

LONG-RANGE COST ESTIMATES FOR OLD-AGE AND SURVIVORS INSURANCE  
UNDER UNIVERSAL COVERAGE AND PRESENT BENEFIT PROVISIONS

by

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ACTUARIAL STUDY NO. 27  
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This study has been prepared for the use of the staff of the Social Security Administration and for limited circulation to other administrative, insurance, and research persons concerned with the subject treated. It has not been submitted to the Commissioner for Social Security for official approval.

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## FOREWORD

Actuarial Study No. 23 is the latest cost estimate for the present old-age and survivors insurance program. One of the most important changes in this program which has been recommended by the Social Security Administration, and also recently by the Advisory Council on Social Security of the Senate Committee on Finance, is an extension of coverage of the program to virtually all employment in the country. Actuarial Study No. 27 represents a thorough cost analysis of the effect of making the single change of extending coverage and does not consider a number of other suggested changes, such as liberalization of the benefit formula, lower retirement age for women, and addition of permanent and total disability benefits. The Study has been conducted along these lines so as to indicate the effect of this single factor, which produces a very significant savings in cost relative to pay roll, so that it is possible by expansion of coverage to liberalize the program somewhat in other respects and still have the same over-all costs as the present system. At the same time it should be pointed out again, as it was in Actuarial Study No. 23, that the relative cost of the present program is materially lower than it was estimated to be when it was enacted in 1939, largely due to the significantly higher wage and employment conditions now.

Actuarial Study No. 27 has been developed to be entirely consistent with Actuarial Study No. 23 for purposes of studying the relative cost effect of extension of coverage. It should be recognized that since Actuarial Study No. 23 was developed, wage levels and employment conditions have increased so that they are both somewhat above the level assumed in the two high-employment assumptions estimates and thus appreciably above those of the two low-employment assumptions.

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LONG-RANGE COST ESTIMATES FOR OLD-AGE AND SURVIVORS INSURANCE  
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A. Introduction

This report presents actuarial cost estimates for the benefit provisions of the present old-age and survivors insurance program under the assumption that there is universal coverage in lieu of the present limited coverage where there are many excluded employments such as agricultural, domestic, non-profit, railroad, and Governmental as well as self-employment. Coverage is assumed to be extended in 1949, with suitable modifications in benefit and eligibility conditions as will be described subsequently. The methods used in determining long-range costs are parallel to those used in Actuarial Study No. 23, which shows long-range cost estimates for old-age and survivors insurance under the present Act.

Subsequent to the appearance of Actuarial Study No. 23, the Social Security Act was amended to provide a combined tax rate on employees and employers amounting to 2% with respect to wages received up to January 1, 1950, 3% for 1950-51, and 4% thereafter. This change affects Table 17 and Chart 1 of Actuarial Study No. 23, but appropriate modifications have been made in the supplement to the study. This study includes that modification in the contribution schedule.

As in Actuarial Study No. 23, four separate cost illustrations have been developed in order to show possible ranges in benefit costs, both as to dollar amounts and as to percent of pay roll. The four illustrations are:

- (1) Low employment, low cost assumptions;
- (2) Low employment, high cost assumptions;
- (3) High employment, low cost assumptions;
- (4) High employment, high cost assumptions.

Under the low employment assumptions, the number of persons covered at some time during the year in 1955 is 62.7 million, as compared to 68.2 million under the high employment assumptions.

The low and high cost assumptions relate to the cost as a percent of pay roll in the aggregate and not to the dollar costs. The two cost assumptions were based on possible variations in fertility rates, mortality rates, retirement rates, remarriage rates, etc.

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The assumptions for these various factors are the same as those used in Actuarial Study No. 23, except for the amount of coverage. This study tacitly assumes coverage of all employed persons including the self-employed. The range in the other assumptions is not the most extreme range that could be expected, but rather our interpretation of what could reasonably be expected.

As in Actuarial Study No. 23, no account is taken of the special, temporary veterans benefits of section 210, nor of the 1947 amendment to the Railroad Retirement Act which provides for coordination of OASI and RRA wages in determining survivor benefits.

Also, as in the main portion of Actuarial Study No. 23, the estimates of this study are based on level wage assumptions rather than rising ones. For the reasoning behind this course of procedure the reader is referred to pages 37-38 of Actuarial Study No. 23 and to pages 11 and 12 of the report of the Advisory Council on Social Security (Senate Doc.No. 149, 80th Cong., 2nd Sess.). In essence, the use of a level wage assumption implies that the plan as set up at the time of its inception will be modified proportionately to reflect changes in the general level of wages so as to maintain its initial relative level of adequacy.

B. Basic Assumptions

The following assumptions are, wherever possible, the same as in Actuarial Study No. 23; those assumptions that are identical are marked (\*).

(1) Mortality\*

The low cost estimates assume U.S. 1939-41 mortality rates constant by age and sex throughout all years. The high cost estimates are based on improving mortality similar to the National Resources Planning Board low mortality bases, with an assumed further improvement with time for ages over 65 to allow for possible gains due to geriatric medical research.

(2) Birth Rates\*

The low cost estimates assume level birth rates similar to the U.S. 1940-45 experience, which was relatively high. The high cost estimates assume a decreasing birth rate in the future similar to the National Resources Planning Board's medium estimate.

(3) Immigration\*

For both the low and high cost estimates no net immigration is assumed.

(4) Population\*

The previous assumptions as to fertility, mortality and immigration were applied to the 1945 U.S. population by age, race and sex in order to obtain the populations in future years. These are the same populations as shown in Actuarial Study No. 24.

Table 1 summarizes these population projections. Although in the year 2000, the total population of 199 million under the low cost assumption is higher than the 173 million under the high cost assumption, the corresponding figures for the aged group 65 and over are 19 million and 28.5 million, respectively.

(5) Inception of Universal Coverage

Since universal coverage is at present only a proposal and not an actuality, some assumption has to be made in regard to the effective date of contributions and benefits, what changes will be made in qualifying conditions, and methods of benefit computation for those newly covered, and what benefits might be made retroactive. It is



Table 1

ESTIMATED U. S. POPULATION IN FUTURE YEARS  
(Figures in millions of persons)

<u>Calendar Year</u>	<u>Aged 20-64</u>			<u>Aged 65 &amp; Over</u>			<u>All Ages</u>		
	<u>Men</u>	<u>Women</u>	<u>Total</u>	<u>Men</u>	<u>Women</u>	<u>Total</u>	<u>Men</u>	<u>Women</u>	<u>Total</u>
Census Estimate for 1945									
1945	41	42	83	4.8	5.3	10.1	70	70	140
Projection for Low Cost Assumptions									
1950	43	44	87	5.3	5.9	11.2	73	74	147
1955	43	44	87	6.0	6.7	12.7	76	77	153
1960	44	45	89	6.5	7.5	14.0	79	80	159
1970	47	48	95	7.1	8.8	15.9	83	85	168
1980	50	50	100	7.8	10.1	17.9	89	90	179
1990	52	52	104	8.4	11.1	19.5	94	95	189
2000	57	56	113	8.3	10.7	19.0	99	100	199
Projection for High Cost Assumptions									
1950	43	44	87	5.4	6.0	11.4	73	73	146
1955	44	45	89	6.2	6.9	13.1	75	76	151
1960	45	46	91	7.0	7.9	14.9	77	78	155
1970	49	49	98	8.5	10.0	18.5	81	82	163
1980	50	50	100	10.4	12.4	22.8	85	85	170
1990	51	50	101	12.4	14.7	27.1	86	86	172
2000	52	50	102	13.3	15.2	28.5	87	86	173

Note: See text for description of bases of population projections.

assumed that the taxes would be collected beginning in 1949 and that the initial benefits to those newly covered would be paid in 1950. The eligibility conditions and benefit calculation methods are not specifically defined here, but are assumed for the purpose of this study to be very liberal such that in effect all covered employees under expanded coverage will be in the same situation as though there had been universal coverage from the inception of the system in 1937. Also, benefits are assumed to be payable with respect to deaths occurring prior to 1950 only when eligible under the present Act.

(6) Employment

The basic assumptions as to the percent employed under universal coverage in a given year by age and sex, along with the assumed distribution of persons with covered wages by quarters and assumed average wages, were obtained with the advice and cooperation of the economists in the Bureau of Research and Statistics and in the Analysis Division of the Bureau of Old-Age and Survivors Insurance. The low employment assumption corresponds roughly to the level of 1940-41 employment, while the high employment assumption corresponds to virtually full employment, allowing only for frictional unemployment. Table 2 shows these assumed percentages for the years 1955, 1970 and 2000 by age and sex for persons under 65 for both the low and high employment assumptions. Table 3 shows the corresponding figures for persons over age 65 for both low and high employment assumptions and low and high cost assumptions. The range in the low and high cost assumptions allows for possible variation in retirement rates.

(7) Distribution of Persons with Wages in the Year

Table 4 shows the percentage distribution of persons with wages in a year by quarters with wages. These figures are somewhat higher for 4-quarter persons than those used in Actuarial Study No. 23, as there is now no "in-and-cut" movement from covered to uncovered employment. These percentages are assumed to apply to all years. The high employment percentages for 4-quarter persons are assumed to be somewhat higher than in the low employment assumption for both males and females.

Table 5 shows the percentages of the total population by age that are insured, as obtained from the proportions of the population in covered employment and the proportions of workers by quarters with wages by general reasoning and diagonal projection. "Insured persons," as used herein, means both those who are fully insured and those who are currently insured only. The ranges shown in Table 5 represents the low and high cost assumptions.

(8) Credited Wages for 4-Quarter Workers\*

The average full time (i.e., 4-quarter) wages assumed in this study are:

	<u>Low Employment</u>	<u>High Employment</u>
Males.....	\$1800	\$2400
Females.....	1080	1440

Table 2

ASSUMED RATIOS OF PERSONS UNDER AGE 65 WITH WAGE CREDITS  
IN YEAR TO TOTAL POPULATION IN AGE GROUP

Age Group	Low Employment			High Employment		
	1955	1970	2000	1955	1970	2000
Males						
15-19	54%	52%	45%	65%	62%	50%
20-24	88	87	84	94	93	90
25-29	96	96	96	99	99	99
30-34	96	96	96	99	99	99
35-39	96	96	96	99	99	99
40-44	95	95	93	98	98	97
45-49	94	93	92	97	97	96
50-54	92	91	89	96	95	94
55-59	90	89	86	93	92	90
60-64	80	78	75	85	84	82
Females						
15-19	30	29	25	40	38	30
20-24	56	61	75	61	66	80
25-29	45	48	55	51	54	65
30-34	37	39	45	42	46	55
35-39	34	36	40	39	41	47
40-44	30	31	35	36	38	42
45-49	28	29	32	33	35	39
50-54	25	26	28	29	31	35
55-59	22	23	24	25	27	31
60-64	18	19	20	22	24	28

Table 3

ASSUMED RATIOS OF AGED PERSONS WITH WAGE CREDITS  
IN YEAR TO POPULATION IN AGE GROUPS

Age Group	Low Employment			High Employment		
	1955	1970	2000	1955	1970	2000
Males, Low Cost Estimate						
65-69	60%	60%	60%	70%	70%	70%
70-74	40	40	40	50	50	50
75-79	25	25	25	30	30	30
Males, High Cost Estimate						
65-69	50	50	50	55	55	55
70-74	25	25	25	35	35	35
75-79	10	10	10	20	20	20
Females, Low Cost Estimate						
65-69	12	12	12	15	15	15
70-74	7	7	6	10	10	8
75-79	3	3	2	5	5	3
Females, High Cost Estimate						
65-69	8	8	8	10	10	10
70-74	3	3	2	5	5	3
75-79	1	1	1	2	2	1

Table 4

ASSUMED PERCENTAGE DISTRIBUTIONS OF PERSONS WITH WAGES IN YEAR  
BY QUARTERS WITH WAGES, ALL YEARS

Age Group	Quarters With Wages					Quarters With Wages				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Total</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Total</u>
	Males, Low Employment					Males, High Employment				
15-19	20	20	20	40	100	25	20	15	40	100
20-24	9	9	12	70	100	8	10	12	70	100
25-29	8	8	9	75	100	3	4	8	85	100
30-34	6	6	8	80	100	2	3	7	88	100
35-39	6	6	8	80	100	2	3	7	88	100
40-44	6	7	8	79	100	2	4	7	87	100
45-49	6	7	9	78	100	3	4	7	86	100
50-54	6	8	9	77	100	3	5	7	85	100
55-59	7	9	9	75	100	4	5	7	84	100
60-64	10	10	10	70	100	5	5	8	82	100
65+	13	10	12	65	100	8	6	9	77	100
	Females, Low Employment					Females, High Employment				
15-19	20	20	20	40	100	20	20	15	45	100
20-24	10	10	15	65	100	8	10	12	70	100
25-29	10	10	10	70	100	6	9	10	75	100
30-34	7	8	10	75	100	4	7	9	80	100
35-39	7	8	10	75	100	4	7	9	80	100
40-44	7	8	10	75	100	4	7	9	80	100
45-49	7	8	10	75	100	4	7	9	80	100
50-54	7	8	10	75	100	4	7	9	80	100
55-59	7	8	10	75	100	4	7	9	80	100
60-64	7	8	10	75	100	4	8	10	78	100
65+	10	10	10	70	100	6	9	10	75	100

Table 5

ASSUMED RATIOS OF INSURED<sup>a/</sup> PERSONS TO TOTAL POPULATION

Age Group	Low Employment			High Employment		
	1955	1970	2000	1955	1970	2000
Males						
15-19	20-25%	20-25%	20-25%	25-30%	26-31%	26-31%
20-24	60-70	60-70	60-70	72-84	73-85	73-85
25-29	63-73	61-71	55-65	80-90	81-91	81-91
30-34	38-80	63-73	57-67	80-90	81-91	82-92
35-39	75-86	66-76	59-69	80-90	81-91	83-93
40-44	75-87	70-80	59-69	80-90	82-92	86-96
45-49	74-86	75-85	60-70	80-90	84-94	88-96
50-54	73-85	76-86	61-71	78-88	83-93	88-96
55-59	68-83	77-87	62-72	75-85	83-93	88-96
60-64	65-79	76-86	66-76	73-83	82-92	88-96
65-69	63-74	74-84	72-82	70-80	80-90	87-96
70-74	60-70	70-80	73-83	68-78	77-86	87-96
75-79	55-65	68-78	75-85	55-65	75-85	86-96
80-84	45-55	64-74	76-86	45-55	70-80	84-94
85+	25-35	50-54	76-86	25-35	60-67	82-92
Females						
15-19	15-20	13-18	10-15	15-20	15-20	13-18
20-24	50-54	51-55	55-59	51-55	53-57	62-66
25-29	45-50	48-52	50-55	47-54	51-57	57-66
30-34	37-42	42-50	48-54	40-48	51-57	56-65
35-39	31-35	40-45	47-54	34-40	50-58	55-65
40-44	27-32	36-42	46-53	29-36	46-55	54-64
45-49	24-30	33-38	45-53	25-32	39-49	53-63
50-54	20-28	28-35	44-53	21-30	33-40	52-63
55-59	17-23	25-32	43-51	18-26	27-36	51-62
60-64	14-18	22-29	41-48	15-21	23-32	51-61
65-69	13-15	19-26	40-45	13-18	21-30	50-60
70-74	12-14	16-21	36-42	12-15	18-26	46-55
75-79	11-13	13-17	33-40	11-13	13-20	40-49
80-84	8-9	12-15	28-35	8-9	12-18	33-40
85+	3-3	10-13	24-30	3-3	10-13	28-33

<sup>a/</sup> Includes both those fully insured and those currently insured only. At older ages and in future years latter category is relatively negligible.

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The above averages are assumed level into the future and the same for all ages.

(9) Credited Wages for Other than 4-Quarter Workers

The annual credited wages of workers employed in less than 4-quarters of a year are shown in the table below as a percent of the assumed annual wage of 4-quarter workers:

<u>Quarters</u>	<u>Percent</u>
1	10
2	25
3	50
4	100

No differential is assumed for age, sex, or low or high employment assumptions.

(10) Credited Pay Roll

Table 6 shows the number of persons with credited wages in a year, the aggregate amount of such wages, and the average annual wage for various years under the four illustrations. These are obtained by applying the employment and wage assumptions described above. For the low employment assumptions the resulting average wage for those with wages in the year is roughly \$1300 for all years, and the corresponding figure for the high employment assumption is \$1800. The aggregate average wage here is higher throughout by about \$150 than in Actuarial Study No. 23, due to the higher assumed percentage with 4-quarters of wages.

(11) Insured Population

Table 7 shows the total estimated insured population for various years for all ages and for those aged 65 and over. The total insured population for all ages and both sexes increases by 50 to 80% during the next 50 years, while the insured population age 65 and over increases from 200 to 400%.

(12) Marital and Parental Status\*

Marital and parental status assumptions are based on census data showing both marital status of the population and of the labor force; for the high cost estimate, the proportion married is increased to allow for fewer "broken" couples, due to the assumed improved mortality. The relative ages of husbands and wives are based on the Family Composition Study, as was the proportion of families with children and the years of dependency of these children to age 18 (also based on actual claims data). In the high cost estimate a reducing number of children per family is assumed, due to the assumption of decreasing fertility.

Table 6

ESTIMATED PERSONS WITH WAGE CREDITS, TOTAL CREDITED WAGES,  
AND AVERAGE CREDITABLE WAGES, 1955-2000

Calendar Year	Persons With Wages in Year (in millions)			Credited Wages in Year (in billions)	Average Wage
	Males	Females	Total		
Low Employment, Low Cost Assumptions					
1955	45.5	17.3	62.8	\$81.2	\$1293
1960	47.0	18.0	65.0	83.7	1286
1980	52.2	21.8	74.0	94.7	1280
2000	58.1	26.1	84.2	107.2	1273
Low Employment, High Cost Assumptions					
1955	45.4	17.2	62.6	81.1	1295
1960	47.4	18.1	65.5	84.4	1289
1980	51.7	20.4	72.1	93.2	1293
2000	51.7	21.5	73.2	94.3	1289
High Employment, Low Cost Assumptions					
1955	48.2	20.2	68.3	123.8	1811
1960	49.8	21.4	71.2	127.9	1796
1980	55.6	25.6	81.2	145.6	1792
2000	61.6	30.9	92.5	164.8	1782
High Employment, High Cost Assumptions					
1955	48.1	20.0	68.1	123.5	1813
1960	50.2	21.4	71.6	128.9	1799
1980	55.1	24.0	79.2	143.6	1814
2000	55.5	25.7	81.1	146.9	1811



Table 7

ESTIMATED INSURED<sup>a/</sup> POPULATIONS AS OF BEGINNING OF YEAR, 1955-2000  
(Figures in millions of persons)

Calendar Year	All Ages			Aged 65 and Over		
	Males	Females	Total	Males	Females	Total
Low Employment, Low Cost Assumptions						
1955	34.3	15.3	49.6	3.4	.8	4.2
1960	36.0	16.3	52.3	4.0	.9	4.9
1980	39.7	23.9	63.6	5.8	2.2	8.0
2000	41.3	31.0	72.3	6.1	3.7	9.8
Low Employment, High Cost Assumptions						
1955	40.9	18.2	59.1	4.2	.9	5.1
1960	42.8	19.7	62.5	5.1	1.2	6.3
1980	48.4	27.7	76.2	8.8	3.4	12.2
2000	48.6	33.6	82.2	11.2	6.1	17.3
High Employment, Low Cost Assumptions						
1955	38.7	16.1	54.8	3.8	.8	4.5
1960	40.9	17.8	58.6	4.5	.9	5.4
1980	49.2	27.8	77.0	6.3	2.4	8.7
2000	56.4	36.6	93.0	7.2	4.6	11.8
High Employment, High Cost Assumptions						
1955	44.7	19.8	64.5	4.5	1.0	5.5
1960	47.7	22.4	70.1	5.5	1.4	6.9
1980	58.1	32.7	90.7	9.4	3.9	13.3
2000	62.8	40.6	103.4	12.7	7.7	20.4

<sup>a/</sup> Includes both fully insured and currently insured only. In future years relatively few of those aged 65 and over will be currently insured only.

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(13) Differential Mortality by Marital Status\*

A lower mortality rate is assumed for married persons and a higher rate for widowed persons resulting in lower estimates of benefit costs since fewer widows and orphans will result.

(14) Remarriage Rates\*

For the high cost estimates the American Remarriage Table is used for valuing widow's and widow's current benefits, while for the low cost estimate such tabular rates are increased 50%. Actual experience to date indicates somewhat higher rates than the tabular ones.

(15) Parent's Benefits\*

This is a relatively minor category in Actuarial Study No. 23, and in this study it is even less important as there would be a higher proportion of persons with benefits in their own right and thus not eligible; counterbalancing this, there would be more parents since there are more insured. Accordingly, the same number of dependent parents was assumed as in Actuarial Study No. 23.

(16) Proportion of Beneficiaries at Work\*

Reduction factors are applied to allow for those whose benefits are withheld because of work, and for those who do not file because of intention to work or because of the maximum provision.

(17) Alternative Receipt of Benefits\*

If a wife or widow is eligible to receive a wife's or widow's benefit based on her husband's primary benefit and is also eligible to receive a primary benefit in her own right, she may receive the larger of the two benefits, or (and this is to her advantage) she may receive her primary benefit and any additional wife's or widow's benefit as a supplement. Thus it is assumed in this study that all women eligible for a primary benefit file for it and receive a supplement of the excess, if any.

(18) Adjustment Factors for Average Benefits\*

The average primary benefit was computed from the average wage and this yields an average benefit larger than the true average benefit in most cases, due to the weighted formula for primary benefits. Also, the minimum and maximum benefit affects this computation. An adjustment for these factors is made in determining the average primary benefits.

(19) Administrative Expenses\*

Administrative expenses are assumed to vary with pay roll and benefit payments in addition to a constant amount for overhead expenses. The factors for obtaining the estimated administrative expenses are shown in the following table:

	<u>Low Employment</u>		<u>High Employment</u>	
	<u>Low Cost</u>	<u>High Cost</u>	<u>Low Cost</u>	<u>High Cost</u>
Percent of Pay Roll	0.022%	0.028%	0.022%	0.028%
Percent of Benefit Payments	1.500%	1.800%	1.600%	1.900%
Flat Amount (millions)	\$5	\$10	\$7	\$12

Although these are the same factors used in Actuarial Study No. 23, the absolute values will be substantially greater due to the larger pay roll and benefit disbursements.

(20) Taxable Pay Roll versus Creditable Pay Roll\*

Under the low employment assumption the creditable pay roll is increased by  $\frac{1}{2}\%$  and under the high employment assumption by  $1\frac{1}{2}\%$  to yield the taxable pay roll. This adjustment is made because the effective pay roll on which contributions are based includes wages in excess of \$3000 per year when earned from several employers although only this amount may be credited.

C. Result of Cost Estimates under Level Wage Assumptions

Table 8 shows the estimated monthly old-age beneficiaries in current payment status for each of the four estimates. There is an increase of about 350% in the number of aged beneficiaries in the 45-year period from 1955 to 2000 for the low employment assumption and about 400% for the high employment assumption.

Table 9 shows the estimated old-age beneficiaries in current payment status as a percent of the total aged population. In the year 2000 about 50% of the aged males and 70 to 75% of the aged females are shown to be old-age beneficiaries in current payment status for the low cost assumption; and, correspondingly, 70% of the aged males and 80 to 85% of the aged females under the high cost assumption.

Table 10 shows the estimated number of monthly younger survivor beneficiaries in current payment status. Under the low cost assumption, the number of beneficiaries increases by one-third in the 15-year period from 1955 to 1970 and thereafter rises only slowly. Under the high cost assumption, the number reaches its highest point in 1955-60 and decreases thereafter until the year 2000, when the number is almost 50% lower than in 1955.

Table 10 also shows the number of deaths for which lump-sum payments are made. They increase from about 500,000 in 1955 to over 1 million in 2000; much of this increase is due to the increase in payments with respect to women.

Table 11 shows the estimated aged female beneficiaries qualified for both primary benefits in their own right and wife's or widow's benefits. This number is relatively insignificant in 1955, but becomes quite sizeable before 2000. The small number in the early years is due to the relatively few currently married older women with sufficient work in covered employment to become insured; the much larger number later is due to women becoming insured while single or after becoming widowed. By 2000 from 15 to 20% of the female primary beneficiaries are qualified for both a primary and a wife's benefit, while nearly 40% are qualified for both a primary and a widow's benefit.

Table 12 shows the estimated average old-age benefits in current payment status, along with the additional wife's or widow's average benefits for those women who receive a primary benefit smaller than the full wife's or widow's benefit otherwise payable. Table 13 shows the corresponding averages for younger survivors and lump-sum death payments.

Table 14 summarizes the estimated benefit payments by type of benefit. Under the low cost assumption the total annual benefit

Table 8

ESTIMATED MONTHLY OLD-AGE BENEFICIARIES IN CURRENT PAYMENT  
STATUS AS OF MIDDLE OF YEAR<sup>a/</sup> 1955-2000  
(Figures in thousands of persons)

Calendar Year	Primary		Supplementary		Survivor		Total Aged <sup>b/</sup>
	Males	Females	Wife's	Child's	Widow's	Parent's	
Low Employment, Low Cost Assumptions							
1955	1791	424	631	55	720	84	3650
1960	2263	572	786	67	1226	111	4958
1970	3063	960	1006	89	2186	125	7340
1980	3741	1667	1145	107	2858	127	9538
2000	3954	3299	1001	98	3110	102	11466
Low Employment, High Cost Assumptions							
1955	2991	709	1031	91	777	145	5653
1960	3742	958	1278	102	1316	208	7502
1970	5138	1815	1669	112	2311	269	11202
1980	6873	3090	2099	117	3021	292	15375
2000	8987	5803	2514	65	3469	271	21044
High Employment, Low Cost Assumptions							
1955	1539	285	554	42	753	84	3215
1960	2070	416	736	54	1312	111	4645
1970	2876	899	963	71	2366	125	7229
1980	3525	1700	1089	87	3062	127	9503
2000	4262	4026	973	99	3173	102	12536
High Employment, High Cost Assumptions							
1955	2819	717	965	83	791	145	5437
1960	3603	1026	1223	93	1348	208	7408
1970	5059	2059	1612	104	2367	269	11366
1980	6769	3405	2023	108	3094	292	15583
2000	9593	7292	2323	68	3195	271	22674

<sup>a/</sup> This corresponds to average monthly number in current payment status.

<sup>b/</sup> Excludes children of primary beneficiaries and the relatively negligible number of widow's current beneficiaries over 65 but not eligible for widow's benefits.

**Note:** Women qualified both for primary benefits and for wife's, widow's, or parent's benefits are shown as primary beneficiaries (see Table 1 for estimates of such overlapping cases).

Table 9

ESTIMATED MONTHLY OLD-AGE BENEFICIARIES IN CURRENT PAYMENT STATUS  
AS PERCENT OF TOTAL AGED POPULATION, 1955-2000

<u>Calendar Year</u>	<u>Low Cost Assumptions</u>			<u>High Cost Assumptions</u>		
	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
Low Employment Assumptions						
1955	31%	27%	29%	50%	37%	43%
1960	36	35	36	55	46	50
1980	49	57	53	68	67	67
2000	48	69	60	69	78	73
High Employment Assumptions						
1955	27	24	25	47	37	42
1960	33	34	33	53	47	50
1980	46	58	53	67	70	69
2000	52	77	66	73	85	79

Table 10

ESTIMATED MONTHLY YOUNGER SURVIVOR BENEFICIARIES IN CURRENT  
 PAYMENT STATUS AS OF MIDDLE OF YEAR<sup>a/</sup> AND LUMP-SUM  
 DEATH PAYMENTS IN YEAR, 1955-2000  
 (Figures in thousands of persons)

Calendar Year	Survivor Benefits		Lump-Sum Payments <sup>b/</sup>		
	Widow's Current	Child's	Males	Females	Total
Low Employment, Low Cost Assumptions					
1955	303	931	354	113	467
1960	342	1088	406	133	539
1970	372	1201	489	191	680
1980	379	1212	545	263	808
2000	386	1226	574	429	1003
Low Employment, High Cost Assumptions					
1955	333	859	350	110	460
1960	341	876	379	127	506
1970	303	748	442	180	622
1980	264	623	502	245	747
2000	213	462	583	425	1008
High Employment, Low Cost Assumptions					
1955	258	920	338	117	505
1960	292	1094	445	141	586
1970	327	1241	544	211	755
1980	355	1338	617	303	920
2000	418	1569	719	518	1237
High Employment, High Cost Assumptions					
1955	292	841	369	121	490
1960	303	873	406	144	550
1970	278	775	485	210	695
1980	255	682	551	286	837
2000	229	565	675	513	1188

<sup>a/</sup> For estimated data, this also corresponds to average monthly number in current payment status.

<sup>b/</sup> Number of decedents on whose account payments are made.

Table 11

ESTIMATED AGED FEMALE BENEFICIARIES QUALIFIED FOR BOTH PRIMARY  
 BENEFITS AND WIFE'S OR WIDOW'S BENEFITS<sup>a/</sup>, IN CURRENT  
 PAYMENT STATUS AS OF MIDDLE OF YEAR<sup>b/</sup>, 1955-2000  
 (Figures in thousands of persons)

Calendar Year	Qualified for Primary and Wife's		Qualified for Primary and Widow's	
	Total Eligible	With Smaller Primary Benefit	Total Eligible	With Smaller Primary Benefit
Low Employment, Low Cost Assumptions				
1955	18	4	46	25
1960	29	7	98	53
1970	72	17	251	138
1980	169	42	519	291
2000	423	111	1245	722
Low Employment, High Cost Assumptions				
1955	51	12	82	44
1960	83	21	174	96
1970	216	59	486	275
1980	478	141	954	556
2000	1117	373	2226	1373
High Employment Low Cost Assumptions				
1955	9	2	32	17
1960	18	4	78	42
1970	64	15	255	140
1980	163	41	569	319
2000	561	148	1693	982
High Employment, High Cost Assumptions				
1955	49	12	84	45
1960	87	22	194	107
1970	241	66	581	329
1980	514	151	1115	650
2000	1528	510	3008	1856

a/ Number eligible for both primary and parent's benefits is relatively negligible.

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



Table 12

ESTIMATED AVERAGE ANNUAL OLD-AGE BENEFITS IN  
CURRENT PAYMENT STATUS, 1955-2000

Calendar Year	Primary		Supplementary <sup>a/</sup> Wife's		Survivor		Parent's
	Males	Females	With No	With Smaller	With No	With Smaller	
			Primary Benefit	Primary Benefit	Primary Benefit	Primary Benefit	
Low Employment, Low Cost Assumptions							
1955	\$341	\$262	\$176	\$48	\$239	\$99	\$174
1960	367	290	187	49	250	102	179
1980	431	330	219	56	303	115	184
2000	476	345	244	63	339	127	184
Low Employment, High Cost Assumptions							
1955	336	261	173	50	237	101	171
1960	356	285	182	52	248	106	173
1980	413	308	210	64	294	122	180
2000	455	334	232	75	326	139	180
High Employment, Low Cost Assumptions							
1955	353	270	181	48	246	99	203
1960	390	308	199	49	264	102	208
1980	494	365	252	56	343	115	215
2000	550	352	282	63	394	127	215
High Employment, High Cost Assumptions							
1955	351	273	180	50	243	101	200
1960	386	302	196	52	261	106	202
1980	478	336	243	64	333	122	210
2000	527	334	269	75	380	139	210

<sup>a/</sup> Supplementary child's benefits average about the same as the survivor child's benefits and are included therewith (see Table 13).

Note: Women qualified both for primary benefits and for wife's, widow's, or parent's benefits are shown as primary beneficiaries (see Table 1 for estimate of such overlapping cases).

Table 13

**ESTIMATED AVERAGE ANNUAL YOUNGER SURVIVOR BENEFITS IN CURRENT PAYMENT  
STATUS AND LUMP-SUM DEATH PAYMENTS, 1955-2000**

<u>Calendar Year</u>	<u>Survivor Benefits</u>		<u>Lump-Sum Payments<sup>b/</sup></u>		
	<u>Widow's Current</u>	<u>Child's<sup>a/</sup></u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
Low Employment, Low Cost Estimate					
1955	\$257	\$185	\$170	\$134	\$161
1960	275	194	179	142	170
1980	311	214	207	156	190
2000	319	220	220	162	195
Low Employment, High Cost Estimate					
1955	249	177	166	129	157
1960	264	185	174	135	164
1980	303	205	199	150	183
2000	319	214	214	160	191
High Employment, Low Cost Estimate					
1955	283	204	187	150	179
1960	312	219	201	159	191
1980	363	249	239	173	218
2000	373	257	256	171	221
High Employment, High Cost Estimate					
1955	271	195	182	141	172
1960	297	210	194	147	182
1980	357	241	230	163	207
2000	371	251	250	164	213

<sup>a/</sup> Includes supplementary child's benefits which average about the same size.

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

Table 14

ESTIMATED BENEFIT PAYMENTS, 1955-2000  
(Figures in millions of dollars)

Calendar Year	Monthly Old-Age Benefits				Monthly Younger Survivor Benefits		Lump-Sum Death Benefits	Total Benefits	
	Primary	Wife's	Widow's	Parent's	Widow's Current	Child's			
Low Employment, Low Cost Assumptions									
1955	\$722	\$111	\$174	\$15	\$1022	\$78	\$182	\$75	\$1357
1960	996	147	311	20	1490	94	224	92	1900
1970	1552	209	626	23	2473	111	264	125	2974
1980	2161	253	899	23	3480	118	282	154	4036
2000	3021	251	1146	19	4840	123	291	196	5456
Low Employment, High Cost Assumptions									
1955	1190	179	188	25	1582	83	168	72	1905
1960	1605	234	377	36	2220	90	181	83	2575
1970	2556	335	659	47	3637	88	169	109	4003
1980	3793	450	956	53	5367	80	152	136	5736
2000	6020	611	1321	49	8361	68	113	193	8737
High Employment, Low Cost Assumptions									
1955	621	100	187	17	925	73	196	90	1284
1960	936	146	351	23	1473	91	251	112	1927
1970	1621	223	742	26	2688	113	310	158	3270
1980	2364	276	1088	27	3925	129	358	200	4612
2000	3762	283	1375	22	5925	156	428	273	6788
High Employment, High Cost Assumptions									
1955	1186	175	197	29	1587	79	180	84	1930
1960	1700	241	363	42	2346	90	203	100	2739
1970	2901	367	744	55	4125	94	200	137	4557
1980	4377	502	1109	61	6183	91	190	173	6638
2000	7487	663	1471	57	10158	85	159	252	10656

Note: Where women are qualified both for primary benefits and for wife's, widow's, or parent's benefits, the full primary benefit is assumed to be paid with supplementary payment of the excess of the other benefit if larger. The relatively small amounts of benefit payments to children of primary beneficiaries are included above with child's survivor benefits.

payments run from \$1.3 billion in 1955 to around \$6 billion in the year 2000 and under the high cost assumption they run from \$1.9 billion in 1955 to around \$10 billion in the year 2000.

After the first few years the low cost estimate is higher than the high cost estimate for payments to younger survivors and lump sums. However, this is more than compensated for by the old-age benefits where the high cost figures are much higher than the low cost.

Chart 1 shows the trend of benefits and contributions from 1955 to 2000. Benefits are less than contributions in each of the four estimates during the first 15 years. However, during the latter part of the century benefits exceed contributions in 3 of the 4 estimates and are almost as large in the other estimate.

Table 15 shows the estimated benefit payments as a percent of the taxable pay roll. The present tax schedule calls for a 4% combined employer and employee rate after 1951. This rate is exceeded by benefit payments in 1977 for low employment, low cost assumption; in 1967 for the low employment, high cost assumption; not at all for the high employment, low cost assumption; and in 1975 for the high employment, high cost assumption. For the low cost assumption benefit payments are only 4-5% of the taxable pay roll in the year 2000, but under the high cost assumption they are 7-9% in the year 2000.

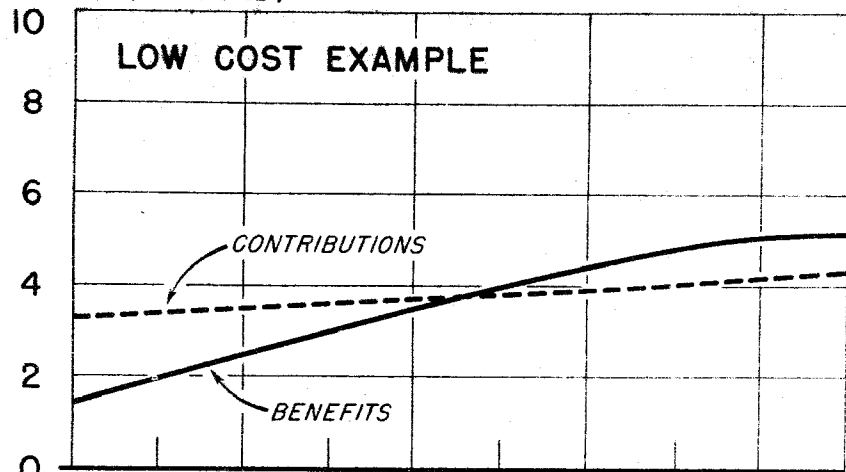
The level percents of pay roll required to support the benefits into perpetuity, assuming (a) interest earned on funds, (b) level benefit payments and taxable pay rolls after 2000, (c) an allowance for administrative expenses, and (d) taking into account the funds available at the beginning of 1950 are shown for the four estimates in Table 16. This level percent assuming 2% interest varies from a low of 2.8% for the high employment, low cost assumption to a high of 6.2% for the low employment, high cost assumption. These rates are more than sufficient to pay the benefits currently; the excess is assumed to be put in a reserve to accumulate at interest. The interest on the reserve in the year 2000, and subsequent years would be just sufficient along with current contributions at the flat rate indicated to pay the benefits.

Table 17 presents the progress of the trust fund based on 2% interest for each of the four assumptions. Under the low employment, low cost assumption, the fund reaches \$81 billion in the year 2000 and is still increasing at that time. Under the low employment, high cost assumption, the fund reaches a maximum of \$33 billion in 1971, decreasing thereafter until exhausted in 1990. Under the high employment, low cost assumption, the fund would reach \$231 billion by the year 2000 and still be rising rapidly, and under the high employment, high cost assumption \$98 billion in 1984, decreasing subsequently to \$75 billion in the year 2000. Thus, it can be seen that the fund on a 4% contribution rate basis, is overfinanced for the low cost assumptions, and underfinanced for the high cost assumptions.

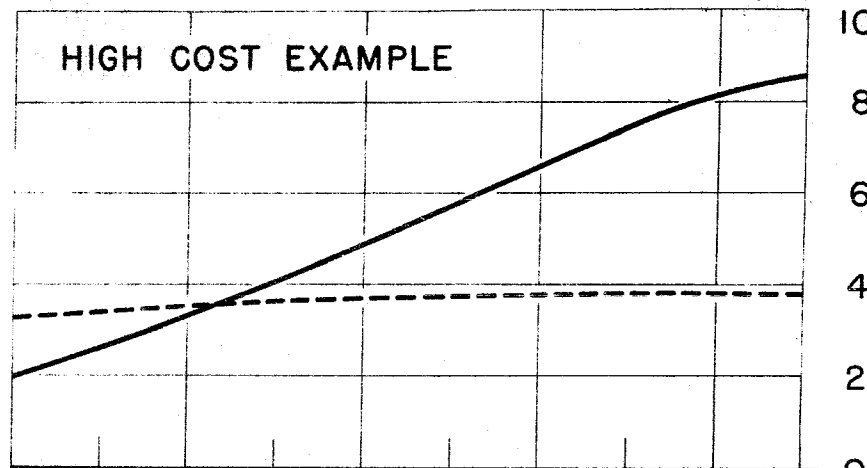
# ILLUSTRATIVE LONG-TERM TRENDS OF BENEFITS AND CONTRIBUTIONS UNDER UNIVERSAL COVERAGE

## LOW EMPLOYMENT ASSUMPTIONS

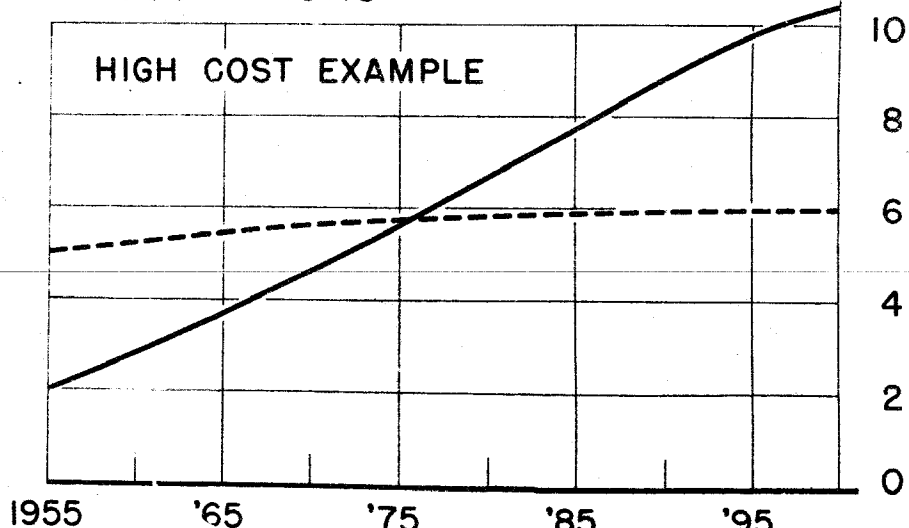
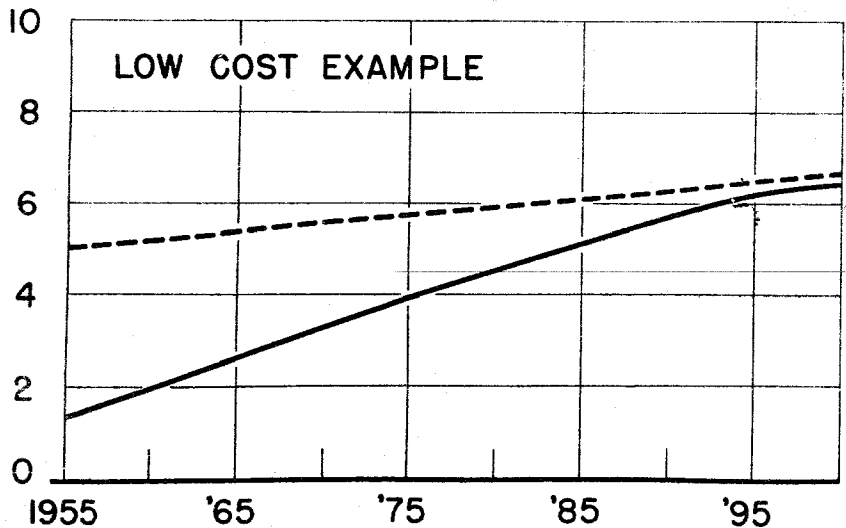
DOLLARS (BILLIONS)



DOLLARS (BILLIONS)



## HIGH EMPLOYMENT ASSUMPTIONS



- 24 -

Table 15

## ESTIMATED BENEFIT PAYMENTS AS PERCENT OF TAXABLE PAY ROLL, 1950-2000

Calendar Year	Monthly Old-Age Benefits				Monthly Younger Survivor Benefits		Lump-Sum Death Benefits	Total Benefits	
	Primary	Wife's	Widow's	Parent's	Total	Widow's Current			Child's
Low Employment, Low Cost Assumptions									
1955	.88%	.14%	.21%	.02%	1.25%	.10%	.22%	.09%	1.66%
1960	1.19	.17	.37	.02	1.75	.11	.27	.11	2.24
1980	2.28	.27	.94	.02	3.50	.12	.30	.16	4.09
2000	2.80	.23	1.06	.02	4.12	.11	.27	.18	4.68
1950-2000 <sup>a/</sup>	2.00	.22	.76	.02	3.00	.11	.27	.15	3.53
Level Premium <sup>b/</sup>	2.20	.22	.83	.02	3.27	.11	.27	.15	3.80
Low Employment, High Cost Assumptions									
1955	1.46	.22	.23	.03	1.94	.10	.21	.09	2.34
1960	1.89	.28	.40	.04	2.61	.11	.21	.10	3.03
1980	4.04	.48	1.02	.06	5.61	.09	.16	.15	6.00
2000	6.36	.64	1.39	.05	8.44	.07	.12	.20	8.83
1950-2000 <sup>a/</sup>	3.64	.43	.85	.05	4.98	.09	.17	.14	5.37
Level Premium <sup>b/</sup>	4.39	.49	.98	.05	5.90	.08	.15	.16	6.30
High Employment, Low Cost Assumptions									
1955	.49	.08	.15	.01	.74	.06	.16	.07	1.02
1960	.72	.11	.27	.02	1.12	.07	.19	.09	1.47
1980	1.59	.19	.73	.02	2.54	.09	.24	.14	3.00
2000	2.26	.17	.82	.01	3.25	.09	.26	.16	3.77
1950-2000 <sup>a/</sup>	1.42	.15	.59	.02	2.17	.08	.22	.12	2.60
Level Premium <sup>b/</sup>	1.66	.15	.64	.01	2.45	.08	.23	.13	2.90
High Employment, High Cost Assumptions									
1955	.95	.14	.16	.02	1.27	.06	.14	.07	1.54
1960	1.29	.18	.28	.03	1.79	.07	.16	.08	2.09
1980	3.01	.34	.76	.04	4.15	.06	.13	.12	4.46
2000	5.00	.44	.98	.04	6.47	.06	.11	.17	6.80
1950-2000 <sup>a/</sup>	2.74	.30	.62	.04	3.70	.06	.13	.11	4.00
Level Premium <sup>b/</sup>	3.36	.34	.71	.04	4.45	.06	.12	.13	4.76

<sup>a/</sup> Average cost of benefits without interest, over the 51-year period.

<sup>b/</sup> Level premium contribution rate (based on 2% interest) for benefit payments after 1949 and in perpetuity, not taking into account accumulated funds through 1949 (see also Table 16).

Note: Where women are qualified both for primary benefits and for wife's, widow's, or parent's benefits, the full primary benefit is assumed to be paid with supplementary payment of the excess of the other benefit if larger. The relatively small amounts of benefit payments to children of primary beneficiaries are included above with child's survivor benefits.

Table 16

**ESTIMATED LEVEL PREMIUM CONTRIBUTION RATE INTO PERPETUITY<sup>a/</sup> FOR  
BENEFIT PAYMENTS AND ADMINISTRATIVE EXPENSES, TAKING INTO  
ACCOUNT ACCUMULATED FUND AS OF END OF 1949**

<u>Level Premium Equivalent to</u>	<u>Low Employment Assumptions</u>		<u>High Employment Assumptions</u>	
	<u>Low Cost</u>	<u>High Cost</u>	<u>Low Cost</u>	<u>High Cost</u>
Interest at 2%				
Benefit Payments	3.80%	6.30%	2.90%	4.76%
Administrative Expenses	.08	.15	.07	.13
Interest on 1949 Fund <sup>b/</sup>	.21	.21	.18	.17
Net <sup>c/</sup>	3.68	6.24	2.79	4.72
Interest at 2½%				
Benefit Payments	3.62%	5.86%	2.73%	4.41%
Administrative Expenses	.08	.14	.07	.12
Interest on 1949 Fund <sup>b/</sup>	.26	.26	.23	.22
Net <sup>c/</sup>	3.44	5.74	2.57	4.31
Interest at 1½%				
Benefit Payments	4.00%	6.80%	3.09%	5.17%
Administrative Expenses	.08	.16	.08	.13
Interest on 1949 Fund <sup>b/</sup>	.15	.15	.13	.13
Net <sup>c/</sup>	3.93	6.81	3.04	5.17

a/ Level premium contribution rate (based on discounting at interest) for payments from 1950 and in perpetuity.

b/ Interest on trust fund estimated to exist at end of 1949 as earned in future years expressed as a level premium (in percentage of taxable pay roll). For instance, at 2% interest the interest income from the \$10,239 million fund under the low employment, low cost assumption is \$204.8 million per year; this amount payable each year into the future is equivalent to a level premium of .21% of the pay roll.

c/ Level premium for benefit payments plus level premium for administrative expenses minus level premium equivalent to interest on accumulated fund.

Table 17

ESTIMATED PROGRESS OF OASI TRUST FUND UNDER CONTRIBUTION  
SCHEDULE IN 1947 AMENDMENTS<sup>a/</sup>  
(All figures in millions of dollars)

<u>Calendar Year</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Administrative Expenses</u>	<u>Net Income</u>	<u>Interest on Fund<sup>b/</sup></u>	<u>Fund at End of Year</u>
Low Employment, Low Cost Assumptions						
1955	\$3264	\$1357	\$43	\$1864	\$426	\$22664
1960	3363	1884	52	1427	642	33473
1970	3597	2910	68	619	1009	51754
1980	3807	3890	84	-167	1281	65244
1990	4041	4724	98	-781	1457	73938
2000	4310	5047	104	-841	1590	80654
Low Employment, High Cost Assumptions						
1955	3259	1905	67	1287	351	18541
1960	3391	2566	80	745	494	25549
1970	3643	3963	107	-427	648	32828
1980	3747	5620	137	-2010	532	26113
1990	3806	7284	168	-3646	37	87
2000	3792	8375	187	-4770	(Fund exhausted in 1990)	
High Employment, Low Cost Assumptions						
1955	5026	1284	55	3687	695	37294
1960	5193	1910	66	3217	1127	59092
1970	5593	3193	89	2311	1981	102191
1980	5910	4439	111	1360	2818	144378
1990	6276	5575	131	570	3647	186301
2000	6692	6299	145	248	4524	230854
High Employment, High Cost Assumptions						
1955	5013	1930	84	2999	595	31838
1960	5232	2739	101	2392	938	49026
1970	5632	4498	137	997	1526	78336
1980	5830	6503	176	-849	1886	95757
1990	5954	8623	218	-2887	1905	95689
2000	5985	10174	247	-4436	1508	74677

<sup>a/</sup> Combined rate of 2% in 1946-49, 3% in 1950-51, and 4% thereafter.

<sup>b/</sup> Interest taken at 2% on fund at end of previous year plus one-half of the net income of the current year.



D. Comparison with Costs under Present Coverage

As previously mentioned, this study of the cost under a universal coverage system was developed using the same general assumptions as were used in Actuarial Study No. 23, which showed the cost under the present limited coverage system.

Chart 2 shows the estimated number of beneficiaries under the present coverage, along with the additional number under a comparable universal coverage system. The number of beneficiaries under universal coverage is greater than under present coverage, as would be expected. This difference increases in the early years and then decreases as the program approaches maturity; in fact, under the high employment, high cost estimate it virtually vanishes by the year 2000. This relatively large increase in the early years results from the universal coverage program bringing in many types of employment which have an older age distribution than those presently covered. This difference decreases in later years due to the operation of the work clause, as it would become impossible for an individual to draw benefits and work in non-covered employment under a universal coverage system, as compared to the present coverage system where many are drawing benefits and working in non-covered employment.

Chart 3 shows the estimated benefit payments under universal coverage and under present coverage. As the system approaches maturity, the total benefit payments under universal coverage becomes increasingly larger than under the present coverage due to the average wage being greater since there is practically no "in and out" of covered employment except as there is "in and out" of work. Thus in the year 2000 where Chart 2 shows very little difference in the number of beneficiaries under the two systems, Chart 3 shows considerable difference in the total benefit payments.

Chart 4 and Table 18 show for various future years the cost as percent of pay roll under universal and present coverage. The cross hatched portion on Chart 4 shows the savings under an extension of coverage, expressed as a percent of pay roll. The cost under each of the four assumptions is less under universal coverage than under present coverage. The reasons for the decrease in cost are:

- (1) Higher average wage due to less "in and out" movement; thus proportionately more benefits payable are based on the portion of the formula where wages are greater than \$50 per month which is less costly because of the lower benefit factor applied to such wages (10% vs. 40%).
- (2) The expanded coverage makes it relatively difficult for the aged to draw benefits unless they retire almost completely from any form of employment.

CHART 3.  
**ESTIMATED BENEFIT PAYMENTS UNDER  
 UNIVERSAL COVERAGE AND PRESENT COVERAGE**

DOLLARS (BILLIONS)

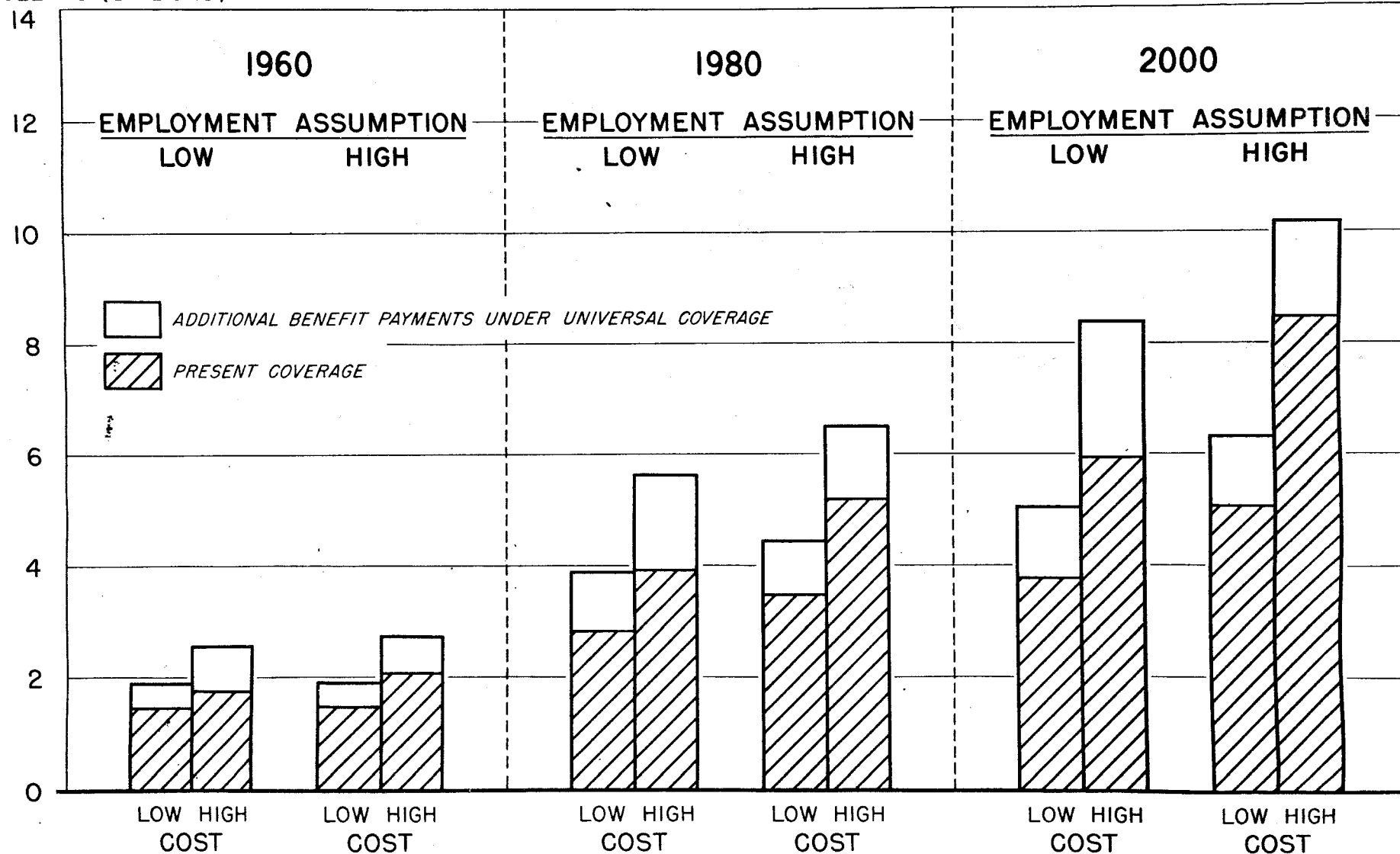


CHART 4.

# ESTIMATED COST AS PERCENT OF PAYROLL UNDER UNIVERSAL COVERAGE AND PRESENT COVERAGE

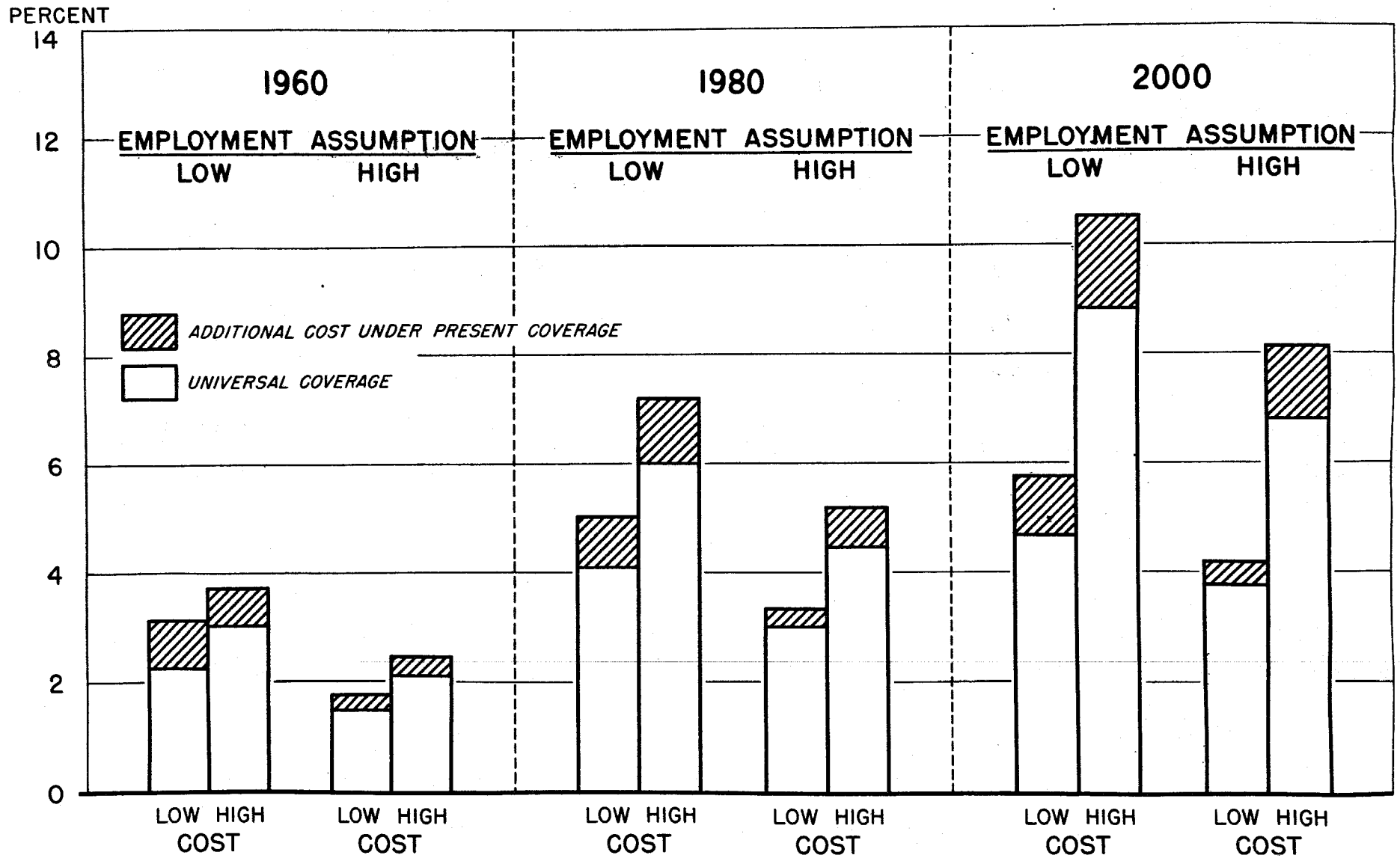


CHART 2.

# ESTIMATED NUMBER OF BENEFICIARIES IN CURRENT PAYMENT STATUS UNDER UNIVERSAL COVERAGE AND PRESENT COVERAGE

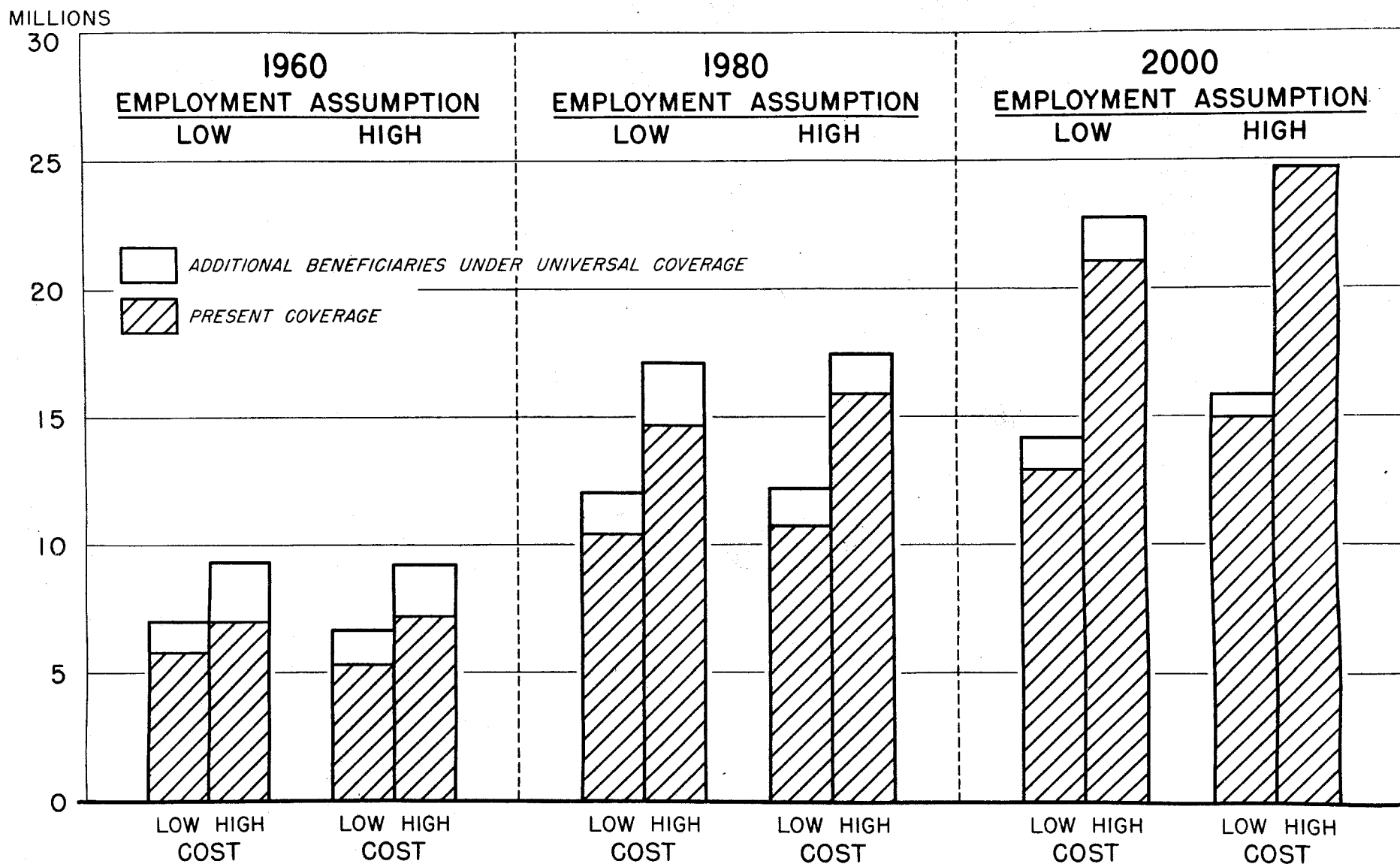


Table 18

ESTIMATED COST OF BENEFIT PAYMENTS AS PERCENT OF PAY ROLL  
 UNDER UNIVERSAL COVERAGE AND UNDER PRESENT COVERAGES<sup>a/</sup>

Calendar Year	Present Coverage	Universal Coverage	Reductions in Cost Resulting from Extension of Coverage	
			Absolute	Relative
Low Employment, Low Cost Assumptions				
1955	2.47%	1.66%	.81%	33%
1960	3.12	2.24	.88	28
1970	4.05	3.24	.81	20
1980	5.02	4.09	.93	19
1990	5.74	4.68	1.06	18
2000	5.75	4.68	1.07	19
Low Employment, High Cost Assumptions				
1955	3.01	2.34	.67	22
1960	3.73	3.03	.70	19
1970	5.21	4.35	.86	17
1980	7.19	6.00	1.19	17
1990	9.16	7.65	1.51	16
2000	10.52	8.83	1.69	16
High Employment, Low Cost Assumptions				
1955	1.31	1.02	.29	22
1960	1.75	1.47	.28	16
1970	2.56	2.28	.28	11
1980	3.33	3.00	.33	10
1990	4.02	3.55	.47	12
2000	4.19	3.77	.42	10
High Employment, High Cost Assumptions				
1955	1.87	1.54	.33	18
1960	2.46	2.09	.37	15
1970	3.66	3.19	.47	13
1980	5.18	4.46	.72	14
1990	6.93	5.79	1.14	16
2000	8.12	6.80	1.32	16

<sup>a/</sup> Excluding administrative expenses.

- (3) In later years the number of wife and widow beneficiaries will be less due to the increased number of female primary beneficiaries. In this connection it was assumed that wives of primary beneficiaries eligible also to primary benefits in their own right, would take such benefits together with the excess of the wife's benefit over such primary benefit, if any, and correspondingly in regard to widows.

Table 18 also shows both the absolute and relative reduction in cost that would result from complete extension of coverage. The absolute reduction in cost is smallest in the early years, ranging from about  $\frac{1}{4}\%$  to somewhat more than  $\frac{1}{2}\%$  of pay roll; ultimately such savings can amount to as much as 1.7% of pay roll (under the low employment, high cost assumptions) although being as little as .4% under the high employment, low cost assumptions. On the other hand, the relative reduction in cost is largest in the early years, being from 20 to 40% as contrasted with from 10 to 20% ultimately.

These reductions in cost correspond with those presented in the report of the Advisory Council on Social Security (Senate Doc. No. 149, 80th Cong., 2nd Sess.), except in the early years where a small difference exists due to more liberal initial qualifying assumptions.

Correspondingly, the estimated level costs as percent of taxable pay roll to support the benefit payments into perpetuity under the present coverage and under universal coverage are shown in Table 19 for the various beneficiary categories.

Nearly every category shows a reduction in cost under universal coverage. The primary benefits, the largest group, show about a 20% reduction under extension of coverage while the next largest group, widow's benefits, is reduced as much as 10%, and wife's benefits decrease by from 25 to 30%. These three groups represent about 85%, in terms of cost, of all benefits.

Table 19

ESTIMATED LEVEL COST<sup>a/</sup> AS PERCENT OF TAXABLE PAY ROLL TO SUPPORT THE BENEFIT PAYMENTS INTO PERPETUITY UNDER THE PRESENT COVERAGE AND UNDER COMPLETE COVERAGE

Benefit	Low Employment				High Employment			
	Low Cost		High Cost		Low Cost		High Cost	
	Present	Universal	Present	Universal	Present	Universal	Present	Universal
All Benefits <sup>b/</sup>	4.62	3.68	7.53	6.24	3.17	2.79	5.67	4.72
All Benefits <sup>c/</sup>	4.92	3.88	7.83	6.45	3.40	2.97	5.89	4.89
Old-Age Benefits	4.21	3.27	7.18	5.91	2.89	2.46	5.41	4.45
Primary	2.95	2.20	5.34	4.39	2.03	1.66	4.15	3.36
Wife's	.32	.22	.63	.49	.20	.15	.44	.34
Widow's	.91	.83	1.13	.98	.64	.64	.77	.71
Parent's	.03	.02	.08	.05	.02	.01	.05	.04
Younger Survivor Benefits	.45	.38	.29	.23	.30	.31	.19	.18
Child's	.32	.27	.19	.15	.22	.23	.13	.12
Widow's Current	.13	.11	.10	.08	.08	.08	.06	.06
Lump Sum	.16	.15	.17	.16	.12	.13	.13	.13
Administrative Expenses	.10	.08	.18	.15	.08	.07	.15	.13

a/ Level contribution rate (based on 2% interest) for benefit payments from 1950 into perpetuity assuming taxable pay roll and benefit disbursement remaining the same after the year 2000 as they were in 2000.

b/ Including Administrative Expenses and allowing for reserve at end of 1949.

c/ Including Administrative Expenses but not allowing for reserve at end of 1949.