of incurred obligations under OASI is not, therefore, as critical to actuarial soundness as it is to a private plan. However, the calculation of reserves necessary to "fund" OASI benefits currently being paid, which have the greatest priority as financial commitments, provides an excellent base for comparison of similar incurred obligations under other systems.

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A. Introduction

This study gives the present value^{1/} for benefits in current payment status under the old-age and survivors insurance system. It is a sequel to Actuarial Study No. 51 covering 1940-59.

Present values considered in this study are limited to accrued benefits currently being paid and potential benefits for current beneficiaries, such as potential widow's or widower's benefits for those now receiving spouse's benefits and such as lump-sum death payments for current old-age beneficiaries. Deferred wife's and widow's benefits in respect to persons for whom benefits are not in current payment status have been omitted, as have potential survivor's benefits to persons who are currently receiving benefits from the disability trust fund.

The total accrued liability of a benefit system can be defined as the present value of all future benefits which have been "earned" to date. Reserves on hand are the funded portion of the accrued liability.

The present value of OASI benefits in current payment status represents a part of this total accrued liability. The remainder of such liability is that for future benefit payments to insured workers

^{1/} The actuarial term "present value" is the lump-sum amount at a designated time equivalent to specified future instalments and is determined by discounting such instalments by assumed rates of interest, mortality, and other pertinent contingencies.

not presently receiving monthly benefits and to their dependents as well as to uninsured eligible survivors not presently receiving monthly benefits, less the present value of their future contributions. This liability, because of its indefinite nature, is very difficult to calculate for the OASI system. Nor does a national permanent, compulsory OASI system require meticulous valuation of all liabilities and immediate funding of such liabilities. The present value of benefits in current payment status is compared with the Trust Fund at the same date. It must, however, be borne in mind that any relationship between the present value of benefits in current payment status as of a specified date and the then-existing Trust Fund has no direct bearing on the actuarial soundness of the program. Accordingly, any deficiency in the Trust Fund to meet the amount of present value does not necessarily imply that the system is not in "actuarial balance".

The values presented in this study do not include the indirect benefit payments that will be made through the railroad interchange provisions to some beneficiaries who are entitled to Railroad Retirement annuities.

B. Methodology and Assumption

The first monthly benefit awards under the OASI system were made in January 1940, so that the first valuation of benefits in current payment status is as of December 31, 1940. Subsequent valuations presented in this Study are for years 1945, 1950 and as of the end of each year thereafter through 1966, with preliminary estimates for 1967 and 1968.

The basic data utilized were those given in the Annual Statistical Supplements to the Social Security Bulletin. First, the total amount of monthly benefits for each attained age distinguished by sex and type of benefit was obtained by multiplying the average benefit by the number of lives involved.

Then, all benefits of the same type, sex, and attained age were valued as a group by multiplying the total amount of monthly benefits in such group by the appropriate annuity factor (present value of \$1 per month discounted at interest, with life contingencies and, for widows, remarriage probabilities). In the interest of simplicity continuous functions were used. For instance, a life annuity of \$1 per month to a man aged 66 last birthday (i.e., average age $66\frac{1}{2}$) is, using continuous functions, worth \$111.88 on the basis of the United States White Male Life Table for 1959-61 at $3\frac{1}{2}\%$ interest. This factor, applied to the rate of monthly benefits for those males aged 66 receiving old-age benefits at the end of 1968 (475,325 men at an average monthly benefit of \$109.53), yields a present value of

\$5,825 million for this group. This would be the amount necessary at that date to meet all direct benefit payments to this group on the assumptions stated; lump-sum, survivor, and supplementary benefits for this group are valued separately. Lump-sum payments are valued by multiplying the total amount of monthly benefits payable for a given sex and age group by a factor representing the present value of a payment on death equal to the average amount of lump-sum per \$1 of monthly benefit.

All benefits in current payment status are assumed to remain in force in such status until death or prior termination (such as marriage of the beneficiary, or attainment of age 18 or 22 of child, in respect to child's and mother's benefits). The termination of mother's benefits by remarriage is also taken into consideration by utilizing appropriate remarriage rates. For calculations prior to 1961 the remarriage rates for widows used were those of the 150% modification of the American Remarriage Table; thereafter 1956 OASI Remarriage Rates^{2/} have been used.

It has generally been assumed that the size of the monthly benefit remains constant throughout. It should, however, be borne in mind that there can be a redistribution on termination of any

^{2/} See "Remarriage Tables Based on Experience Under OASDI and U.S. Employee Compensation Systems", Actuarial Study No. 55.

benefit while the family is receiving the maximum benefit. For child's benefits, an upward adjustment of 3% of the present value of benefits in current payment status has been made before 1950-- and 7% for 1950 and thereafter--to reflect these factors. There may also be an increase in the mother's benefit on termination of a child's benefit, if the maximum benefit provisions had previously been applicable. Furthermore, mother's benefits, even though not tabulated in select form (by duration of widowhood), were valued by select annuities at widowhood at the attained age on the date of valuation. To allow for both of these factors, an upward adjustment of 3% was made in the present value of mother's benefits in current payment status before 1950, and similarly 4% for 1950-53, and 7% thereafter.

More important, it has been assumed that benefits are not suspended because of subsequent employment of the beneficiary and that benefits are not reduced or eliminated because the surviving beneficiary earns old-age benefits in her own right. No allowance, however, has been made for persons on the roll but not receiving benefits because they are in substantial employment in the month of valuation (such persons are "entitled" but not "in current payment status"). It has been assumed that these "ins" and "outs" balance at any time.

All calculations were done on the assumption that the law as in effect at the time of the valuation would remain unchanged. No increases in benefits or changes in the Social Security Act that were effective after the date of the valuation are taken into account. Since benefits have been increased in the past and probably will be increased in the future, the value of future benefit payments to current beneficiaries will probably be higher than estimated in this study. The uncertainties about what future changes in the law will be, in addition to their timing, make it practically impossible to prepare an estimate of the "true value of future benefits". For this reason the estimates have been prepared on the assumption of an unchanging law.

C. Present Value of Benefits in Current Payment Status

The liability for claims in current payment status is valued as of December 31 of each year (November 30 for 1958 because detailed data were not available for December in that year) under the assumption that no future benefit changes will occur. Any changes in liability due to future benefit increases are taken into account only in valuations made after the benefit changes become effective. Claims in current payment status would be correct for use in a balance sheet, except that they do not include the liability for the following items:

- (a) insured workers who are not yet eligible for benefits and their dependents;
- (b) eligible persons whose claims are pending;
- (c) eligible persons who have received awards but are not currently receiving benefits; and
- (d) dependents and survivors of insured workers who will become eligible to benefits upon attainment of the required minimum age.

Table 1 presents monthly amounts in current payment status by type for each quinquennial year from 1940 to 1950 and for each single year thereafter. It may be noted that since the benefit roll has not yet matured, there has been an increase in the aggregate benefit amounts for each year. However, the survivor benefits to mothers

and children, a relatively current risk, will mature earlier than benefits to aged recipients.

Table 2 shows present values of OASI benefits in current payment status. It may be noted that the mortality and interest assumptions in computing the present values have varied from time to time. For the period 1961-68 the most appropriate mortality basis for the purpose of this Study is U.S. White Life Tables for 1959-61; the corresponding interest assumption is 3½%. However, for comparative purposes, data for 1961 are also given using U.S. White Life Tables for 1949-51 and 3% interest. The estimated aggregate present value of the benefits in current payment status as of December 31, 1968 is \$178 billion. The present value of child's benefits increased sharply in 1965 due to legislation providing benefits to children up to age 22 who are attending school.

It is also instructive to value the benefits if interest is ignored, i.e., the valuation interest rate equals 0%. This assumes that no interest earnings would be credited to the Trust Fund for purposes of paying benefits or increasing the fund. The present value of benefits in current payment status at 0% interest on December 31 for each year from 1961 through 1966, with preliminary estimates for 1967 and 1968, is given in Table 2a.

Tables 3 and 3a show the percentage distribution of the present values of the various types of benefits in current payment status.

The trend in these percentages indicates that survivor benefits were more significant in the early years, whereas the liability for old-age benefits has become relatively more important with time.

Table 1

MONTHLY AMOUNT OF OASI BENEFITS IN CURRENT
PAYMENT STATUS
(In thousands)

End of Year ^{1/}	Old-Age ^{2/}		Wife's ^{3/}	Widow's ^{4/}	Mother's ^{5/}	Child's ^{6/}	Parent's	Total
	Male	Female						
1940	\$2,293	\$246	\$361	\$90	\$402	\$668	\$11	\$4,070
1945	11,153	1,385	2,040	1,893	2,391	4,858	81	23,801
1950	67,091	10,587	11,995	11,481	5,801	19,366	535	126,857
1951	80,837	15,171	14,710	13,849	6,776	22,739	709	154,791
1952	107,032	23,185	19,178	18,482	8,273	28,141	887	205,179
1953	132,767	31,892	24,017	22,096	9,517	32,517	986	253,792
1954	177,541	45,731	32,271	29,526	12,089	40,996	1,189	339,343
1955	215,919	61,027	39,414	34,151	13,404	46,443	1,257	411,615
1956	240,295	82,248	48,324	45,781	14,264	50,329	1,365	482,606
1957	295,820	104,430	62,803	55,945	16,101	56,836	1,499	593,434
1958	335,850	123,348	70,815	63,975	17,885	61,500	1,587	674,960
1959	395,511	152,237	82,523	79,047	21,579	74,830	2,033	807,760
1960	427,112	169,738	87,865	89,056	23,796	84,100	2,178	883,845

Table 1 (Continued)

MONTHLY AMOUNT OF OASI BENEFITS IN CURRENT
PAYMENT STATUS
(In thousands)

End of Year ^{1/}	Old-Age ^{2/}		Wife's ^{3/}	Widow's ^{4/}	Mother's ^{5/}	Child's ^{6/}	Parent's	Total
	Male	Female						
1961	\$479,227	\$195,924	\$94,367	\$110,179	\$25,423	\$96,346	\$2,467	\$1,003,933
1962	523,180	218,786	100,303	122,474	26,837	105,111	2,542	1,099,233
1963	550,238	238,832	103,060	134,403	27,438	110,074	2,553	1,166,598
1964	569,714	257,829	104,773	146,477	27,954	114,946	2,546	1,224,239
1965	631,952	299,586	114,039	174,886	30,884	141,810	2,685	1,395,842
1966 ^{7/}	655,994	327,348	115,686	192,825	31,416	154,628	2,645	1,480,542
1967 ^{7/}	684,449	341,586	117,022	207,698	32,687	164,727	2,588	1,550,757
1968 ^{7/}	819,074	408,790	135,477	253,918	37,836	196,236	2,787	1,854,118

1/ As of December 31; November 30 for 1958 only.

2/ Before the 1950 Amendments, the designation was "primary benefits".

3/ Includes a small amount of husband's benefits for 1950-68; on December 31, 1968, the monthly amount was about \$450,000.

4/ Includes a small amount of widower's benefits for 1950-68; on December 31, 1968, the monthly amount was about \$266,000.

5/ Before the 1950 Amendments, the designation was "widow's current benefits".

6/ Disabled children aged 18 and over are excluded prior to 1961.

7/ Preliminary estimate.

Note: The figures in this table reflect only the direct operations of the OASI system and not the indirect effects due to the coordinating and financial interchange provisions of the Railroad Retirement Act (based on the 1951 Amendments thereto). The financial interchange provisions provide, in effect, that the OASI Trust Fund shall, on and after June 30, 1952, be maintained in the same position as if railroad employment had always been covered under OASI.

Table 2

PRESENT VALUES OF OASI BENEFITS IN CURRENT
PAYMENT STATUS
(In millions)

End of Year ^{1/}	Old-Age ^{2/}		Wife's ^{3/}	Widow's ^{4/}	Mother's ^{5/}	Child's ^{6/}	Parent's	Lump Sum ^{7/}	Total
	Male	Female							
Based on U.S. White Life Tables for 1939-41 and 2½% Interest									
1940	\$233	\$29	\$48	\$10	\$26	\$53	\$1	\$10	\$410
1945	1,014	143	256	195	153	412	7	49	2,229
1950	5,957	1,081	1,481	1,143	357	1,466	44	189	11,718
1951	7,107	1,556	1,778	1,366	422	1,723	59	235	14,246
1952	9,348	2,368	2,304	1,800	515	2,100	73	318	18,826
Based on U.S. White Life Tables for 1949-51 and 2½% Interest									
1952	9,938	2,598	2,543	1,978	516	2,100	80	313	20,066
1953	12,370	3,575	3,183	2,346	594	2,400	88	395	24,951
1954	16,593	5,118	4,270	3,106	776	2,953	105	523	33,444
1955	20,141	6,827	5,212	3,553	857	3,278	109	644	40,621
1956	22,371	9,458	6,562	4,986	909	3,479	118	749	48,632
Based on U.S. White Life Tables for 1949-51 and 3% Interest									
1957	26,678	11,699	9,103	6,016	1,002	3,765	129	873	59,265
1958	30,192	13,718	10,466	6,825	1,106	3,967	135	994	67,403
1959	35,579	16,850	12,476	8,407	1,326	4,772	169	1,139	80,718
1960	38,291	18,628	12,208	9,396	1,451	5,243	176	1,233	86,626
1961	43,390	21,350	13,477	11,509	1,541	5,654	196	1,585	98,702

Table 2 (Continued)

PRESENT VALUES OF OASI BENEFITS IN CURRENT
PAYMENT STATUS
(In millions)

End of Year ^{1/}	Old-Age ^{2/}		Wife's ^{3/}	Widow's ^{4/}	Mother's ^{5/}	Child's ^{6/}	Parent's	Lump Sum ^{7/}	Total
	Male	Female							
Based on U.S. White Life Tables for 1959-61 and 3 1/2% Interest									
1961	\$42,811	\$21,605	\$13,019	\$11,616	\$1,430	\$6,595	\$196	\$1,442	\$98,714
1962	46,870	23,979	13,799	12,814	1,503	7,154	198	1,578	107,895
1963	49,113	25,967	14,155	13,943	1,532	7,512	195	1,674	114,091
1964	50,479	27,780	14,352	15,064	1,557	7,881	191	1,753	119,057
1965	55,661	31,995	15,569	18,072	1,716	11,021	198	1,903	136,135
1966	57,504	34,681	15,694	19,944	1,750	11,520	193	2,008	143,294
1967 ^{8/}	59,752	35,935	15,796	21,492	1,819	12,220	186	2,099	149,299
1968 ^{8/}	71,227	42,772	18,192	26,287	2,106	14,498	198	2,512	177,792

^{1/} As of December 31; November 30 for 1958 only.

^{2/} Before the 1950 Amendments, the designation was "primary benefits".

^{3/} Includes husband's benefits; also potential widow's and potential widower's benefits.

^{4/} Includes widower's benefits.

^{5/} Before the 1950 Amendments, the designation was "widow's current benefits".

^{6/} Disabled children aged 18 and over are excluded prior to 1961.

^{7/} Payable on death of old-age beneficiary.

^{8/} Preliminary estimate.

Note: The figures in this table reflect only the direct operations of the OASI system and not the indirect effects due to the coordinating and financial interchange provisions of the Railroad Retirement Act (based on the 1951 Amendments thereto). The financial interchange provisions provide, in effect, that the OASI Trust Fund shall, on and after June 30, 1952, be maintained in the same position as if railroad employment had always been covered under OASI.

Table 2a

PRESENT VALUES OF OASI BENEFITS IN CURRENT
PAYMENT STATUS, DECEMBER 31
(In millions)

Year	Old-Age		Wife's ^{1/}	Widow's ^{2/}	Mother's	Child's ^{3/}	Parent's	Lump Sum ^{4/}	Total
	Male	Female							
Based on U.S. White Life Tables for 1959-61 and 0% Interest									
1961	\$53,502	\$28,069	\$17,955	\$15,029	\$1,503	\$8,205	\$242	\$1,984	\$126,489
1962	58,644	31,125	19,036	16,560	1,580	8,953	244	2,172	138,314
1963	61,422	33,658	19,525	17,979	1,610	9,464	240	2,301	146,199
1964	63,055	35,953	19,792	19,415	1,636	9,977	235	2,405	152,468
1965	69,471	41,348	21,462	23,361	1,804	13,987	242	2,608	174,283
1966	71,726	44,761	21,612	25,822	1,840	14,631	235	2,748	183,375
1967 ^{5/}	74,516	46,344	21,734	27,845	1,912	15,474	227	2,867	190,919
1968 ^{5/}	88,853	55,138	24,991	34,079	2,213	18,368	240	3,431	227,313

- 1/ Includes husband's benefits; also potential widow's and potential widower's benefits.
 2/ Includes widower's benefits.
 3/ Includes disabled children.
 4/ Payable on death of old-age beneficiary.
 5/ Preliminary estimate.

Note: The figures in this table reflect only the direct operations of the OASI system and not the indirect effects due to the coordinating and financial interchange provisions of the Railroad Retirement Act (based on the 1951 Amendments thereto). The financial interchange provisions provide, in effect, that the OASI Trust Fund shall, on and after June 30, 1952, be maintained in the same position as if railroad employment had always been covered under OASI.

Table 3

PERCENTAGE DISTRIBUTION OF PRESENT VALUES OF OASI BENEFITS IN CURRENT
PAYMENT STATUS, BY TYPE OF BENEFIT

<u>End of Year^{1/}</u>	<u>Old-Age^{2/}</u>		<u>Wife's^{3/}</u>	<u>Widow's^{4/}</u>	<u>Mother's^{5/}</u>	<u>Child's^{6/}</u>	<u>Parent's</u>	<u>Lump Sum^{7/}</u>	<u>Total</u>
	<u>Male</u>	<u>Female</u>							
Based on U.S. White Life Tables for 1939-41 and 2½% Interest									
1940	57.0%	7.1%	11.7%	2.4%	6.3%	12.9%	.2%	2.4%	100%
1945	45.5	6.4	11.5	8.7	6.9	18.5	.3	2.2	100
1950	50.9	9.2	12.6	9.8	3.0	12.5	.4	1.6	100
1951	49.9	10.9	12.5	9.6	3.0	12.1	.4	1.6	100
Based on U.S. White Life Tables for 1949-51 and 2½% Interest									
1952	49.4	12.9	12.7	9.9	2.6	10.5	.4	1.6	100
1953	49.5	14.3	12.8	9.4	2.4	9.6	.4	1.6	100
1954	49.6	15.3	12.8	9.3	2.3	8.8	.3	1.6	100
1955	49.6	16.8	12.8	8.7	2.1	8.1	.3	1.6	100
1956	46.0	19.4	13.5	10.3	1.9	7.2	.2	1.5	100
Based on U.S. White Life Tables for 1949-51 and 3% Interest									
1957	45.0	19.7	15.4	10.2	1.7	6.4	.2	1.5	100
1958	44.8	20.4	15.5	10.1	1.6	5.9	.2	1.5	100
1959	44.1	20.9	15.5	10.4	1.6	5.9	.2	1.4	100
1960	44.2	21.5	14.1	10.8	1.7	6.1	.2	1.4	100
1961	44.0	21.6	13.7	11.7	1.6	5.7	.2	1.6	100

Table 3 (Continued)

PERCENTAGE DISTRIBUTION OF PRESENT VALUES OF OASI BENEFITS IN CURRENT
PAYMENT STATUS, BY TYPE OF BENEFIT

End of Year ^{1/}	Old-Age ^{2/}		Wife's ^{3/}	Widow's ^{4/}	Mother's ^{5/}	Child's ^{6/}	Parent's	Lump Sum ^{7/}	Total
	Male	Female							
Based on U.S. White Life Tables for 1959-61 and 3½% Interest									
1961	43.4%	21.9%	13.2%	11.8%	1.4%	6.7%	.2%	1.5%	100%
1962	43.4	22.2	12.8	11.9	1.4	6.6	.2	1.5	100
1963	43.0	22.8	12.4	12.2	1.3	6.6	.2	1.5	100
1964	42.4	23.3	12.1	12.7	1.3	6.6	.2	1.5	100
1965	40.9	23.5	11.4	13.3	1.3	8.1	.1	1.4	100
1966	40.1	24.2	11.0	13.9	1.2	8.0	.1	1.4	100
1967 ^{8/}	40.0	24.1	10.6	14.4	1.2	8.2	.1	1.4	100
1968 ^{8/}	40.1	24.1	10.2	14.8	1.2	8.2	.1	1.4	100

1/ As of December 31; November 30 for 1958 only.

2/ Before the 1950 Amendments, the designation was "primary benefits".

3/ Includes husband's benefits; also potential widow's and potential widower's benefits.

4/ Includes widower's benefits.

5/ Before the 1950 Amendments, the designation was "widow's current benefits".

6/ Disabled children age 18 and over are excluded prior to 1961.

7/ Payable on death of old-age beneficiary.

8/ Preliminary estimate.

Note: The figures in this table reflect only the direct operations of the OASI system and not the indirect effects due to the coordinating and financial interchange provisions of the Railroad Retirement Act (based on the 1951 Amendments thereto). The financial interchange provisions provide, in effect, that the OASI Trust Fund shall, on and after June 30, 1952, be maintained in the same position as if railroad employment had always been covered under OASI.

Table 3a

PERCENTAGE DISTRIBUTION OF PRESENT VALUES OF OASI BENEFITS IN CURRENT
PAYMENT STATUS, BY TYPE OF BENEFIT, DECEMBER 31

<u>Year</u>	<u>Old-Age</u>		<u>Wife's^{1/}</u>	<u>Widow's^{2/}</u>	<u>Mother's</u>	<u>Child's^{3/}</u>	<u>Parent's</u>	<u>Lump Sum^{4/}</u>	<u>Total</u>
	<u>Male</u>	<u>Female</u>							
Based on U.S. White Life Tables for 1959-61 and 0% Interest									
1961	42.3%	22.2%	14.2%	11.9%	1.2%	6.5%	.2%	1.6%	100%
1962	42.4	22.5	13.8	12.0	1.1	6.5	.2	1.6	100
1963	42.0	23.0	13.4	12.3	1.1	6.5	.2	1.6	100
1964	41.4	23.6	13.0	12.7	1.1	6.5	.2	1.6	100
1965	39.9	23.7	12.3	13.4	1.0	8.0	.1	1.5	100
1966	39.1	24.4	11.8	14.1	1.0	8.0	.1	1.5	100
1967 ^{5/}	39.0	24.3	11.4	14.6	1.0	8.1	.1	1.5	100
1968 ^{5/}	39.0	24.3	11.0	15.0	1.0	8.1	.1	1.5	100

- 1/ Includes husband's benefits; also potential widow's and potential widower's benefits.
 2/ Includes widower's benefits.
 3/ Includes disabled children.
 4/ Payable on death of old-age beneficiary.
 5/ Preliminary estimate.

Note: The figures in this table reflect only the direct operations of the OASI system and not the indirect effects due to the coordinating and financial interchange provisions of the Railroad Retirement Act (based on the 1951 Amendments thereto). The financial interchange provisions provide, in effect, that the OASI Trust Fund shall, on and after June 30, 1952, be maintained in the same position as if railroad employment had always been covered under OASI.

D. Average Valuation Factors

Table 4 shows average valuation factors, determined from the present values of benefits in current payment status. For monthly benefits, these factors represent the lump-sum present value of \$1 per month payable until termination of benefit (by death, remarriage, attainment of age 18, etc.). Due to rounding the factors may not be accurate to the nearest cent, as shown.

Generally, the average age of persons with benefits in current payment status is increasing each year, leaving a shorter time on the average for which benefits are payable, and thereby decreasing the average present value of future benefits somewhat (and thus the average valuation factors). Thus, as the system matures, the average valuation factor for those in current payment status tends to decrease for every type of benefit, with few exceptions. This long-term trend may be expected to continue until an ultimate condition has been reached. It is partially offset, however, by decreasing age-specific death rates as general mortality improves. Moreover, in the case of widow's benefits, the average age of beneficiaries was lowered in 1965 by the addition to the roll of a substantial number of women aged 60-61. (Children aged 18-21 and attending school were also granted benefits in the 1965 legislation which accounts for the sharp increase in present value and average valuation factor of child's benefits at the end of 1965.)

The first two columns of factors include allowances for the present value of the lump-sum payments made when old-age beneficiaries die. Spouse's benefits include the present value of the potential survivors benefits at an increased rate; i.e., a wife with eligible child or claiming benefits at age 65 or over gets 50% of the primary insurance amount, while a widow claiming benefits at age 62 or over gets 82½%, a relative increase of 65%. The relative increase is greater for those wives with no eligible child and claiming benefits before age 65 since the wife's benefit in such case is less than 50% of the primary insurance amount (as small as 37½% if wife's benefit is claimed at age 62). In the case of child's benefits, only annuities certain were used prior to 1965; beginning in 1965, deaths and possible continuation of benefits at ages 18-21 were taken into consideration.

Table 4

AVERAGE VALUATION FACTORS^{1/} DETERMINED FROM PRESENT VALUES OF
OASI BENEFITS IN CURRENT PAYMENT STATUS

<u>End of Year^{2/}</u>	<u>Old-Age^{3/}</u>		<u>Wife's^{4/}</u>	<u>Widow's^{5/}</u>	<u>Mother's</u>	<u>Child's</u>	<u>Parent's</u>
	<u>Male</u>	<u>Female</u>					
Based on U.S. White Life Tables for 1939-41 and 2½% Interest							
1940	\$105.92	\$120.40	\$132.90	\$110.14	\$63.70	\$78.98	\$89.37
1945	94.64	108.05	125.86	103.19	63.86	84.67	86.06
1950	91.25	104.45	123.46	99.60	61.55	75.69	81.92
1951	90.37	104.90	120.89	98.60	62.25	75.75	83.53
1952	89.80	104.49	120.12	97.40	62.27	74.63	82.44
Based on U.S. White Life Tables for 1949-51 and 2½% Interest							
1952	95.28	114.36	132.58	107.03	62.37	74.63	90.47
1953	95.59	114.41	132.51	106.17	62.43	73.82	89.66
1954	95.82	114.16	132.30	105.19	64.15	72.02	88.35
1955	95.63	114.11	132.24	104.03	63.94	70.57	86.82
1956	95.45	117.23	135.79	108.91	63.73	69.13	86.45
Based on U.S. White Life Tables for 1949-51 and 3% Interest							
1957	92.40	114.09	144.95	107.53	62.22	66.24	86.29
1958	92.10	113.27	147.80	106.68	61.82	64.51	84.84
1959	92.07	112.66	151.18	106.35	61.44	63.76	82.96
1960	91.75	111.71	138.94	105.51	60.98	62.34	80.81
1961	93.02	111.16	142.81	104.46	60.63	62.21	79.46

Table 4 (Continued)

AVERAGE VALUATION FACTORS^{1/} DETERMINED FROM PRESENT VALUES OF
OASI BENEFITS IN CURRENT PAYMENT STATUS

<u>End of Year^{2/}</u>	<u>Old-Age^{3/}</u>		<u>Wife's^{4/}</u>	<u>Widow's^{5/}</u>	<u>Mother's</u>	<u>Child's^{6/}</u>	<u>Parent's</u>
	<u>Male</u>	<u>Female</u>					
Based on U.S. White Life Tables for 1959-61 and 3½% Interest							
1961	\$91.57	\$112.33	\$137.96	\$105.42	\$56.26	\$68.45	\$79.31
1962	91.82	111.66	137.57	104.62	56.00	68.06	77.83
1963	91.50	110.78	137.34	103.74	55.82	68.25	76.50
1964	90.84	109.81	136.98	102.84	55.69	68.56	75.19
1965	90.33	108.88	136.52	103.33	55.55	77.72	73.79
1966	89.91	108.03	135.66	103.43	55.71	74.50	72.84
1967 ^{7/}	89.55	107.30	134.98	103.48	55.65	74.18	71.88
1968 ^{7/}	89.21	106.73	134.28	103.53	55.65	73.88	70.92

1/ The present value of future benefits until death or termination of benefit per \$1 of present monthly benefits in current payment status.

2/ As of December 31; November 30 for 1958 only.

3/ Includes present value of lump-sum payable on death of old-age beneficiary.

4/ Includes present value of wife's potential widow's benefits; also present value of husband's benefit and husband's potential widower's benefit.

5/ Includes present value of widower's benefit.

6/ Includes disabled child beneficiaries.

7/ Preliminary estimate.

E. Comparison of Present Values of Benefits in Current Payment Status with the Trust Fund

Table 5 compares the OASI Trust Fund with the present value of benefits in current payment status for various years. In 1941-44, the fund was somewhat more than $3\frac{1}{2}$ times the present value of benefits in current payment status on a $2\frac{1}{2}\%$ interest basis. There was a gradual decrease in the ratio until the 1950 Amendments were enacted, when there was a substantial decline, due to significantly increased benefits. There have been further declines in the ratio due to additional amendments in various years providing for benefit liberalizations. The ratio is also reduced (and the present value of the benefits is increased) by using factors based on more recent mortality, which results in a longer average benefit period. On December 31, 1968, the Trust Fund was about 14% as large as the liability for benefits in current payment status on a $3\frac{1}{2}\%$ interest basis (and 11% as large on a 0% interest basis).

This indicates that if funding were measured by this ratio, the OASI system has been moving closer to "pay-as-you-go" financing. Although some private pension plans are funded on such a basis, most have a higher degree of advance funding than OASI. Pension plans are almost always fully funded at least for those currently on the benefit rolls. A discussion of the financing basis of the OASI system and its concept of actuarial soundness as compared with those of a private pension plan was presented in Actuarial Study No. 40.

Table 5

COMPARISON OF OASI TRUST FUND WITH PRESENT VALUES OF BENEFITS
 IN CURRENT PAYMENT STATUS, DECEMBER 31
 (In millions)

<u>Year</u>	<u>Trust Fund</u>	<u>Present Value of Benefits in Current Payment Status^{1/}</u>	<u>Trust Fund as Percent of Present Value</u>
Present Values Based on U.S. White Lives Mortality for 1939-41 and 2½% Interest			
1940	\$2,031	\$410	495%
1945	7,121	2,229	319
1950	13,721	11,718	117
1951	15,540	14,246	109
1952	17,442	18,826	93
Present Values Based on U.S. White Lives Mortality for 1949-51 and 2½% Interest			
1952	17,442	20,066	87
1953	18,707	24,951	75
1954	20,576	33,507	61
1955	21,663	40,621	53
1956	22,519	48,632	46
Present Values Based on U.S. White Lives Mortality for 1949-51 and 3% Interest			
1957	22,393	59,265	38
1958	21,864	67,403 ^{2/}	32
1959	20,141	80,718	25
1960	20,324	86,626	23
1961	19,725	98,702	20

Table 5 (Continued)

COMPARISON OF OASI TRUST FUND WITH PRESENT VALUES OF BENEFITS
IN CURRENT PAYMENT STATUS, DECEMBER 31
(In millions)

<u>Year</u>	<u>Trust Fund</u>	<u>Present Value of Benefits in Current Payment Status^{1/}</u>	<u>Trust Fund as Percent of Present Value</u>
Present Values Based on U.S. White Lives Mortality for 1959-61 and $3\frac{1}{2}\%$ Interest			
1961	\$19,725	\$98,714	20%
1962	18,337	107,895	17
1963	18,480	114,091	16
1964	19,125	119,057	16
1965	18,235	136,135	13
1966	20,570	143,294	14
1967	24,222	149,299 ^{3/}	16
1968	25,704	177,792 ^{3/}	14

^{1/} Liability in respect to benefits in current payment status at end of year. Includes present value of potential widow's benefits (based on wife's benefits); present value of potential widower's benefits (based on husband's benefits); and present value of lump-sum payments on death of old-age beneficiaries.

^{2/} Present value on November 30, 1958.

^{3/} Preliminary estimate.

Note: The figures in this table reflect only the direct operations of the OASI system and not the indirect effects due to the coordinating and financial interchange provisions of the Railroad Retirement Act (based on the 1951 Amendments thereto). The financial interchange provisions provide, in effect, that the OASI Trust Fund shall, on and after June 30, 1952, be maintained in the same position as if railroad employment had always been covered under OASI.

Actuarial Studies Available from the Office of the Actuary*

46. Illustrative United States Population Projections--May 1957.
48. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance under 1956 Amendments--August 1958.
49. Methodology Involved in Developing Long-Range Cost Estimates for the Old-Age, Survivors, and Disability Insurance System--May 1959.
50. Analysis of Benefits, OASDI Program, 1960 Amendments--December 1960.
51. Present Values of OASI Benefits in Current Payment Status, 1960--February 1961.
52. Actuarial Cost Estimates for Health Insurance Benefits Bill--July 1961.
53. Medium-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance and Increasing-Earnings Assumption--August 1961.
54. Estimated Amount of Life Insurance in Force as Survivor Benefits under OASI 1959-60--October 1961.
55. Remarriage Tables Based on Experience under OASDI and U. S. Employees' Compensation System--December 1962.
56. Analysis of Benefits under 26 Selected Private Pension Plans--January 1963.
57. Actuarial Cost Estimates for Hospital Insurance Bill--July 1963.
58. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance System, 1963--January 1964.
60. Mortality Experience of Workers Entitled to Old-Age Benefits under OASDI 1941-1961--August 1965.
61. History of Cost Estimates for Hospital Insurance--December 1966.
62. United States Population Projections for OASDHI Cost Estimates--January 1967.
63. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance System, 1966--January 1967.

Actuarial Studies Available from the Office of the Actuary* (Con'd.)

64. Methods Used in Estimating Long-Range Costs for the Old-Age, Survivors, and Disability Insurance System. (In Preparation)
65. Termination Experience of Disabled-Worker Benefits Under OASDI, 1957-63--March 1969