APPENDIXES

Appendix I. Detailed Long-Range Cost Estimates

The estimates presented in the previous report of the Board of Trustees related to the program as it was after the 1952 amendments. Shortly after the close of the fiscal year ending June 30, 1954, important amendments were enacted (as described elsewhere in this report). Accordingly, the cost estimates presented here are for the system which resulted from these changes.

The estimates of the previous report were based on both high employment assumptions (somewhat below conditions prevailing currently) and low employment assumptions (roughly midway between the high employment assumptions and the level prevailing just before the start of World War II). When cost estimates were made for the legislation as it was being considered by the Congress, only the high employment assumptions were used because the low employment assumptions were so much below actual experience. The following discussion will relate only to cost estimates based on high employment assumptions, but the reader may consult the previous report to see the cost effect of lower employment assumptions.

Following the conference committee agreement on the bill, cost estimates were developed in the short time available and were published as a committee print of the Committee on Ways and Means (Actuarial Cost Estimates for the Old-Age and Survivors Insurance System as Modified by the Social Security Amendments of 1954, Robert J. Myers, August 20, 1954). Subsequently, these cost estimates were carried out on a more complete basis rather than using certain approximations and short cuts necessary in the rapid development of the original cost estimates. The figures presented in this report (and given in more detail in Actuarial Study No. 39 of the Social Security Administration, Department of Health, Education, and Welfare, Long-Range Cost Estimates for the Old-Age and Survivors Insurance System, 1954) are from the more complete cost estimate, but naturally differ only slightly from the original estimate.

The estimates are based on level earnings assumptions (slightly below the present levels). If in the future earnings levels should be considerably above that which now prevails, and if at the same time the benefits for those on the roll are adjusted upward so that annual costs in relation to payroll remain the same, then the increased dollar outgo resulting will offset the increased dollar income. This is an important reason for considering costs relative to payroll rather than in dollars.

The cost estimates have not taken into account the possibilities of a rise in earnings levels, although such a rise has characterized the past history of this country. If such an assumption were used in the cost estimates, along with the unlikely assumption that the

23

benefits nevertheless would not be changed, the cost relative to payroll would, of course, be lower. If benefits are adjusted to keep pace with rising earnings trends, the year-by-year costs as a percentage of payroll would be unaffected. However, such an adjustment would raise the level-premium cost, since under these circumstances the relative value of the interest earnings of the trust fund would gradually diminish with the passage of time.

A useful concept of long-range cost is the level-premium contribution rate required to support the system into perpetuity based on discounting at interest and assuming that benefit payments and taxable payrolls remain level after the year 2050 (actually the relationship between benefits and payroll is virtually constant after about 2020). If such a level rate were adopted, relatively large accumulations in the trust fund would result, and in consequence also sizable eventual income from interest. Even though such a method of financing is not followed, this concept may nevertheless be used as a convenient measure of long-range costs. This cost concept takes into account the heavy deferred load.

There are a number of basic factors, both demographic and economic which must be continually reexamined in estimating the costs of this program.

(a) *Population growth.*—The future trend of the population depends on the size and age distribution of the existing population, on future births and immigration, and on future deaths and emigration. Great quantities of census and vital statistics data are available, but they contain various types of error and bias recognized by the Bureau of the Census in its many comprehensive reports. For instance, the 1940 census showed about 600,000 more persons aged 65 and over than had been indicated as likely by data in the 1930 census and by the deaths and migration between the 2 censuses. The 1950 census shows about 700,000 more persons age 65 and over than are indicated by a similar projection of the 1940 census. In the cost estimates the 1950 census is used as the base, despite errors or bias, since there is at this time no adequate basis for adjustment.

Crude birth rates declined for many years until about 1935, due in part to the increasing proportion of the female population past the child-bearing ages, and in part to a decline in age-specific birth rates. However, since 1937 the long decline of the birth rate has been reversed. During the war years quite high rates were reported, the wartime peak having been reached in 1943. Although the birth rate declined somewhat in 1944–45, it remained higher than at any time during the thirties despite the fact that the war removed from this country many potential fathers. Beginning in 1946, the birth rate rose very rapidly, and for the 12-month period ending June 1947 was higher than at any time since the beginning of World War I. Thereafter there was some decline and a subsequent rise in 1951–54, although not quite to the 1947 level.

The increase in birth rates in recent years seems to be concentrated largely in the rates for first, second, and third births. The increase in first births tends to increase the proportion of the insured population with dependents eligible for immediate monthly benefits, as well as the number of such dependents. As a result, the cost of survivor benefits is increased even though there is a decline in the number of large families. The latter factor has only a limited effect upon

benefits because aggregate benefits for a family are not increased for children in excess of three if the mother is also receiving benefits.

Net immigration had been very heavy prior to 1915 and moderate in the early twenties, but was quite negligible thereafter. Most population forecasts have assumed that no return to high net immigration rates may be expected.

As a basis for the cost estimates, two population projections have been developed. These do not reflect the maximum possible range in population which might develop in the future, but rather embody factors which produce either low cost or high cost in regard to old-age and survivors insurance; for example, unfavorable mortality assumptions versus favorable ones. These population projections are presented in detail in Actuarial Study No. 33 of the Social Security Administration (Illustrative United States Population Projections, 1952).

Table 13 indicates the alternative trends of population growth resulting for the total population, for those aged 20–64, and for those aged 65 and over. The high-cost projection shows a larger aged population than the low-cost projection because of the assumed lower mortality, but a somewhat lower population in age groups under 65 because of the assumed lower fertility which more than offsets the lower mortality.

(b) *Mortality.*—Mortality rates by age have been decreasing steadily since the turn of the century for both sexes and for virtually all ages up to age 60. Although there was relatively little change above that age during the first four decades, during the past decade and a half there has been significant improvement.

In the low-cost assumptions, some improvement in mortality rates at all ages is assumed. However, in the high-cost assumptions, considerably more improvement is assumed. Although both sets of assumptions are arbitrary, they may reasonably bound, for the purposes of this report, the range within which mortality rates will fall. If the range between them seems wide, it should be recalled that no allowance has been made for the effects of such diverse factors as the application of new discoveries to the prevention of disease and to the impairments caused by disease and the possibilities of increasing the survival of impaired lives for only temporary periods.

(c) *Amount of covered employment.*—In determining the number of covered persons, percentages of men and women in the population who are in covered employment are developed by age through analysis of wage data for the previous coverage, along with census and other data in regard to the newly covered groups. The level of employment is roughly that currently prevailing.

It is assumed that about 95 percent of all males in the country aged 25–34 have covered earnings in the course of a year; the ratio decreases to about 75 percent for ages 60–64. For women the corresponding proportions are 45 percent for ages 25–34 and 25 percent for ages 60–64. Further, about 85 percent of covered men work in all 4 quarters, with somewhat lower proportions at the youngest and oldest ages. For women, the proportions used were about 55 percent for ages 20–35 and about 65 percent for ages 40 and over. These assumptions result in an annual covered payroll of about $155 billion in 1955. It is assumed that in the future the proportion of women who would be in covered employment would gradually rise for each age group,

since in recent years they have been participating more and more in the covered labor force.

(d) *Proportion of time in covered employment prior to qualification for benefits.*—The number of persons who gain protection through becoming either fully insured or currently insured under old-age and survivors insurance depends upon the volume and pattern of their work in covered employment and upon the amount of taxable earnings from such work. A discussion of the latter factor is presented subsequently in item (h).

Estimates are presented in table 14, showing for the future the percentages of the population insured by reason of current or previous work experience, subdivided by sex and by age groups above and below 65. The percentages for age 65 and over include old-age beneficiaries (i. e., retired workers). Table 15 relates the old-age beneficiaries and the total beneficiaries age 65 and over actually drawing benefits to the total aged population.

(e) *Marital and family composition.*—Marital relationships by age have great significance for old-age and survivors insurance costs because the system provides benefits for aged wives and widows (and also for aged dependent husbands and widowers). A woman over 65 cannot draw both the old-age benefit based on her own earnings and a full wife's, widow's, or parent's benefit based on her husband's or child's earnings. Hence, it is necessary to consider both the marital status of the female covered workers and also the exits from this group because of marriage. A relatively large cost offset occurs on account of the provision which prohibits duplication of benefits. The experience to date is still extremely limited in this respect (in December 1953 about 55,000 such dual beneficiaries had smaller old-age benefits, and an unknown number had larger old-age benefits and thus did not receive the supplementary or survivor benefit). This factor will not be of the greatest importance until some 30 or 40 years hence when current female workers in their twenties and thirties have attained the minimum retirement age.

Family composition data indicating the proportion of individuals with children and the average number of children per family also have great significance because the system provides benefits for orphaned children and their widowed mothers. The future birthrate has an important role in this connection since it determines not only the total number of children, but also how they are divided up into families. The actual claims experience is valuable as a guide.

There must also be considered the various factors affecting termination of married status, divorce and mortality. The distribution of ages of husbands and wives also affects the cost estimates. Various studies have indicated that at almost all ages women have lower mortality rates than men and that the mortality rates of married persons are lower than those for all persons combined. In the cost estimates differential mortality by marital status has been considered in determining costs for the various types of benefits.

Beneficiaries age 65 and over and their dependents are composed of a number of different categories. Table 16 shows the trends in the number of beneficiaries, distinguishing between old-age beneficiaries (retired workers), wives and dependent husbands of old-age beneficiaries, children of old-age beneficiaries, aged widows and dependent widowers of deceased insured individuals, and dependent parents of

deceased insured workers who left no widows or children under 18. It has been assumed that all retired persons eligible to receive old-age benefits based on their own earnings would apply for and receive these benefits even though they might be entitled to larger wife's, husband's, widow's, widower's, or parent's benefits (which instead would be paid as reduced supplementary amounts). This assumption is made because it is never to the individual's disadvantage and may be to his advantage to receive old-age benefits and reduced supplementary benefits of another category, rather than to receive solely the full benefits of the supplementary category.

Although persons age 65 and over make up the bulk of the prospective beneficiaries under the program, the young survivors, composed of orphaned children and widowed mothers, will receive a considerable amount of benefits. Table 17 lists these two groups separately.

The high-cost assumptions show, as expected, a larger number of old-age beneficiaries, and dependents thereof, than the low-cost assumptions (table 16). This is in part because of the assumed lower mortality rates which result in a greater number and proportion of aged persons, and in part because of the higher retirement rates and the greater proportion of the population assumed to be insured as a result of the in-and-out movement between covered employment and noncovered employment or nonemployment. On the other hand, the lower mortality tends to have the opposite effect in regard to widows (table 16) and, despite the somewhat higher birth rates, in regard to young survivors (table 17); thus a smaller number of survivor beneficiaries under the high-cost assumptions than under the low-cost assumptions is indicated.

Table 18 summarizes the previous discussion by showing illustrative numbers of beneficiaries and lump-sum death payments. Widows, widowers, and parents aged 65 and over are included under the old-age category, as are also spouses and dependent children of old-age beneficiaries.

In tables 14 to 18 only potential long-range trends have been set down, without recognition of cyclical or periodic fluctuations. Bearing this in mind, certain trends may be observed in these illustrative tables of number of beneficiaries.

(1) An overall uptrend in beneficiaries under all types of benefits payable to persons aged 65 and over;

(2) After 1960, a relatively small increase under the low-cost assumptions and a leveling off under the high-cost assumptions in the number of orphan-child and widowed-mother beneficiaries;

(3) The relatively small, and increasingly smaller, proportion that younger survivor benefits are of all benefits;

(4) A relatively rapid advance in the percent of insured persons aged 65 and over (including those drawing benefits) as compared with the rise in the percent insured at ages 20–64; and

(5) A rapid rise in the percent of aged persons who are receiving old-age benefits.

(f) *Remarriage rates.*—Remarriage of young widows is an important cost factor because mother's insurance benefits terminate thereupon, as do also rights to deferred widow's benefits at age 65. The greatest potential duration of benefits occurs among the younger widows, who can receive benefits for many years as mothers of young children and later as aged widows. These, however, are also the women with the

greatest chance of remarriage. Among the older mothers with fewer prospective years of benefit receipt (their youngest child being nearer age 18), the probability of remarriage is lower.

Remarriage rates vary both by age of the widow and by duration of widowhood. This factor produces a tangible reduction in the volume of life insurance afforded by the program when such life insurance is interpreted as meaning the present value, in case of the worker's death, of prospective benefit payments to his surviving dependents. It is estimated that at the end of 1954 the program provided about $350 billion of such life insurance protection for survivors.

(g) *Employment of beneficiaries.*—Since monthly benefits for all categories of beneficiaries are, in effect, suspended in any month in which the beneficiary is under age 72 and has more earnings than permitted under the retirement test, assumptions as to the employment of beneficiaries rank high in importance among the various cost elements. As of December 1953, 70 percent of those age 65 and over who were fully insured were actually receiving benefits. The proportion is influenced to some extent by the favorable work opportunities for the aged now prevailing. In the future this proportion will probably increase somewhat, if for no other reason than the aging of the insured population.

Then, too, a large demand for labor draws into employment and away from benefit receipt many widowed mothers and older children. There is assumed to be more employment of beneficiaries, and thus savings in cost, in the low-cost assumptions than in the high-cost ones.

(h) *Earnings in covered employment.*—One of the most striking changes in earned income on record has taken place since 1940. Not only have there been further rises in the hourly rate of earnings since the end of World War II, including a sharp rise following the outbreak of the Korean conflict, but also unemployment, including partial unemployment, has been relatively low so that most workers have had a full workweek (table 19).

The higher earnings rate gives workers relatively more chance of obtaining credit for quarters of coverage (at $50 of wages per quarter) now than in the prewar years, thus effecting an increase in number of persons with insured status and in the average wage used for benefit computations. These increases are assumed to be more or less permanent.

The cost assumptions involve average annual creditable earnings throughout the future of $3,190 for men who work in 4 quarters of a year and, correspondingly, $2,050 for women. For both men and women the average earnings used for 3-quarter workers is about 40 percent of that for 4-quarter workers (i. e., at a lower rate per quarter). Corresponding proportions for the 2-quarter and 1-quarter workers are about 20 and 10 percent, respectively. As used here, the reference to 4-quarter workers, 3-quarter workers, etc., relates only to the status in a particular year; the estimates allow for the fact that over the course of a working lifetime an individual may be in covered employment all 4 quarters of some years, fewer in other years, and perhaps not in covered employment at all in still other years. These ratios of the part-time average covered earnings to the 4-quarter average parallel very closely the actual ratios observed in the old-age and survivors earnings data.

The 4-quarter earnings assumptions may be compared with the actual experience for such workers in the past years as shown by the last 2 columns of table 19, but allowance must be made for the changes in maximum wage base. The earnings assumptions are on about the level prevailing in 1951-52 (somewhat lower than 1953-54, but higher than 1951) and are about 20 to 25 percent above the experience in 1947, used as the basis for the estimates made for the 1950 amendments (after adjustment for change in the wage base). The 1951-52 level of earnings was used for the future projections because the basic underlying assumptions were established in 1953, and so data for those years were not only the latest available but seemed most applicable to the problem involved.

Development of the prospective cost of the program using the various elements discussed furnishes reasonable illustrations of number of future beneficiaries and costs. The values derived are well within the outside boundaries of possibility though neither the lowest nor the highest conceivable. Experience to date is limited; the payment of monthly benefits began in 1940, and these benefits were revised drastically in 1950 and again moderately in 1952 and 1954. As payments got under way, 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 diminished and coverage expanded, payments have been limited by postponements in the claiming of benefits occasioned by favorable employment conditions during the war and immediate postwar years. The long-range cost estimates look beyond these limitations and attempt to furnish some indication of the trend in the costs of the old-age and survivors insurance program.

It is to be noted that in addition to the assumptions already discussed, the long-range cost illustrations include assumptions relating to retirement rates, interest rate, and various miscellaneous administrative factors. Since the earlier cost estimates were developed, sufficient actual experience under the operation of the program is available to permit the introduction of various modifications to allow for such factors as the minimum and maximum provisions as to benefits, and the provision that the lump-sum death payment in certain instances may not exceed the actual burial expenses. Also taken into account are such miscellaneous factors as differential retirement rates by marital status and the effect of lowered earning capacity during last illness on the size of survivor benefits.

An important element affecting old-age and survivors insurance costs arose through amendments made to the Railroad Retirement Act in 1951. These extended the 1946 amendments and provide for a coordination of railroad retirement compensation and old-age and survivors insurance covered earnings in determining not only survivor benefits but also retirement benefits for those with less than 10 years of railroad service. All future survivor and retirement cases involving less than 10 years of railroad service are to be paid by the old-age and survivors insurance system.

Financial interchange provisions are established such that the old-age and survivors insurance trust fund is to be placed in the same financial position as if there never had been a separate railroad retirement program. It is estimated that the net effect of these provisions

will be a relatively small net gain to the old-age and survivors insurance system since the reimbursements from the railroad retirement system will be somewhat larger than the net additional benefits paid on the basis of railroad earnings. The long-range costs developed here are for the operation of the trust fund on the basis, provided in current law, that all railroad employment will be (and beginning with 1937 has been) covered employment. The balance in the fund thus corresponds exactly to the actual situation. But the contribution income and benefit disbursement figures shown (as well as the number of beneficiaries) are roughly 5 percent higher than the payments which will actually be made directly to the trust fund from contributors and the payments which will actually be made from the trust fund to the individual beneficiaries. This is the case because the figures here include both the additional contributions which would have been collected if railroad employment had always been covered and the additional benefits that would have been paid under such circumstances. The balance for these two elements is to be accounted for in actual practice by the operation of the financial interchange provisions.

The long-range cost estimates of income and outgo were presented in the body of the report in tables 11 and 12, the former showing the benefit costs relative to payroll and the latter the progress of the trust fund. In addition to the figures for the low-cost and high-cost estimates resulting from two carefully considered series of assumptions, intermediate-cost estimates have been developed. The latter are merely an average of the low-cost and high-cost estimates of beneficiaries, disbursements, and income of the trust fund; they are not intended to represent "most probable" figures. Rather, they have been set down as a convenient and readily available single set of figures to be used for comparative purposes.

Since the Congress has adopted the principle of establishing in the law a contribution schedule designed to make the system self-supporting, it was necessary at the time the legislation was enacted to select a single set of estimates as the basis for the contribution schedule. The intermediate-cost estimate was used for this purpose. Quite obviously any specific schedule may require modification in the light of experience, but the establishment of the schedule in the law does make clear the congressional intent that the system be self-supporting. Exact self-support cannot be obtained from a specific set of integral or rounded fractional rates, but rather this principle of self-support was aimed at as closely as possible by the Congress in 1950 when it developed the tax schedule in the law, and again in 1952 when further amendments were made.

The Congress considered the matter of costs in the legislative development of the 1954 amendments—especially in the light of the new estimates for the 1952 act which showed somewhat higher costs than previously estimated. Part of this higher cost was recognized in the 1954 amendments, as were all of the increased cost of the changes made (over the savings effected by such changes as extension of coverage and the higher wage base). Accordingly, it might be said that in the 1954 amendments, the increase in the ultimate contribution rate meets all of the additional costs of the benefits proposed and a substantial part of the deficiency which the latest estimates indicated in the financing of the 1952 act.

Tables 11 and 12 show the steady rise in benefit payments under the widely different sets of conditions discussed earlier in this section,

and demonstrate the large increases, relatively and in absolute quantities, which would occur even after 1980, particularly under the high-cost assumptions.

Because of the nature of the assumptions, the tables show only smooth trends, omitting the irregularities and periodic cyclical variations which may develop. These irregularities are expected to be far more pronounced in regard to contributions than benefits since, after the system is well established, the dollar amount of the benefit roll will contain a large proportion of fixed payments to permanently retired persons. However, the payroll of covered workers from which the contribution income is derived will react quite sensitively to increases or decreases in job opportunities, changes in the length of the workweek, and changes in unit rates of pay. For demographic reasons alone, as discussed earlier, it is unlikely that the system would level out, even eventually, to a completely fixed relationship between contributions and benefits.

The interest assumption used in determining level-premium costs is alternatively 2¼ and 2½ percent. The average rate on investments of the trust fund is currently about 2.3 percent.

Table 11 compares benefit costs related to payroll for the present estimate. The cost rises steadily over the future years under both estimates—leveling out somewhat between 1990 and 2000 for the reasons indicated. The "ultimate" cost is reached some 20 or 25 years after the year 2000 at roughly 8 percent of payroll for the low-cost estimate, 12 percent for the high-cost estimate, and 10 percent for the intermediate-cost estimate.

Next, considering level-premium costs, the intermediate-cost estimate shows a cost of 7.6 percent of payroll at 2¼-percent interest, and 7.5 percent at 2½-percent interest. These figures may be contrasted with the level rate equivalent to the graded contribution schedule in the law (taking into account the lower contributions payable by the self-employed as compared with the combined employer-employee rate), which is about 7.1 percent of payroll. Thus, this comparison indicates that according to these intermediate-cost figures, the tax schedule in the law is not quite self-supporting.

Table 12 shows the progress of the trust fund under the present estimates. In the low-cost estimate, contribution income exceeds benefit disbursements in all years. Accordingly, the trust fund builds up quite rapidly and even some 45 years hence is growing at a rate of almost $5 billion per year (and at that time is about $150 billion in magnitude). On the other hand, under the corresponding high-cost estimate, benefit disbursements exceed contribution income in and after 1980, and the trust fund, after building up to a maximum of about $30 billion in 1980, decreases thereafter until exhausted shortly before the year 2000.

These results for the low-cost and high-cost estimates are to be expected since the system on an intermediate-cost estimate is approximately self-supporting. Accordingly, a low-cost estimate should show that the system is more than self-supporting and a high-cost estimate should show that a deficiency will arise in later years. At any rate, it appears likely that there will be ample funds for several decades even with relatively unfavorable experience.

According to the intermediate-cost estimate, contribution income will exceed benefit disbursements until shortly after 1980. Accord-

ingly, the trust fund grows steadily, reaching a maximum of about $60 billion in 1983 and remains at that size for the following 30 years, but then declines slowly. This decrease is another indication that the tax schedule in the law is not quite self-supporting under the intermediate-cost estimate.

A 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 and with no changes in the present provisions of the law—the curves of both benefits and contributions would be more steeply ascending than shown. The upward changes in the contribution curves, however, would be far more accentuated than would be such changes in the benefit curves. There are several reasons for this effect, the important one being that the benefit increase would be dampened because—

(1) Benefits are determined by the average monthly wage up to the maximum of $350; 55 percent is applied to the first $110 thereof and 20 percent to that part above $110. As average earnings increase and as more persons approach or reach the $350 maximum, a larger portion of such earnings falls in that bracket of the benefit formula to which the 20-percent rather than the 55-percent rate applies. Thus benefits are smaller in relation to earnings, and consequently in relation to contributions.

(2) Contributions in any year are based substantially on the covered earnings of that year. Benefits in force in any year are based on weighted composite earnings of all previous years in which the insured persons on whose account the benefits are paid worked in covered employment, and in far distant future years would include earnings of as much as 60 previous years.

The assumption of steadily rising earnings in conjunction with an unamended benefit formula would have an important bearing in considering the long-range cost of the program. With such an assumption, the future rise in earnings would seem to offer significant financial help in the financing of benefits because contributions at a fixed percentage rate would increase steadily relative to benefit disbursement. However, benefits paid would steadily diminish in relation to current earnings level. As a result, offsetting this apparent savings in cost, it is likely that from the long-range point of view the present benefit formula would not be maintained.

In revising the benefit schedule to conform with the altered earnings level, the changed cost and contribution picture would have to be considered. This is especially true for changes resulting from the fact that benefits would be based on earnings prevailing at the time of the revision and thereafter, while the accumulated trust fund at that time would have developed from contributions on the lower earnings levels of the past. The fund thus would play a less important role in financing the program than it would if the earnings level had not changed. If it is assumed that the benefit level in the future will be adjusted in proportion to the increase in the average earnings, the level-premium cost of the program, expressed as a percentage of taxable earnings into perpetuity, would be increased because of the diminishing part played by the accumulated trust fund in financing the program. For small annual rates of increase in average earnings (i. e., for rates less than the assumed valuation interest rate) this

increase in cost may be partially counterbalanced by the timelag which would undoubtedly occur between the rise in earnings level and the amendment of the benefit provisions. However, for larger rates of increase in average earnings the level-premium cost into perpetuity would be the ultimate cost, because the fund would ultimately play virtually no role in the financing of the benefits. Nevertheless, during the course of this century at least, the interest income from the fund would continue to be a significant amount in relation to total disbursements.

In addition to excluding the assumption of increasing wages in the future, the detailed cost estimates given have avoided dealing with various other important secular trends. These have diverse effects on costs which cannot be adequately extrapolated into the future. One illustration is the lengthening of the period of childhood or preparation for work. Another possibility is a drastic change in the average age of retirement, either to a considerably lower effective age so that practically all persons would retire at the minimum age of 65, or conversely to a higher effective age, under circumstances of greatly improved health conditions combined with good employment opportunities, such that few would retire before age 72 (after which, in any event, benefits are paid regardless of work).

TABLE 13 — *Actual and estimated population of the United States,[1] 1920–2000*

[In millions]

Calendar year	All ages			Ages 20–64			Ages 65 and over		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Actual data									
1920 (April)	108	55	53	58	30	28	5.0	2.5	2.5
1930 (April)	125	64	62	69	35	34	6.7	3.4	3.3
1940 (April)	135	68	67	79	39	39	9.0	4.4	4.6
1950 (April)	155	77	78	89	44	45	12.3	5.8	6.5
1954 (July)	165	82	83	92	45	47	13.8	6.5	7.4
Projection for low-cost assumptions									
1960	174	86	88	95	46	49	15.4	7.0	8.4
1980	209	103	106	117	58	59	22.0	9.4	12.6
2000	248	123	125	139	70	69	25.8	11.0	14.8
Projection for high-cost assumptions									
1960	173	86	87	95	47	48	15.5	7.1	8.4
1980	197	97	100	116	58	58	22.8	9.9	12.9
2000	216	108	108	128	64	64	28.0	12.2	15.8

[1] Includes—in addition to the continental United States—Alaska, Canal Zone, Hawaii, Puerto Rico, and Virgin Islands, and for 1950 and after, Armed Forces and Government employees overseas and their families. For 1940 and later, data for ages 55 to 69 adjusted for age biases in nonwhite population as enumerated.

TABLE 14.—*Estimated proportion of the population insured under old-age and survivors insurance, 1960–2000*

[In percent]

Calendar year	Low-cost estimate		High-cost estimate	
	Ages 20–64	Ages 65 and over [1]	Ages 20–64	Ages 65 and over [1]
Men				
1960	83	68	86	73
1980	87	86	91	90
2000	87	91	92	96
Women [2]				
1960	47	22	49	25
1980	51	39	57	45
2000	52	49	58	59

[1] Including old-age beneficiaries.
[2] Excludes wives and widows of fully insured men except such wives and widows who are insured on the basis of their own employment.

NOTE.—The figures in this table are based on high-employment assumptions.

TABLE 15.—*Estimated proportion of population aged 65 and over receiving benefits, 1960–2000*

[In percent]

Calendar year	Men receiving benefits [1]	Women receiving benefits		
		Old-age benefits [2]	Other benefits [3]	Total
Low-cost estimate				
1960	50	17	30	47
1980	67	34	38	71
2000	75	44	36	80
High-cost estimate				
1960	57	21	32	52
1980	75	41	38	79
2000	84	56	33	89

[1] Consists almost entirely of old-age beneficiaries (retired insured workers).
[2] Old-age beneficiaries are retired insured workers. Women qualified both for old-age and wife's, widow's, or parent's benefits are considered as old-age beneficiaries.
[3] Wives of old-age beneficiaries, and widows and dependent mothers of deceased insured workers.

NOTE.—The figures in this table are based on high-employment assumptions.

TABLE 16.—*Estimated monthly beneficiaries [1] aged 65 and over and children of old-age beneficiaries, in current payment status, 1960–2000*

[In thousands]

Calendar year	Old-age beneficiaries [2]	Wives of old-age beneficiaries [3]	Children of old-age beneficiaries	Aged widows [4]	Dependent parents
	Actual data for December				
1950	1,771	508	46	314	15
1951	2,278	647	71	384	19
1952	2,644	739	74	455	21
1953	3,222	888	90	541	24
1954	3,775	1,015	107	638	25
	Low-cost estimate				
1960	4,934	1,204	99	1,338	27
1980	10,598	1,743	175	3,072	35
2000	14,772	1,923	200	3,533	43
	High-cost estimate				
1960	5,785	1,362	117	1,362	31
1980	12,736	1,892	180	3,109	47
2000	18,978	2,051	187	3,303	63

[1] For future estimates, persons qualifying both for old-age benefits and for wife's, widow's, husband's, widower's, or parent's benefits are shown as old-age beneficiaries. For actual data, such dual beneficiaries are shown under both categories (as of December 1953, about 55,000 such individuals).
[2] I. e., retired insured workers.
[3] Including dependent husbands and also a small number of wives under age 65 with child beneficiaries in their care.
[4] Including dependent widowers.

NOTE.—The estimated figures in this table are based on high-employment assumptions.

TABLE 17.—*Estimated younger survivor insurance monthly beneficiaries in current payment status, 1960–2000*

[In thousands]

Calendar year	Orphaned children	Widowed mothers
	Actual data for December	
1950	653	169
1951	776	204
1952	865	228
1953	964	254
1954	1,054	272
	Low-cost estimate	
1960	1,339	420
1980	1,575	507
2000	1,805	572
	High-cost estimate	
1960	1,383	510
1980	1,457	570
2000	1,361	543

NOTE.—The estimated figures in this table are based on high-employment assumptions.

TABLE 18.—*Estimated old-age and survivors insurance beneficiaries in current payment status, 1960–2000*

[In thousands]

Calendar year	Aged bene-ficiaries [1]	Younger sur-vivors	Lump-sum death pay-ments [2]
	Actual data for December		
1950	2,654	822	200
1951	3,399	980	414
1952	3,933	1,093	437
1953	4,764	1,217	512
1954	5,562	1,326	516
	Low-cost estimate		
1960	7,437	1,924	791
1980	15,331	2,374	1,309
2000	20,141	2,702	1,718
	High-cost estimate		
1960	8,462	2,088	819
1980	17,664	2,327	1,342
2000	24,270	2,216	1,770

[1] Including children of old-age beneficiaries and wives under age 65 having such children in their care. For actual data, figures are somewhat overstated because of persons receiving both old-age benefits and wife's, widow's, or parent's benefits (about 55,000 individuals as of December 1953).
[2] Number of deaths resulting in lump-sum payments during the year.

NOTE.—The estimated figures in this table are based on high-employment assumptions.

TABLE 19.—*Average earnings credits of workers under old-age and survivors insurance by years, 1937–53*

Calendar year	Workers with any earnings in year			Workers with earnings in all 4 calendar quarters		
	Total	Male	Female	Total	Male	Female
	$3,000 maximum earnings base					
1937	$899	$1,037	$539	(1)	(1)	(1)
1938	832	958	507	$1,211	$1,359	$783
1939	881	1,014	536	1,247	1,400	800
1940	926	1,070	553	1,305	1,465	831
1941	1,014	1,188	574	1,466	1,646	910
1942	1,127	1,364	609	1,703	1,939	1,047
1943	1,289	1,580	788	1,913	2,205	1,271
1944	1,369	1,681	887	1,996	2,301	1,402
1945	1,328	1,591	895	1,982	2,293	1,384
1946	1,394	1,635	929	2,031	2,269	1,480
1947	1,571	1,831	1,044	2,173	2,393	1,611
1948	1,677	1,939	1,138	2,281	2,493	1,733
1949	1,711	1,964	1,185	2,298	2,508	1,763
1950	1,769	2,026	1,232	2,376	2,579	1,852
	$3,600 maximum earnings base					
1951 total [2]	$2,034	$2,394	$1,328	(1)	(1)	(1)
1951 wage employment [2]	1,993	2,358	1,314	$2,666	$2,965	$1,954
1951 self-employment [2]	2,290	2,370	1,760	(1)	(1)	(1)
1952 total [2]	2,100	2,460	1,420	(1)	(1)	(1)
1952 wage employment [2]	2,060	2,430	1,400	2,760	3,040	2,100
1952 self-employment [2]	2,370	2,460	1,770	(1)	(1)	(1)
1953 total [2]	2,160	2,520	1,470	(1)	(1)	(1)
1953 wage employment [2]	2,120	2,490	1,460	2,810	3,100	2,140
1953 self-employment [2]	2,400	2,500	1,800	(1)	(1)	(1)

[1] Data not available.
[2] Preliminary.