

An additional \$649,000,000 consisted of special Treasury notes which mature at the end of the fiscal year 1948. These certificates and notes were acquired at par and bear an interest rate of 1½-percent, this rate being determined by the average rate of interest which prevailed on the interest-bearing public debt at the end of the month preceding the date of issue of these securities. The remaining \$450,000,000 of securities acquired during the fiscal year were 2½ percent publicly offered Treasury bonds—\$50,000,000 of the 1964-69 series, and \$400,000,000 of the 1965-70 series. The investment transactions of the trust fund during the fiscal year 1944 are summarized in table 5.

TABLE 5.—*Investment transactions of the old-age and survivors insurance trust fund, fiscal year 1944*¹

Purchases.....	\$1, 479, 035, 880
Special issues:	
Treasury notes.....	649, 000, 000
Certificates of indebtedness.....	380, 000, 000
Public issues: Treasury bonds.....	² 450, 035, 880
Redemptions of special Treasury notes.....	307, 000, 000
Net increase in investments.....	1, 172, 035, 880

¹ As recorded in Daily Statement of the United States Treasury.
² Includes \$35,880 accrued interest paid on investments.

The average rate of interest on the interest-bearing public debt, which determines the rates at which special obligations are issued to the old-age and survivors insurance trust fund, varies with changes in the composition of the public debt. During the fiscal year 1944 the average rate of interest on the public debt fluctuated within fairly narrow limits and was 1.93 percent on June 30, 1944, as compared with 1.98 percent on June 30, 1943. Because of this small variation, the interest rate on all special issues acquired during the fiscal year continued to be 1½ percent, the same rate at which special issues were acquired at the end of the previous fiscal year. The average interest rate on all investment holdings of the fund did not decline as much in the fiscal year 1944 as it did in the previous fiscal year; it was 2.19 percent as of June 30, 1944, as compared with 2.26 percent on June 30, 1943, and 2.51 percent on June 30, 1942.

STATEMENT ON THE EXPECTED OPERATIONS AND STATUS OF THE TRUST FUND DURING THE FISCAL YEARS 1945-49

The board of trustees is required, under the provisions of section 201 (b) of the Social Security Act, as amended, to report each year to the Congress on the expected operation and status of the trust fund during the next ensuing five fiscal years. The report is required to include estimates of both the income and the disbursements of the trust fund in each of the 5 years.

The income of the fund depends upon the amount of taxable pay rolls in covered employment and rates of contributions, and upon the interest earnings of the fund. The disbursements from the fund depend not only upon the number of persons eligible for benefits, but also on the proportion of these eligible persons who apply for and receive benefits instead of continuing to work in covered employments. Consequently, both the income and the disbursements of the fund are intimately related to economic conditions.

Economic conditions during the five fiscal years from July 1, 1944, to June 30, 1949, will be determined primarily by the course and duration of the war and by the nature of the readjustments following the war. For the purposes of this report, it has appeared reasonable to assume that the war will end in two stages, both well within the 5-year period under consideration. From various possible assumptions as to the economic developments which may take place during the final phases of the war and in the postwar readjustment period, two alternatives have been selected. One represents employment and earnings conditions which may be expected in the event that the transition from a war to a peace economy occurs promptly and with a reasonable minimum of economic maladjustment. The other assumption represents conditions which might result if the transition is slow and accompanied by moderately severe business and industrial dislocation.

Estimates have been prepared on the basis of each of these alternative assumptions. The estimates based on the assumption of a prompt and smooth transition to a reasonably satisfactory level of employment after reconversion yield a relatively large increase in trust-fund assets. The estimates based on the much less favorable assumption as to economic developments yield a relatively small increase in trust-fund assets.

Both sets of estimates assume that the present statutory coverage of old-age and survivors insurance will remain unchanged throughout the period under consideration. The computations related to tax income are based on the present statutory rates of contribution, which are 1 percent each on employer and employee on wages paid during the calendar years 1944 and 1945, 2½ percent during the calendar years 1946, 1947, and 1948, and 3 percent during the calendar year 1949.

The estimates of interest to be received on investments of the trust fund under the two alternatives take account, year by year, of new funds to be invested and of proceeds of matured obligations to be reinvested. The estimates shown in table 6 assume that all new investments and reinvestments after the war are in 1½-percent issues. A different assumption, however, would not have affected the estimates significantly.

The two sets of estimates of the income and disbursements of the trust fund for each of the five fiscal years 1945 to 1949, together with the resulting assets of the fund at the beginning and the end of each fiscal year, are presented in table 6. In addition, figures for actual experience in the fiscal years 1941 to 1944 are shown.

TABLE 6.—Operations of the Federal old-age and survivors insurance trust fund, fiscal years 1941-49, subject to the assumptions and limitations stated in the text¹

[In millions]

Fiscal year	Fund at beginning of year	Transactions during year						Net increase in fund	Fund at end of year
		Income			Disbursements				
		Total	Contributions ²	Interest on investments	Total	Benefit payments	Administrative expenses		
Past experience:									
1941.....	\$1,745	\$744	\$688	\$56	\$91	\$64	\$27	\$653	\$2,398
1942.....	2,398	966	895	71	137	110	27	829	3,227
1943.....	3,227	1,218	1,131	87	177	149	28	1,041	4,268
1944.....	4,268	1,395	1,292	103	217	185	32	1,178	5,446
Estimated future experience:									
1945.....	5,446	1,435	1,305	130	267	238	29	1,168	6,614
1946:									
Alternative I.....	6,614	1,677	1,526	151	344	311	33	1,333	7,947
Alternative II.....	6,614	1,459	1,311	148	378	343	35	1,081	7,695
1947:									
Alternative I.....	7,947	2,567	2,390	177	418	386	32	2,149	10,096
Alternative II.....	7,695	2,203	2,035	168	512	479	33	1,691	9,386
1948:									
Alternative I.....	10,096	2,584	2,370	214	483	450	33	2,101	12,197
Alternative II.....	9,386	1,974	1,780	194	599	506	33	1,375	10,761
1949:									
Alternative I.....	12,197	3,363	3,103	260	545	512	33	2,818	15,015
Alternative II.....	10,761	2,179	1,958	221	659	627	32	1,520	12,281

¹ In interpreting the estimates in this table reference should be made to the accompanying text which describes the underlying assumptions and their uncertainties. Alternative I assumes relatively short reconversion period with early return to reasonably satisfactory level of employment and medium rate of retirement among aged. Alternative II assumes relatively long and difficult period of reconversion and moderately high rate of retirement among aged.

² Amounts equal to contributions are automatically appropriated to funds. Estimates for fiscal years 1945-49 are based on statutory rates of 1 percent each on employers and employees in calendar years 1944 and 1945, 2½ percent in 1946-48, and 3 percent in 1949.

³ Represent charges against trust fund in respective fiscal years; actual administrative expenditures in the fiscal year 1944 were about \$30,000,000 and they are estimated to be about \$31,000,000 in the fiscal year 1945.

In alternative I, it is assumed that partial reconversion after the end of the war in Europe and the subsequent full transition to production of civilian goods after the end of the war against Japan take place in an orderly manner. In the period of partial reconversion, employment levels decline below those prevailing during the previous war period but the decline is checked by the continuance of war production, expansion of civilian goods production, revival of the construction industry, and a reduction in hours of work in industries not producing critical war goods. In the period of complete reconversion, the process of readjustment is aided by the partial reconversion already effected, long-deferred demands both domestic and foreign, expenditure of wartime savings by consumers, programs for the rehabilitation of war-devastated countries, and further reduction in hours of work. It is assumed that a satisfactorily high level of employment is restored within a year after the end of hostilities, and that this favorable employment situation continues through 1949.

Pay rolls are assumed in alternative I to decline substantially at the end of the war in Europe and to drop still further at the end of the war with Japan because of temporary unemployment during reconversion. Moreover, it is assumed that despite a return to reasonably satisfactory employment conditions following reconversion, pay rolls do not rise to

previous levels because of the reduction in hours of work and because of the shift of workers from war industries to lower-paid employment in consumer-goods industries. Benefit disbursements are assumed to increase considerably during each phase of reconversion, because a substantial number of older workers and also many widows with young children leave the labor market and either become entitled to benefits or resume receipt of benefits temporarily suspended on account of their employment during the war. It is assumed, nevertheless, that a rather large number of persons eligible for retirement benefits remain in employment.

Under alternative I, aggregate income during the period of five fiscal years ending in 1949 would amount to \$11.6 billion, including \$10.7 billion in contributions and \$0.9 billion in interest. Aggregate disbursements for the period would be about \$2.1 billion, with the highest expected annual disbursement about \$0.5 billion. The trust fund at the beginning of the fiscal year 1945 would amount to 10 times the highest expected annual disbursement during the succeeding period of five fiscal years.

Under the other assumption, alternative II, the transition from war to a peacetime economy is assumed to take place much more slowly and with more severe economic consequences than under alternative I. Delays in effecting physical reconversion and failure of increased consumer demands to assert themselves following the defeat of Germany are assumed to result in a substantial amount of unemployment which for the most part continues to the end of the war with Japan. The final termination of the war, it is assumed, adds to the dislocations and the difficulties of total reconversion. Under this assumption, unemployment and short-term and part-time employment affect many millions of workers, and these conditions only begin to improve toward the end of the 5-year period.

At each stage of reconversion, the reduction in pay rolls is more severe under alternative II than under alternative I, because a high level of unemployment is assumed in addition to the reduced hours of work and the shifts from war industries to lower-paid employments. Benefit disbursements under alternative II, on the other hand, increase more rapidly than under alternative I because of a very pronounced, though not a complete, withdrawal of older workers and of widows with young children from covered employment.

The aggregate income of the fund for the five fiscal years 1945-49 under alternative II would amount to \$9.3 billion, including \$8.4 billion in contributions and \$0.9 billion in interest. Aggregate disbursements would be \$2.4 billion, with the highest expected annual disbursement about \$0.7 billion. The trust fund at the beginning of the period would amount to about eight times the highest expected annual disbursements during the period.

The estimates of benefit disbursements, like the estimates of contributions, are dependent upon assumptions selected as to military and economic developments and so have a considerable range of possible variation. The number of workers in covered employment, their distribution among different classes of workers (e. g., older workers, very young workers, women, workers not previously engaged in covered employment, etc.), and the level of wages will all have a decided effect upon the amount of benefit payments to be anticipated.

In general, the larger the volume of employment the larger will be the number of workers who are insured under the program and, therefore, the larger will be the number of deaths which will give rise to valid claims for survivors' benefits under the program. It does not necessarily follow, however, that payments of survivors' benefits will increase more rapidly under high employment conditions than under low employment conditions. In a period of high employment, a relatively larger proportion of the insured population may consist of women and of older men whose deaths do not generally give rise to substantial survivors' benefits as would the deaths of men having young children. Moreover, high employment conditions will induce many of the younger widows and older children eligible for survivors' benefits to forego them by working in covered employment.

As a result, the number of survivors' monthly benefit payments is expected to increase somewhat more rapidly under the low employment assumptions than under the high. Because average benefits would be lower under alternative II, however, the amounts of survivors' monthly benefit payments would be about the same under either alternative, as shown in table 7. When lump-sum payments are also considered, the resulting total of survivors' benefit payments is slightly less under alternative II than under alternative I.

TABLE 7.—*Treasury disbursements for benefit payments, distributed by classifications of beneficiaries, fiscal years 1941-49, subject to the assumptions and limitations stated in the text*¹

[In millions]

Fiscal year	Total benefit disbursements	Disbursed to primary beneficiaries	Disbursed to wives and children of primary beneficiaries	Disbursed to survivors of deceased insured workers			
				Monthly benefits			Lump-sum payments
				Total	Aged widows and parents	Younger widows and children	
Past disbursements: ²							
1941.....	\$64.3	\$31.4	\$5.3	\$15.3	\$1.5	\$13.8	\$12.3
1942.....	110.2	54.9	9.6	31.6	4.1	27.5	14.1
1943.....	149.3	72.4	12.7	47.5	7.9	39.6	16.7
1944.....	184.6	86.8	15.2	63.6	12.1	51.5	19.0
Estimated future disbursements:							
1945.....	237.8	110.2	19.4	83.9	17.5	66.4	24.3
1946:							
Alternative I.....	311	148	26	108	24	84	29
Alternative II.....	343	177	31	107	24	83	28
1947:							
Alternative I.....	386	189	34	133	32	101	30
Alternative II.....	479	269	50	132	32	100	28
1948:							
Alternative I.....	450	224	41	155	40	115	30
Alternative II.....	566	324	60	155	40	115	27
1949:							
Alternative I.....	512	256	48	178	50	128	30
Alternative II.....	627	355	67	179	50	129	26

¹ In interpreting the estimates in this table, reference should be made to the accompanying text which describes the uncertainties of the underlying assumptions.

² Partly estimated.

On the other hand, the lower the level of employment during the next 5 years, the larger will be the volume of benefit payments to retired workers who have attained age 65, and to their wives and children. As is indicated in table 8, a considerable proportion of the

workers aged 65 and over who have been eligible for primary benefits in the past have remained in covered employment (or, if they left covered employment, later returned to it) and are not receiving benefits. Under a continuation of high or relatively high employment conditions, such as is assumed under alternative I, it may be expected that, over the short range, for any one attained age, the proportion of eligible workers receiving primary benefits will remain fairly constant. Since the average attained age of eligible workers will continually increase, however, the over-all proportion of eligible workers receiving primary benefits may be expected to increase except under conditions of marked improvement in employment opportunities for the aged. Such unusual conditions prevailed during the fiscal year 1943 and the first part of the fiscal year 1944. In the latter part of the fiscal year 1944, however, an upturn occurred in the number of retirements. Presumably, some aged workers left covered employment, either because of cut-backs in war production or in anticipation of an early end of the European phase of the war. In the last half of the fiscal year 1942, 54,500 workers were awarded primary benefits; the number of such awards in the corresponding period of the fiscal year 1943 declined to only 47,600. But in the last 6 months of the fiscal year 1944 the number of primary benefit awards increased to 53,400, and the high level of retirement has continued into the fiscal year 1945.

TABLE 8.—*Wage earners eligible for and receiving primary benefits by attained age of wage earners, fiscal years 1941-49, subject to the assumptions and limitations stated in the text*¹

Middle of fiscal year	All wage earners age 65 and over			Wage earners 65-69			Wage earners age 70 and over		
	Number eligible for benefits ²	Persons receiving benefits—		Number eligible for benefits ²	Persons receiving benefits—		Number eligible for benefits ²	Persons receiving benefits—	
		Number	Proportion of total number eligible		Number	Proportion of total number eligible		Number	Proportion of total number eligible
Actual experience:	<i>Thous.</i>	<i>Thous.</i>	<i>Pct.</i>	<i>Thous.</i>	<i>Thous.</i>	<i>Pct.</i>	<i>Thous.</i>	<i>Thous.</i>	<i>Pct.</i>
1941.....	554	112	20	390	85	22	164	28	17
1942.....	698	200	29	478	134	28	220	66	30
1943.....	839	260	31	551	153	28	288	107	37
1944.....	989	306	31	620	156	25	370	151	41
Estimated future experience:									
1945.....	1,148	378	33	672	165	25	476	213	45
1946:									
Alternative I.....	1,317	497	38	731	189	26	586	308	53
Alternative II.....	1,209	618	48	718	262	37	581	356	61
1947:									
Alternative I.....	1,462	629	43	767	213	28	695	416	60
Alternative II.....	1,420	886	62	739	391	53	682	495	73
1948:									
Alternative I.....	1,585	737	46	790	225	28	795	512	64
Alternative II.....	1,518	1,016	67	752	424	56	766	591	77
1949:									
Alternative I.....	1,692	829	49	809	233	29	883	596	67
Alternative II.....	1,605	1,093	68	763	428	56	842	664	79

¹ In interpreting the estimates in this table, reference should be made to the accompanying text which describes the uncertainties of the underlying assumptions.

² Partly estimated.

Under the lower employment assumptions used in alternative II, it is assumed that much larger proportions of eligible workers will be obliged to leave covered employment, even at the ages close to 65. The result is that, despite a slightly smaller number of eligible workers, the number receiving primary benefits is considerably greater under alternative II than under alternative I. Moreover, it is expected that the average primary benefit amount payable under alternative II will exceed the average under alternative I, inasmuch as many of the more steadily employed and, therefore, higher-paid older workers who would not withdraw from covered employment under the conditions of alternative I would not be employed under the conditions of alternative II. In consequence, alternative II results in a substantially higher volume of benefit payments to primary beneficiaries and their wives and children.

Table 8 contains an analysis of workers eligible for primary benefits according to attained age for the middle (January 1) of each of the fiscal years 1941 through 1949. For attained ages 65-69, the growth in the number of eligible workers is gradual but uninterrupted under both alternatives. This growth results partly from the increase in the population at these attained ages, but primarily from the fact that with each passing year a larger proportion of the persons attaining age 65 have fully insured status. In the calendar year 1940, a worker attaining age 65 would not have been fully insured if he had left covered employment more than 1½ or 2 years previous to his attainment of age 65—for example, due to permanent total disability—but in the calendar year 1949 numerous persons attaining age 65 will be fully insured even though they left covered employment before the age of 60.

The aging of the program has an even greater effect on the number fully insured at attained ages 70 and over. This number is expected to increase fivefold between January 1, 1941, and January 1, 1949, even under the low employment assumptions of alternative II. At the latter date, the number eligible at these attained ages should comprise more than one-half of the total number of eligible persons. Moreover, the average age of all persons within the age group 70 and over will be continuously increasing.

The estimates presented above result in a net increase in the trust fund during the 5-year period of about \$10,000,000,000 under alternative I and about \$7,000,000,000 under alternative II. Although a range in the estimated net additions to the fund within which actual experience may fall is thus indicated, it by no means represents the possible range of variations. A longer duration of war than that assumed for the purposes of the estimates here presented would result in a longer period of high-contribution income, and also in a longer period of relatively low-benefit payments because of the reduced retirement rate and in spite of the probable increase in those war deaths resulting in claims that would be likely in such event. The net result of a longer war, thus, would be a greater growth in the trust fund. A more difficult reconversion and a lower level of production of civilian goods than assumed in alternative II is entirely possible and would lead to smaller net increases in the fund, due both to lower contribution and interest income and higher benefit payments resulting from increased retirement.

Furthermore, no attempt has been made to illustrate the effect of large price increases or decreases on the trust fund. Such price changes, through their effect on wages, would substantially affect the dollar amount of income, while having relatively little effect on benefit payments, and thus could produce much larger variations from the figures shown in table 6 than the other factors cited.

ACTUARIAL STATUS OF THE TRUST FUND

Under the old-age and survivors insurance system, benefits accrue to the aged and to orphaned children and their widowed mothers surviving deceased wage earners. Thus, there are certain basic cost factors which must be continuously recognized in analysis of the costs of the old-age and survivors insurance program. These factors include (a) population; (b) mortality; (c) family composition; (d) number of years of credited employment prior to qualification for benefits; (e) remarriage of widowed beneficiaries; (f) employment of widowed beneficiaries, older children, and aged; and (g) income in covered employment and its distribution among calendar quarters (as affected by a changing workweek, changing productivity, effectiveness of collective bargaining, long-term trends, cyclical changes, etc.).

(a) *Population.*—Population development depends upon the progress of the existing population as changed by future births and immigration and by future deaths and emigration. The 1940 census showed some 600,000 more persons aged 65 and over than had been indicated as probable from an examination of the 1930 census and the deaths and migration between the 2 censuses. It is also thought that the familiar under-registration of children has continued into the 1940 census. The Bureau of the Census has made comprehensive reports as to the many types of error and bias believed present in the latest enumeration.

Birth rates declined for a number of years, due to the increasing percentage of the population past the childbearing ages, the increasing proportion at the middle ages where childbearing is less frequent, and changed attitudes toward the size of the family. However, the long decline of birth rates lasting into the thirties has been reversed since 1937. There also appears to be a marked increase in the rate of first births and a more moderate increase in the rate of second births, tending to increase both the proportion of the insured population with dependents and the number of dependents. This increases the amount of insurance for survivors' benefits under old-age and survivors insurance. The diminution in the proportion of large families has had only a limited effect upon benefits under this program, since aggregate benefits for a family are not increased for children beyond the fourth child in the absence of a mother drawing benefits, nor beyond the third child with the mother drawing benefits.

Immigration which had been heavy up to the beginning of World War I and more moderate in the 1920's, was definitely checked in the 1930's, and most population forecasts have assumed that no return to the old immigration rates may be expected.

Another population factor to be considered is that of emigration. The war has already led to one type of emigration of considerable magnitude in the American Expeditionary Forces to Africa, England, Europe, Asia, and the Pacific. After the last war, some members of our Expeditionary Forces did not return, but continued to live as

private individuals in the countries where they had been stationed during the war. There is continuous discussion concerning the extent of the foreign manpower requirements of such agencies as the Allied Military Government and United Nations Relief and Rehabilitation Administration, and the use of American technicians in many countries of the world after the war. The 1943 report of the National Resources Planning Board on future population development gives certain adjustment figures to recognize the effects of the war. Extensive analysis of this and similar material will be made over the next few years. It will call for continuous adjustment in cost estimates.

The possible future progress of the population has been indicated in two different reports: (1) The 1935 report prepared by the staff employed by the Committee on Economic Security in developing long-range cost estimates for the original program of old-age benefits; (2) the National Resources Committee's report on future population trends issued in 1938. The actual experience from which projections were made in that report did not go beyond 1936. In the light of the as yet unpredictable population results of the war, it has seemed well to retain in the low-cost assumptions the rather cautious population forecast made by the staff of the Committee on Economic Security, as representative of one reasonable rate of growth. At the same time the National Resources Committee's medium population forecast of 1938¹ which has been used in other studies seems suitable as an indication of the potential increase under high-cost assumptions. Table 9 indicates the two assumptions used as to population growth for the group aged 20 to 64, inclusive, and the group aged 65 and over.

TABLE 9.—*Estimated population of United States aged 20 to 64 and 65 and over, in selected years, 1955-2000*

[In thousands]

Calendar year	Ages 20-64			Ages 65 and over		
	Total	Men	Women	Total	Men	Women
Low assumptions (Committee on Economic Security):						
1955.....	88,400	44,100	44,300	12,200	6,000	6,200
1960.....	89,400	44,600	44,800	13,600	6,600	7,000
1980.....	90,600	45,600	45,000	17,000	7,900	9,100
2000.....	87,400	44,100	43,300	18,200	8,600	9,600
High assumptions (National Resources Committee medium):						
1955.....	88,200	43,900	44,300	12,800	6,200	6,600
1960.....	89,500	44,600	44,900	14,800	7,100	7,700
1980.....	91,600	46,300	45,300	22,100	10,400	11,700
2000.....	90,800	46,300	44,500	26,400	12,800	13,600

It is not believed that future population progress is exactly represented by either of the two series used. The striking sequence of depression, recovery, recession, and war, with tremendous unsettled influences throughout the world, leave doubtful in any nation the future trends of mortality, fertility, or migration. The figures shown in table 9 represent two possible developments. Because both series have been used for some time and because the detailed 1940 census data and the National Resources Planning Board population study of 1943 have not yet been adequately adapted for cost purposes, use

¹ A new report of the National Resources Planning Board, dated August 1943 and entitled "Estimates of Future Population of the United States, 1940-2000," was published at the end of 1943.

of these older bases has been continued in this report, with both series extended from their terminal year of 1980 to the year 2000.

(b) *Mortality*.—Mortality rates by age and sex have been steadily improving since the turn of the century for both sexes and virtually all ages up to 60, with very little change at ages above 60. Both the National Resources Committee study of 1938 and the National Resources Planning Board study of 1943 make assumptions of a future improvement in mortality as plausibly indicated by the past history of mortality improvement. In the low-cost assumptions discussed in this section, very little improvement in mortality rates is assumed. In the high-cost assumptions, some improvement is assumed but their assumption of improvement beyond age 65 is believed by many to be too optimistic.

Mortality is of major importance for estimates of future benefits for the aged, and of importance also in determining potential deaths among the younger fathers which will give rise to mothers' and childrens', and ultimately older widows', survivor benefits. Studies are still under way, both in the Social Security Board and in the Bureau of the Census, as to what current mortality rates may be after allowing for corrections of errors and bias in the most recent census; and following these there will be further studies along the line of the recent National Resources Planning Board's mortality forecasts. Such remarkable developments as insulin, penicillin, the sulfa drugs, and other more recent discoveries carry potential mortality improvements, particularly at the middle and higher ages, which may yet justify the lighter mortality assumed in the high-cost illustrations.

(c) *Family composition*.—Births have significance for old-age and survivors insurance costs, not alone because of their importance in building up the population of the future, but also because the system provides an orphaned child under the age of 18 with one-half of a primary benefit and a widowed mother with three-fourths of a primary benefit so long as she has children in her care. The maximum benefit payable to a family is twice the primary benefit. Thus the distribution of families by size is of importance in determining the extent of prospective benefits.

The early claims experience is probably not typical because of lags in getting under way and the sequence of falling and rising birth rates over the last 15 years. During the next few years, as a result of the recently increased birth rate through 1943, a smaller proportion of nonchild families and a change in the distribution of orphan children by age is expected.

It is also important to consider the trends in those deaths which terminate husband-wife families, the trends in divorce which have the same effect, and determinations as to what constitutes a separation of spouses to be recognized under the law. Important also are the age relationship between husband and wife and the differential mortality by sex and by marital condition. Experience has shown that at almost all ages women have a lighter mortality than men and that the mortality of married persons is significantly lower than that of single or ex-married persons. The large proportion of marriages in which the wife is younger than the husband results in a predominance of terminations of marriage by the husband's rather than the wife's death. Further studies concerning these various factors are planned in order to secure a more complete understanding of the relationships.

Thus, the three elements, population, mortality, and family composition, constitute the warp and woof for estimates of future potential beneficiaries, with the other influences discussed in (d) through (g) below forming the specific patterns of beneficiaries.

Old-age-insurance beneficiaries are composed of several different types of recipients. Table 10 shows the various illustrative rates of progress in the number of beneficiaries, distinguishing between male primary beneficiaries, female primary beneficiaries, wives of male primary beneficiaries, children of primary beneficiaries, aged widows of male primary beneficiaries or of deceased employees, and wholly dependent aged parents of deceased covered employees without widows or children.

TABLE 10.—Old-age insurance recipients of monthly benefits in selected years, 1955–2000

[In thousands]

Calendar year	Male primary beneficiaries	Female primary beneficiaries	Wives of primary beneficiaries	Children of primary beneficiaries	Aged widows	Dependent parents
Low assumptions:						
1955.....	1,300	200	400	60	450	80
1960.....	1,700	350	550	80	750	110
1980.....	3,700	1,100	1,100	160	2,300	130
2000.....	4,500	1,400	1,400	170	3,300	130
High assumptions:						
1955.....	1,800	250	600	85	450	140
1960.....	2,500	450	850	100	800	200
1980.....	5,700	1,500	2,100	250	2,600	300
2000.....	8,400	2,500	3,400	300	4,500	250

Whereas old-age insurance beneficiaries make up the bulk of the prospective recipients under old-age and survivors insurance, the young survivors composed of half-orphaned and full-orphaned children and widowed mothers of the former, will be responsible for a considerable amount of benefits. Table 11 lists the two groups separately for inspection and for comparison between the high and low examples. In table 10 the high assumptions show, as expected, a larger number of beneficiaries; this is because the lighter mortality rates of the National Resources Committee population projections result in a greater number and proportion of aged persons. This lighter mortality, plus the assumed lower birth rate, has the opposite effect in table 11; here the assumed population projection results in a smaller number of child and mother beneficiaries under the high assumptions than under the low.

TABLE 11.—Young survivor insurance recipients of monthly benefits in selected years, 1955–2000

[In thousands]

Calendar year	Low assumptions		High assumptions	
	Orphaned children	Widowed mothers	Orphaned children	Widowed mothers
1955.....	1,200	300	1,100	250
1960.....	1,400	350	1,200	300
1980.....	1,600	400	1,200	250
2000.....	1,600	400	1,200	250

(d) *Credited employment and insured status.* The number of persons who gain protection through becoming "insured" under old-age and survivors insurance depends upon the volume and pattern of their work in employments covered by the program and upon the amount of taxable wages earned in such work. A discussion of the latter factor is presented later under item (g). The old-age and survivors insurance program covers primarily employees in industry and commerce. Illustrations are presented in table 12 showing the percentage of the population insured by virtue of current or previous work experience for age groups above and below 65.

TABLE 12.—Proportion of the population insured¹ under old-age and survivors insurance in selected years, 1955-2000 (including primary beneficiaries)

Calendar year	Low assumptions, percent				High assumptions, percent			
	Men		Women		Men		Women	
	20 to 64	65 and over	20 to 64	65 and over	20 to 64	65 and over	20 to 64	65 and over
1955.....	54	30	18	5	64	34	22	5
1960.....	56	34	19	7	66	40	24	7
1980.....	59	54	21	18	71	60	30	19
2000.....	60	60	21	21	71	71	32	32

¹ "Insured," as distinct from "covered," means sufficient participation in covered employment to have become eligible for benefits upon death or retirement; a person may be "covered" (i. e., with past or current wage credits) without having reached or maintained an "insured" status.

The percentages shown in table 12 for ages 65 and above include primary beneficiaries drawing benefits to the extent shown by table 13, which indicates the proportion under both low and high assumptions.

TABLE 13.—Proportion of the population aged 65 and over receiving primary benefits (excludes women eligible to receive benefits as wives, widows, and parents)

Calendar year	Low assumptions, percent		High assumptions, percent	
	Men	Women	Men	Women
1955.....	22	3.5	29	4
1960.....	26	5	35	6
1980.....	46	13	55	13
2000.....	52	14	66	14

The proportions of the population shown in tables 12 and 13 are derived from application of the coverage and insured-status specifications of old-age and survivors insurance to the end results of qualification through a sufficient number of quarters with a covered wage of at least \$50.

In the several tables presented above, only potential long-range trends have been set down without recognition of cyclical or periodic irregularities. Bearing this in mind, certain trends may be observed in these illustrative tables of numbers of beneficiaries:

- (1) An over-all uptrend in beneficiaries under all types of old-age benefits—save in the relatively unimportant case of dependent parents;
- (2) Very slight increase, if any, after 1960 in the number of children and widowed mothers who are beneficiaries;

(3) The relatively and increasingly small proportion of survivors' benefits in relation to old-age benefits;

(4) The relatively rapid advance in the percent insured at age 65 and over (including those drawing benefits) when compared with the percent insured aged 20 to 64, inclusive; and

(5) The rapid rise in the percent drawing primary benefits from 1955 to 1980, and the slowing down of the increase in the percent in the following 20 years.

(e) *Remarriage rates.*—Remarriage of "young widows" is a rather important cost factor. The greatest possible duration of benefits occurs among the younger widows, who as mothers of young children can expect to receive benefits for many years. These are also the women with the greatest chance of remarriage. Among the older mothers with fewer prospective years of benefit receipt (their children being nearer age 18), the probability of remarriage is lower. Remarriage rates are affected both by age of widow and duration of widowhood. Use of remarriage rates results in considerable reduction in the prospective cost of benefits to young widows. It also results in considerable reduction in the deferred portion of benefits otherwise payable to widows upon reaching age 65. This serves as a tangible reduction in the volume of "life insurance" afforded by the program when such "life insurance" is interpreted as the present value, in case of the worker's death, of prospective benefit payments to his surviving dependents. It is estimated that at the present time the program is providing approximately \$50,000,000,000 of "life insurance" protection for survivors.

(f) *Employment of beneficiaries.*—During the depression, it is probable that many children who should have been in school were working. Moreover, the labor market was increased by many married women seeking employment to reinforce what they hoped might be only a temporary inadequacy in their husband's income. As indicated quantitatively earlier in this report, during the war years a very large group of elderly persons have acquired eligibility for benefits under old-age and survivors insurance. Many of these after receiving some benefits have returned to work and suspended their benefits. There are also many instances where covered employees have announced their intention to retire but have postponed retirement. The greatest proportion of those eligible, however, have shown no evidence of intention to retire. The abnormal work opportunities are also shared by older children, by widowed mothers, and by aged wives of potential primary beneficiaries. Thus, assumptions as to the employment of beneficiaries are indissolubly interwoven with all the other cost elements entering into the number and cost of benefits.

(g) *Income in covered employment.*—One of the most striking changes in earned income on record has taken place since 1938. Whereas a considerable group of individuals in nonwar employments have had very little change in their wage incomes, large groups in manufacturing have had marked increases both in their basic rates of pay and in the number of hours in their working week. Moreover, there has been a great falling off in partial unemployment with a greater stability of work from week to week. This change in wage-income status will give a great many more persons quarters of coverage than had been the case in prewar years. The increase in the persistency of employment, and thus in the number of quarters credited, results, at least temporarily, in an increase in the number of persons with an insured status—either fully or currently insured; it also results in a higher average wage.

Assumptions as to future covered wages are essential in developing illustrative actuarial projections. The trend of wages in the past has been unquestionably of an upward character. The level of earnings at the end of the reconversion period and their movement thereafter will, of course, affect contributions and benefits under the program, since both are geared to covered earnings. Some indirect recognition of uncertainties with respect to wages is given in the adoption of low and high sets of average wage assumption. This point is discussed further in connection with the illustrative cost charts presented below.

The data derived from old-age and survivors insurance records are not yet fully useful for long-range cost purposes. Average reported wages were much lower in the early years of the system than they are currently. The increase which has occurred is indicated in table 14.

TABLE 14.—Average taxable wages of workers with taxable wages under old-age and survivors insurance, by year and sex, 1937-44

Calendar year	Average taxable wage			Calendar year	Average taxable wage		
	Total	Men	Women		Total	Men	Women
1937.....	\$900	\$1,041	\$540	1941.....	\$1,019	\$1,191	\$578
1938.....	833	960	506	1942.....	1,133	1,368	612
1939.....	881	1,016	536	1943 ¹	1,310	1,611	734
1940.....	932	1,076	556	1944 ¹	1,386	1,691	804

¹ Preliminary estimates.

The high assumptions use an average annual taxable wage of \$2,000 for men working in four quarters of a year, \$1,000 for men working three quarters, \$400 for men working two quarters, and \$200 for those working one quarter. The corresponding average wage figures used for women under the high assumptions are \$1,200 for four quarters, \$600 for three quarters, \$240 for two quarters, and \$120 for one quarter. Under the low assumptions, the four-quarter average wage assumption used for males is \$1,500, with \$750 used for three quarters, \$300 for two quarters, and \$150 for one quarter. The low four-quarter average used for women is \$900, \$450 being used for three quarters, \$180 for two quarters, and \$90 for one quarter. The ratios to the annual four-quarter averages of approximately 50 percent for three quarters, 20 percent for two quarters, and 10 percent for one quarter parallel fairly closely the actual ratios observable in old-age and survivors insurance wage data for 1940, 1941, and 1942.

For purposes of determining the number of employed men under the low assumption, the male labor-force percentages by age of the 1940 census after subtraction of those seeking work were applied to the assumed future male populations; for the high assumption, corresponding percentages from the 1930 census of gainful workers were applied, they being relatively high in comparison with the subsequent years. For women, percentages of the total female population represented by the 1940 female labor force minus those seeking work were applied against the assumed future female populations for the low assumption, while the total 1940 female labor force percentages, plus small assumed future increases, were used for the high assumption,

these being higher than those for 1930. It has been further assumed that the labor-force characteristics of those in covered employment will bear the same relation to those of all workers as existed in 1940 under old-age and survivors insurance.

Because the coverage of the system excludes several large categories of employment (agricultural, domestic, railroad, and public employment and the self-employed), there is a flow of workers between covered and noncovered employments as well as between covered employment and unemployment. The restricted coverage necessarily will result in large numbers of workers who have not had sufficient contact with the program to establish or maintain the insured status necessary for benefit qualification. The extent of contact is a function both of stability of covered jobs and of age; older persons are more settled in their work than younger persons. Table 15 illustrates differences in the extent of contact workers had with the program in 1942. Other data pertinent to this matter were presented by the Chairman of the Social Security Board in his testimony before the Ways and Means Committee of the House on January 13, 1944 (hearings on an amendment, adopted by the Senate, to the revenue bill of 1943 (H. R. 3687) freezing the social-security tax rate at 1 percent for 1944, pp. 17-18).

TABLE 15.—Percentage distribution of workers in covered employment under old-age and survivors insurance, by number of quarters with taxable wages, 1942¹

Number of calendar quarters with taxable wages in 1942	Amount of taxable wages in 1942			Age at end of 1942		
	Total	Under \$1,000	\$1,000 and over	Total	Under age 35	Age 35 and over
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
1 quarter only.....	15.4	28.6	.2	15.4	17.8	12.6
2 quarters only.....	14.0	25.1	1.2	14.0	16.7	10.6
3 quarters only.....	13.4	19.8	5.8	13.4	15.6	10.5
4 quarters.....	57.2	26.5	92.8	57.2	49.9	66.3

¹ Preliminary data, partly estimated and subject to revision. Includes all persons who earned any taxable wages during the calendar year. Because of subsequent revision, the data for 1941 in table 15 of the Fourth Annual Report are not strictly comparable with the above figures.

The carrying through of the prospective progress of the program using the elements discussed above furnishes reasonable illustrations of future beneficiaries and costs, neither the lowest nor the highest conceivable, the values derived being within the outside boundaries of possibility. Experience to date is very limited, the payment of monthly benefits having begun only in 1940. As payments got under way, the limitations of coverage and the insured-status requirement excluded large numbers of potential beneficiaries. Payments were further delayed by the "lag" with which any new program commences. In recent years, as the lag has lessened, payments among the relatively small number yet eligible to receive them have been limited by delays in the claiming of benefits occasioned by the war. The long-range illustrations look beyond these various limitations, and furnish some indication of the trend in the costs of the old-age and survivors insurance program.

Table 16 sums up the previous discussion in terms of illustrative numbers of beneficiaries. The category "younger survivors" comprises orphaned children and their widowed mothers. Widows age 65 and over are included under the "old-age" category.

TABLE 16.—Old-age and survivors insurance beneficiaries in receipt of benefits in selected years, 1955–2000

[In thousands]

Calendar year	Low assumptions			High assumptions		
	Old-age beneficiaries	Younger survivors	Lump sum ¹	Old-age beneficiaries	Younger survivors	Lump sum ¹
1955.....	\$2,500	\$1,500	\$270	\$3,300	\$1,300	\$270
1960.....	3,500	1,700	300	4,900	1,500	300
1980.....	8,500	2,000	550	12,500	1,400	550
2000.....	10,900	2,000	600	19,300	1,400	750

¹ Represent number of deaths during the year resulting in lump-sum benefits.

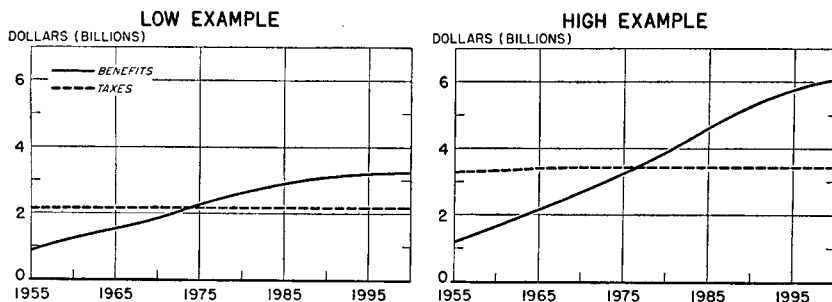
It is to be noted that in addition to the assumptions already discussed, the long-range cost illustrations include assumptions relating to the length of the period of retirement, invalidity, and interest rates.

There now follows a presentation of the illustrative cost results of combining values for the various elements discussed earlier in this section. The revised long-range cost illustrations, which are subject to continual testing, refinement, and adjusting, are presented in the accompanying charts and in table 17. These exhibits commence with the year 1955. The gap between 1949, for which alternative figures are shown earlier in this report, and 1955 is purposely left open to emphasize the very great uncertainty with respect to the transition period following the war.

As indicated in the charts and table, taxes at the rate of 6 percent of taxable pay roll (the rate scheduled to become effective in 1949) would exceed benefits during the fifties and sixties under both low and

ILLUSTRATIVE LONG-TERM TRENDS OF BENEFITS AND TAXES*

(SUBJECT TO THE LIMITATIONS STATED IN THE TEXT)



*THESE CURVES IMPLY SMOOTHER PROGRESSION THAN IS LIKELY TO OCCUR. THE TAX CURVES PARTICULARLY WOULD BE SUBJECT TO VARIATIONS REFLECTING TEMPORARY FLUCTUATIONS IN EMPLOYMENT CONDITIONS. THE BENEFIT CURVES WOULD BE MORE STABLE AS THEY APPLY LARGELY TO PERMANENTLY RETIRED INDIVIDUALS, ALTHOUGH CHANGES IN EMPLOYMENT CONDITIONS CAN HAVE CONSIDERABLE INFLUENCE ON THE RATE AT WHICH PERSONS RETIRE. (SEE TEXT FOR FULLER DISCUSSION)

TABLE 17.—Two illustrations of benefit payments and tax income of the Federal old-age and survivors insurance trust fund, by quinquennial years, 1955–2000¹ (subject to the limitations stated in the text)

[In billions]

Year	Low assumptions		High assumptions		Year	Low assumptions		High assumptions	
	Benefit payments	Tax income	Benefit payments	Tax income		Benefit payments	Tax income	Benefit payments	Tax income
1955.....	\$0.9	\$2.1	\$1.2	\$3.3	1980.....	\$2.6	\$2.2	\$3.9	\$3.4
1960.....	1.2	2.1	1.7	3.3	1985.....	2.9	2.2	4.6	3.4
1965.....	1.5	2.2	2.2	3.4	1990.....	3.1	2.2	5.3	3.4
1970.....	1.9	2.2	2.7	3.4	1995.....	3.2	2.2	5.8	3.4
1975.....	2.3	2.2	3.2	3.4	2000.....	3.2	2.2	6.1	3.4

¹ The figures in this table correspond to the values used in the charts.

high examples. This would result in increases in the funds accumulated, and the interest earnings thereon would be available later to meet a portion of the benefit payments. This could forestall, perhaps indefinitely in the case of the low example, the necessity for (i) an increase above 6 percent in pay-roll-tax rates; (ii) contributions on the part of the Treasury derived from general taxes as distinct from pay-roll taxes; or (iii) liquidation of the trust fund for purposes of meeting benefit obligations when these come to exceed pay-roll-contribution income. Under the high example, such interest income would substantially defer, but only defer, the time when one or more of these other sources would have to be tapped to assist in financing statutory benefits.

The charts show the steady rise in benefit payments under the two widely different sets of conditions discussed earlier in this section. They show the large increases, relatively and in absolute quantities, which would occur even after 1980, particularly within the framework of the high assumptions. Because of the fixed nature of the assumptions, the charts result in smooth curves and hence do not show the irregularities and periodic cyclical variations which would surely develop. These irregularities are expected to be far more pronounced in the curves pertaining to taxes than in those representing benefits. This is because the dollar amount of the benefit roll, after the system is well established, will contain a large proportion of fixed payments to permanently retired persons. The pay roll of covered workers from which the tax income is derived, however, has been quite sensitive to current fluctuations, through increases or decreases in job opportunities, ups and downs in the workweek, and changes in unit rates of pay. Thus, the charts indicate more smoothness of income and disbursements, especially the former, and more stability in the percentage relationship of the two than actually can occur. In fact, for demographic reasons alone, as discussed earlier in this section, the system cannot be expected even eventually to level out to a fixed relationship between contributions and benefits.

Another factor mentioned earlier but not used in the actuarial projections is the trend, exhibited in the past, of an irregular but upward movement in earnings, both on a dollar basis and in the form of real wages. If this secular trend continues, then—other things being equal—the curves of benefits and taxes would both be more steeply ascending than shown. The upward change in the tax curves, however, would be far more accentuated than would be such change in the

benefits curves. There are several reasons for this, the important one being that the benefit increase would be dampened because (i) the basis for benefits is the average monthly wage up to the maximum of \$250; 40 percent is taken on the first \$50 thereof and 10 percent on that part above \$50; as average wages increase and as more persons reach the \$250 maximum, a larger portion of such wages falls in that part of the benefit formula to which the 10 percent rather than the 40 percent rate applies, thus reducing benefits in relation to wage, and consequently in relation to taxes; and (ii) any year's taxes are substantially based on the covered wages of that year, while any year's benefits in force are based on weighted composite wages of all previous years in which the insured persons on whose account the benefits are paid worked in covered employment, thus including in future years, wages of as much as 60, 70, or more years previously. In view of these facts, continuation of the past upward trend in wages would postpone for a longer period, or possibly even permanently, the time at which benefits computed under the present formula would rise above taxes at the rates now scheduled.

In addition to excluding the assumption of increasing wages, the cost examples given have avoided dealing with various other important secular trends with diverse effects on costs which cannot now be adequately extrapolated into the future, such as (i) lengthening of the period of childhood or preparation for work; (ii) an earlier age of retirement, conceivably reversible under circumstances of improved health and good employment conditions; (iii) the long-time trend of migration out of agriculture and domestic service into occupations now covered by the program; (iv) the long-range downward trend in hours of work; and (v) the upward trend in the employment of women outside the home. Recognition of these trends is another factor, in addition to those discussed in more detail above, which prompts the board of trustees to present the long-range cost figures with reservations.

SUMMARY AND CONCLUSION

There is a large measure of uncertainty with regard to economic developments in the next 5 years, particularly since part of the period will be marked by reconversion problems. Benefit payments probably will increase substantially with the ending of the war, and the trend of such payments will be an ascending one throughout the rest of the century. With benefit payments currently at a magnitude about \$250 million a year, disbursements will increase some 15 to 25 times during the following several decades. Prudent management requires emphasis on the long-range relationship of income and disbursements.

Two estimates, based on lower and higher assumptions, of the level premium cost of the benefits now provided by the system are 4 percent and 7 percent of covered pay rolls. This means that if pay-roll taxes of this magnitude (employer tax and employee tax combined) had been levied from the beginning of the program and were continued indefinitely, the system as a whole would be self-supporting if the assumptions eventuate. But Congress has now maintained old-age and survivors insurance tax rates at 1 percent each on employees and employers for 9 years instead of permitting the scheduled increases of the act to become effective, although in the war years economic conditions have imposed little obstacle to such increases.

The Federal Insurance Contributions Act now provides for an increase in employer and employee contribution rates at stated intervals, so that they will reach 3 percent each in 1949. At the same time, the Social Security Act contains a provision relative to special interim reports by the board of trustees whenever the trust fund exceeds three times the highest annual expenditure expected during the following 5 years. This latter provision is frequently construed as a mandatory rule governing contribution rates, particularly in view of the successive actions of Congress in suspending the original schedule of increases in contribution rates.

If the so-called three-times rule is given this interpretation, it is apparent that the legislation now in effect embodies two conflicting financial policies—one policy calling for a fairly rapid step-up in employer and employee contribution rates to 3 percent each, and the other for continuation of the 1-percent rates until the trust fund is three times annual benefits. This ambiguity creates uncertainty as to the actual policy of Congress regarding the financing of old-age and survivors insurance. The board of trustees urges, therefore, the Congress undertake to clarify both its short-run and long-run financial policies for the program.

Such clarification is necessary to enable the board of trustees to carry out the duties assigned to it. One of these duties is reporting to Congress on the status of the trust fund. Another is reporting to Congress when the board of trustees is of the opinion that the trust fund is unduly small. Uncertainty as to congressional policy as to future financing results in uncertainty as to criteria to be applied by the board of trustees in determining when the fund is "unduly small." Because of the long-run increase in costs and the rapid growth in potential liabilities, the fund is already too small from some standpoints. It is estimated that at the end of the fiscal year 1944 the fund was \$6,000,000,000 below what it would have been if collections had been made since 1937 on a level-cost basis of 4 percent of pay roll; and \$16,000,000,000 below what it would have been with collections on a 7-percent level-cost basis.

The effect of the policy now being pursued with respect to contribution rates, is to increase the likelihood that a direct governmental subsidy from general revenues will be required to meet the benefits of the system. This likelihood has been recognized in the Revenue Act of 1943 which contained an authorization for such direct appropriations. The financing of such subsidies will necessitate payments by all taxpayers—including those not covered under old-age and survivors insurance—to subsidize benefits for workers in the restricted group of employments now covered by the programs. Taxing of the whole population for the benefit of only a part of the population, of course, could be avoided by making the coverage of the system complete. In addition, the authorization for direct appropriations and the concurrent freezing of contribution rates at their initial 1-percent level means that a substantial part of the cost of benefits for present workers is being shifted from present contributors to future general taxpayers. The clarification of policy recommended above should include, therefore, the role of the already authorized subsidy for old-age and survivors insurance and the timing and size of such subsidy.